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REPORT  
ON THE  
HEALTH OF THE BOROUGH  
OF  
BIRMINGHAM,  
FOR THE YEAR 1877,

ALSO,

ON THE PROCEEDINGS TAKEN UNDER THE ACT FOR THE  
PREVENTION OF ADULTERATION  
OF ARTICLES OF FOOD AND DRINK,

BY  
ALFRED HILL, M.D.,

*Medical Officer of Health,  
and  
Analyst to the Borough.*

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PRINTED BY ORDER OF THE HEALTH COMMITTEE.

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MEDICAL OFFICER OF HEALTH'S DEPARTMENT,

PUBLIC OFFICE, BIRMINGHAM,

February 19th, 1878.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I have the honour to submit to you my Report for the year ended December 29th, 1877. The population, estimated to the middle of the year, amounted to 377,436. The number of

BIRTHS

registered during the year is 16,001, consisting of 8,069 males and 7,932 females. This number is 185 greater than that for the year 1876.

The numbers for each quarter of the years 1873—77, both inclusive, are :—

	1873.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTAL.
Total ...	3,741	3,564	3,378	3,814	14,497	
Males ...	1,892	1,783	1,715	1,950	7,340	
Females ...	1,849	1,781	1,663	1,864	7,157	
1874.						
Total ...	3,814	3,871	3,493	3,710	14,888	
Males ...	1,953	1,961	1,753	1,853	7,520	
Females ...	1,861	1,910	1,740	1,857	7,368	
1875.						
Total ...	3,787	3,737	3,581	3,757	14,862	
Males ...	1,929	1,884	1,815	1,904	7,532	
Females ...	1,857	1,853	1,766	1,853	7,325	
Sexless ...	1	—	—	—	1	
1876.						
Total ...	4,140	3,924	3,803	3,949	15,816	
Males ...	2,045	1,996	1,959	2,028	8,028	
Females ..	2,095	1,928	1,844	1,921	7,788	
1877.						
Total ...	4,296	4,009	3,769	3,927	16,001	
Males ...	2,139	2,015	1,878	2,037	8,069	
Females ...	2,157	1,994	1,891	1,890	7,932	

The Birth-rate is this year 42·39 per 1,000 of the population, as compared with 42·53 last year, and 38·94 in the 10 years 1867—76 ; the following being the annual Birth-rate of the decennial period named :—

1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	Average of 10 years.
38·01	36·31	35·53	35·00	39·00	40·50	40·78	41·25	40·57	42·53	38·94

In the subjoined statement will be found the Birth-rate per 1,000 of the population in the following large towns for the year 1877 :—

London.	Norwich.	<b>Birmingham.</b>	Liverpool.	Manchester.	Leeds.	Newcastle.	Average of large Towns.
36·1	33·5	<b>42·4</b>	38·7	38·5	40·1	39·5	37·5

### DEATHS.

The Deaths registered in the same period number 9,038, viz.—4,745 males, 4,292 females, and 1 sex not known. The number of Deaths in 1876 amounted to 8,330, and in the previous year to 9,668. The death-rate per 1,000 of the population during the past year has been 23·95, against rates of 24·8, 26·8, 26·3 and 22·4 in the years 1873, 4, 5, & 6 respectively. The principal cause of the rise in the death-rate above that of last year is the greater fatality of Measles, Whooping Cough, Heart Disease, Old Age, and Violence. Our death-rate, though it compares unfavourably with that for 1876, is, nevertheless, with that exception, lower than the rate which prevailed in any year back to 1872, and also nearly half-one per thousand lower than the average death-rate for the 10 years 1867—76, the death-rate for the past 10 years having been as follows :—

1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	Average of 10 Years, 1867—76.
25·6	25·9	23·1	23·0	24·9	23·1	24·8	26·8	26·3	22·4	24·4

In the subjoined statement is given the death-rate per 1,000 of the population of Birmingham and the principal large towns, for the present and the four preceding years :—

#### DEATH-RATE PER 1,000 PERSONS LIVING.

	Average of 20 large English Towns.	London.	Norwich.	<b>Birm.</b>	Liverp.	Manchstr.	Leeds.	Newcastle.
1877	... 22·8	... 21·9	21·0	<b>23·95</b>	26·5	27·4	22·3	22·4
1876	... 23·6	... 22·3	21·9	<b>22·4</b>	27·6	29·2	25·1	22·8
1875	... 25·4	... 23·7	24·5	<b>26·3</b>	27·5	29·9	26·4	26·1
1874	... 25·4	... 22·5	23·5	<b>26·8</b>	32·0	30·4	28·7	29·2
1873	... 24·4	... 22·5	21·5	<b>24·8</b>	25·9	30·1	27·6	30·1

In the following table will be found the number of deaths, that of each sex, and the death-rate for each quarter of the year, together with the total for the three preceding years :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1877.	Total 1876.	Total 1875.	Total 1874.
Total ...	2,289	2,365	2,100	2,284	9,038	8,330	9,668	9,665
Males ...	1,223	1,249	1,087	1,186	4,745	4,390	5,044	4,993
Females ...	1,065	1,116	1,013	1,098	4,292	3,939	4,623	4,672
Sex not known	1	—	—	—	1	1	1	—
Death-rate ...	24·26	25·06	22·25	24·21	23·95	22·40	26·34	26·78

The division of the Deaths among the 9 Registration Sub-Districts is shown in the subjoined statement :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1877.	Total 1876.	Total 1875.	Total 1874.	Death Rate 1877.
Ladywood ...	248	222	248	232	950	890	1,090	1,007	19·5
St. Thomas ...	205	215	223	237	880	805	932	872	21·1
St. Martin ...	274	255	223	244	996	1,028	1,084	1,179	22·9
St. Mary ...	90	89	77	96	352	347	394	425	23·5
St. George ...	318	346	323	396	1,383	1,286	1,568	1,580	26·2
All Saints ...	422	450	347	352	1,571	1,376	1,370	1,239	37·2
Deritend ...	366	420	324	327	1,437	1,260	1,365	1,194	23·3
Duddeston ...	310	309	285	335	1,239	1,091	1,292	1,161	24·2
Edgbaston ...	56	59	50	65	230	247	273	233	11·0

The District of St. Philip has been fused with that of All Saints during the year.

The annual Death-rate of the Borough, including the Workhouse but excluding the other Institutions, is 22·5; excluding the Workhouse as well as the other Institutions it is 21·2 per 1,000.

The high Death-rate in St. George's and All-Saints' Sub-Districts is due to the existence in the former of the General Hospital, and in the latter of the Borough Hospital, Lunatic Asylum, and Workhouse.

The Death-rate of St. George's District, exclusive of the General Hospital, is only 22·4; the number of deaths being 1,171 against 1,383, if those in the Hospital be included.

The number of deaths in St. Thomas' District, exclusive of the Queen's Hospital, is 732, giving a Death-rate of 17·6.

The Deaths in All Saints' Sub-District, excluding those in the Workhouse, Asylum, and Gaol, number 962, and are equivalent to a Death-rate of 22·8.

The total number of Deaths for 1877, when compared with that for 1876, in the several Registration Sub-Districts is in every case higher, except in the districts of Edgbaston and St. Martin, in both of which it has declined.

The undermentioned statement enumerates the deaths in each of the sixteen Wards of the Borough for each quarter of the year:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Rotton Park (W., B.H.) ...	269	265	210	207	951
All Saints' (L.) ...	146	154	194	178	672
Ladywood (H.) ...	138	116	132	127	513
St. Paul's ...	101	107	95	96	399
St. George's ...	106	156	110	182	554
St. Stephen's ...	109	116	125	149	499
St. Mary's (H.) ...	192	188	165	179	724
St. Bartholomew's ...	174	166	157	183	680
Market Hall ...	119	109	84	106	418
St. Thomas' (H.) ...	162	174	140	152	628
St. Martin's ...	134	118	96	104	452
Edgbaston ...	73	77	79	71	300
Deritend ...	155	209	111	129	604
Bordesley ...	143	152	148	143	586
Duddeston ...	101	124	117	111	453
Nechells ...	167	134	137	167	605
Total ...	2,289	2,365	2,100	2,284	9,038

The following table gives the number of deaths at various ætal periods for each of the quarters of 1877, together with the totals for that and the three preceding years:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1877.	Total 1876.	Total 1875.	Total 1874.
Under 1 year of age ...	596	641	743	649	2,629	2,538	2,958	2,688
Between 1 and 5 years of age	381	518	381	552	1,832	1,344	1,828	1,901
"  5  "  10  "  "	66	75	61	76	278	290	286	476
"  10  "  20  "  "	88	60	68	76	292	304	357	467
"  20  "  40  "  "	300	268	255	231	1,054	1,020	1,225	1,295
"  40  "  60  "  "	414	385	287	346	1,432	1,393	1,424	1,379
"  60  "  80  "  "	388	359	264	310	1,321	1,245	1,345	1,271
At 80 years and upwards ...	56	59	41	44	200	196	245	188

A comparison of the totals for 1876 and 1877 shows that those for the latter year exhibit an increase in every ætal period except in those between 5 and 20 years of age. The increase in the number of deaths in children up to 5 years of age is accounted for by the high mortality during the year from Scarlet Fever, Measles, and Whooping Cough, while that at the ætal periods above 20 years of age, disregarding the increase in population, is due to a rise in the number of deaths from local diseases at those ages.

The average age at death of persons who died during the year is 24 years and 2 months.

The average death-age in the respective quarters of the year is as follows :—

First Quarter	...	...	...	...	27 years 7 months.
Second "	...	...	...	...	25 " 4 "
Third "	...	...	...	...	20 " 10 "
Fourth "	...	...	...	...	22 " 1 "

### INFANT MORTALITY.

The percentage of Deaths under 1 year of age to Registered Births in the principal large English towns has been during the last five years as follows :—

	Average of 20 large English towns.	London.	Norwich.	Birm.	Liverp.	Manchestr.	Leeds.	Newcastle.
1877	... 15·4	14·6	15·4	16·4	18·8	16·1	16·5	15·1
1876	... 16·7	15·7	17·8	16·0	20·8	18·0	18·1	16·7
1875	.. 17·6	16·2	21·0	19·6	21·0	18·4	19·7	18·7
1874	... 17·5	15·6	17·8	17·8	23·3	19·7	19·9	19·8
1873	... 17·4	16·0	16·1	18·1	21·3	20·0	19·4	18·7

The following are the percentages of deaths of infants under one year to total deaths in the large English towns :—

	Average of 20 large English Towns.	London.	Norwich.	Birm.	Liverpool.	Manchestr.	Leeds.	Newcastle.
1877	... 25·5	24·1	24·7	29·1	27·5	22·6	29·7	26·6
1876	... 26·9	25·7	27·0	30·5	29·6	24·5	29·9	30·4
1875	... 26·2	24·4	28·0	30·6	29·4	24·3	30·1	29·1
1874	... 26·4	24·9	24·0	27·8	28·2	25·4	28·8	27·5
1873	.. 27·0	25·2	24·5	29·2	30·4	25·7	28·0	27·1

The death-rate per 1,000 per annum of infants under one year of age is as follows :—

London.	Norwich.	Liverpool.	Birmingham.	Manchester.	Leeds.	Newcastle.
5·2	5·1	7·3	7·0	6·2	6·6	4·5

The great importance of the question of Infant Mortality received special attention from your Committee last year, and at your request I presented to you a Report, of which the following is a copy :—

“ Medical Officer of Health’s Department,  
September 19th, 1877.

“ TO THE HEALTH COMMITTEE.

“ Mr. Chairman and Gentlemen,—I beg to report in reference to Resolution Minute 5694 as to the ‘Causes of Infantile Mortality in Birmingham,’ that the death-rate of infants in the borough under one year of age is 16 per cent. of the registered births, and is less than in any of the

last four years, it being in 1873 18·1, in 1874 17·8, and in 1875 19·6, so that it has fallen from 19·6 in 1875—which was a very unfavourable year—to 16 in 1876 ; a lower level than at any time in the four years.

“The following table shows that the number of deaths of such infants in the borough in 1876 is 2,538, and that of these 1,031 or 40·6 per cent. were certified as due to diarrhoea, and the allied diseases atrophy and tabes. It is probable also that the majority of the 206 deaths returned as from convulsions were occasioned by disorders of the stomach and bowels. These deaths from convulsions amount to 8·1 per cent. of the same class of deaths, so that probably 50 per cent. of all the deaths under one year are traceable to diseases of the alimentary canal. The rest of the deaths are the result of bronchitis, pneumonia, or other chest complaints, whooping cough, hydrocephalus, teething, and other diseases, while 118 were due to premature birth, and 110 were killed by suffocation.

## 1876.

## DEATHS UNDER 1 YEAR OF AGE.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	TOTAL.
Diarrhoea ... ..	11	33	387	47	478
Atrophy and Debility...	114	117	122	118	471
Bronchitis ... ..	163	94	23	79	359
Convulsions ... ..	69	53	34	50	206
Premature Birth ... ..	40	49	52	47	188
Suffocation ... ..	36	18	25	31	110
Tabes Mesenterica ... ..	24	3	36	19	82
Pneumonia ... ..	28	9	7	30	74
Whooping Cough ... ..	16	28	16	10	70
Brain Disease ... ..	14	19	16	10	59
Syphilis... ..	6	16	15	11	48
Lung Disease ... ..	12	12	8	12	44
Hydrocephalus... ..	5	7	10	13	35
Teething ... ..	15	8	5	7	35
All other Diseases ... ..	77	60	76	66	279
Totals ... ..	630	526	832	550	2538

“On comparing the percentage of deaths of infants under one year to 100 Registered Births in Birmingham, with that in the six largest towns, and with the average of twenty large English towns, we find that Birmingham stands second, or is superior to them all, except London, thus—

Average of 20 large English towns.	London.	Norwich.	Birm.	Liverpool.	Manchester.	Leeds.	Newcastle.
18·0	15·7	17·8	16·0	20·8	18·0	16·7	16·7

but as the period of one year is less satisfactory for comparison than a longer period, I have ascertained the average death-rate for five years, viz., from 1871 to 1875 inclusive, in the 18 largest towns of England, among which Birmingham stands seventh on the list, and occupies the same position among the seven large English towns and the average of the 18 largest English towns as given above, viz., second, London being first, thus—

Average of 18 large English Towns.	London.	Norwich.	Birm.	Liverpool.	Manchester.	Leeds.	Newcastle.
18·7	16·1	19·1	18·2	22·9	19·8	20·1	19·4

“ The complete list of the eighteen large English towns is as follows :—

Portsmouth ... ..	14·3	Salford ... ..	18·9
Bristol ... ..	15·8	Norwich ... ..	19·1
London ... ..	16·1	Nottingham ... ..	19·2
Wolverhampton ... ..	17·6	Newcastle-on-Tyne ... ..	19·4
Sunderland ... ..	17·9	Manchester ... ..	19·8
Oldham ... ..	18·0	Bradford ... ..	20·0
<b>Birmingham</b> ... ..	<b>18·2</b>	Leeds ... ..	20·1
Hull ... ..	18·4	Leicester ... ..	22·8
Sheffield ... ..	18·7	Liverpool ... ..	22·9

“ Climatic influence has much to do with the mortality from some of the diseases.

“ The table shows that Diarrhœa and allied disorders were by far the most fatal in the third quarter of the year, when heat and septic conditions operate most powerfully, and that bronchitis and other chest affections were most fatal in the winter and other cold quarters.

“ The effect of cold weather—felt severely by all, however well provided for—is peculiarly severe on the poorer classes and on children, and it is only by an improvement of their material condition, and better knowledge, that this cause can be influenced. Our own town is peculiarly subject to keen winds, cold rains, and variations of temperature, which exert a very marked influence on health.

“ Density of population is another factor in the death-rate of infants, for, as a rule, great density is accompanied by a high mortality ; but it would not be safe to attribute too great an influence to this condition, or to assume that such mortality is necessarily high in large towns, or that the converse is true and that in rural districts the death-rate of infants is naturally and actually low. On looking to the death-rate of the whole of the County of Warwick for 1875, in infants under one year, it is found to be 17·1 per cent. of the registered births. It was unusually high in the same year in Birmingham, and amounted to 19·6, but in the rural district of Alcester, a town which is neither large nor overcrowded, it was 19, and in Nuneaton it was nearly 18, while in Stratford-on-Avon, a town similar in size to Nuneaton, it was only 8·3, or less than half.

“ Without ignoring, then, the influence of density of population and overcrowding, together with surrounding insanitary conditions of water, drainage, etc., and bearing in mind the great preponderance of diseases of the alimentary canal, one is forced to the conclusion that the principal cause of Infantile Mortality is to be found in improper feeding and careless nursing.

“ Infants of the tenderest age are often deprived of the one special food which nature has provided for them, viz., the mother's own milk, and to make matters worse, instead of a good substitute being provided like cow's milk, the most unwholesome, innutritious, indigestible messes are resorted to, milk often forming no part even of the diet. Common foods are sour milk out of dirty bottles ; bread and water, a diet to be borne by adult prisoners only for a week ; arrowroot, sometimes with milk, but often with water only ; corn flour, starch, and other similar substances, containing scarcely any nourishment, and certainly little that an infant

can get out of them, because by infants they are indigestible. The result of the use of these artificial foods is, that flatulence, pain, diarrhoea, and other disorders arise, and the child becomes uneasy and fretful. To relieve the child, but more frequently to relieve the mother of the necessity for attending to it, the child is dosed with Godfrey's cordial and other opiate soothing syrups, which certainly have the effect of allaying pain and forcing sleep, but only to aggravate the evil and hasten the death of the child. Mothers have to learn how to feed their children, many of them being so ignorant that they have no idea of what is proper, and believe that anything eaten or drunk by an adult may be given to an infant. There can be no doubt that the majority of infants dying under one year old are sacrificed to the ignorance of their parents. Some are sacrificed to their carelessness or intemperance, for 4·3 per cent. of the deaths of these young children were due to suffocation from overlying, so that out of every 23 children who died last year in the first year of life in Birmingham, one died from being suffocated; a right-minded woman in a proper and sober condition can hardly be supposed capable of lying on an infant and stopping its breath, except as a rare accident, but there is reason to believe that the large sacrifice of infantile life from this cause is the result of insobriety and excess. When the children have grown stronger and sleep partly or altogether away from their mothers, the fatality from this cause diminishes, and between 1 and 5 years only half one per cent. or 1 in 200 is killed in this way.

“I am unable to give the proportional death-rate of children under one year of age, to children living at that age, because I have no means of ascertaining the number living at that age, and the same remark applies to children under five years. I give underneath, however, a list taken from the Report of Mr. Leigh, Medical Officer of Health for Manchester, for the year 1874, showing the average annual number of deaths under five years of age per 100,000 living under five years of age, in the several registration districts of England and Wales, during the 10 years, 1851—60 :—

Norwich	...	...	8,500	Merthyr Tydvil	}	...	10,000
Bristol	...	...	8,900	Holborn	}	...	10,100
Newcastle	}	...	9,200	Sheffield	...	...	10,100
Blackburn				Southwark	}	...	10,200
Oldham				Coventry	}	...	10,300
Leicester	}	...	9,400	Nottingham	}	...	10,300
Dudley				Leeds	}	...	10,400
Stockport				Whitechapel	...	...	10,400
Walsall	}	...	9,500	Wolverhampton	...	...	10,500
Birmingham				St. Giles	...	...	10,800
Bolton				St. Olave	...	...	11,000
St. George's, Southwark	...	...	9,600	West London	...	...	11,600
East London	}	...	9,800	Manchester	...	...	11,800
Bradford				Liverpool	..	...	13,300
Salford				...	...	...	...
Ashton-under-Lyne	...	...	9,900				

“The number of deaths in children between one and five years of age in the Borough during 1876 was 1,344, as is seen by the following table :—

After Diarrhœa, the most fatal of the Zymotics was

### WHOOPIING COUGH,

which has been exceedingly prevalent, having occasioned 369 deaths against 189 in 1876, 438 in 1875, and 242 in 1874. The Registration Sub-District of Deritend has had the greatest number of deaths from this disease.

### MEASLES

comes next in order of fatality, with 309 deaths, against 141 and 87 in the 3rd quarters of 1875—6 respectively. This disease has been most prevalent in the Registration Sub-District of Duddeston. After Measles in order of fatality stands

### SCARLET FEVER,

with 237 deaths; this number, though higher than that for the previous year, is considerably lower than the average number registered in the 5 years 1872—6, which is 440.

The Sub-Districts of Ladywood and Deritend have to be credited with the greatest mortality from this cause.

### FEVER

has this quarter proved fatal in 144 instances, as compared with 147 last year, and 204 in 1875. In 1870 the death-rate from Fever in Birmingham was .63 per 1,000 of the population, in 1871, .53; in 1872, .54; in 1873, .57; in 1874, .56; in 1875, .56; in 1876, .40; and in 1877, .38.

The death-rate per 1,000 from Fever in twenty large English towns since 1870 has been as under:—

1870	...	...	...	...	.90
1871	...	...	...	...	.78
1872	...	...	...	...	.60
1873	...	...	...	...	.59
1874	...	...	...	...	.58
1875	...	...	...	...	.52
1876	...	...	...	...	.45
1877	...	...	...	...	.42

### SMALL-POX.

The number of cases reported during the year has been 50, while the deaths have numbered 8. Last year only 11 cases and not a single death were reported.

#### DEATHS AND DEATH-RATE FROM SMALL-POX PER 100,000 OF THE POPULATION.

Town.	Population.	Deaths from Small-pox in the year 1877.		Rate per 100,000		
		1877.	1876.	1875.	1874.	
London	3,533,484	2544	72.0	21.1	2.2	1.6
Portsmouth	127,144	1	0.8	0.8	0.0	1.7
Norwich	84,023	0	0.0	2.4	0.0	0.0
Bristol	202,950	0	0.0	17.0	35.7	13.5
Wolverhampton	73,389	0	0.0	0.0	0.0	1.4
<b>Birmingham</b>	<b>377,436</b>	<b>8</b>	<b>2.1</b>	<b>0.0</b>	<b>47.5</b>	<b>176.5</b>
Leicester	117,461	1	0.9	0.0	0.0	0.0
Nottingham	95,025	0	0.0	0.0	0.0	0.0
Liverpool	527,083	299	56.7	68.4	5.6	5.9
Manchester	359,213	49	13.3	55.9	4.8	2.8
Salford	162,978	93	57.1	250.7	23.8	3.0
Oldham	89,796	24	26.7	7.9	3.4	1.2
Bradford	179,315	4	2.2	0.6	1.8	37.4
Leeds	298,189	3	1.0	1.4	7.0	12.2
Sheffield	282,130	2	0.7	0.3	0.0	0.4
Hull	140,002	1	0.7	0.0	1.5	2.3
Sunderland	110,382	0	0.0	0.0	0.0	0.0
Newcastle-on-Tyne	142,231	1	0.7	0.7	0.0	0.0
In 20 Towns	7,091,169	3041	42.8	24.9	6.4	13.1

The number of cases and deaths in each quarter, since the end of 1871, is seen in the subjoined statement :—

DATE.		Cases.	Deaths.
1871.			
November 18th to end of year	..	359	43
Total		— 359	— 43
1872.			
1st Quarter	...	798	96
2nd "	...	632	92
3rd "	...	355	67
4th "	...	192	44
Total		— 1,977	— 299
1873.			
1st Quarter	...	171	29
2nd "	...	246	37
3rd "	...	124	18
4th "	...	253	38
Total		— 794	— 122
1874.			
1st Quarter	...	757	123
2nd "	...	1,303	196
3rd "	...	1,059	165
4th "	...	672	153
Total		— 3,791	— 637
1875.			
1st Quarter	...	366	85
2nd "	...	347	72
3rd "	...	95	14
4th "	...	16	2
Total		— 824	— 173
1876.			
1st Quarter	...	2	0
2nd "	...	2	0
3rd "	...	2	0
4th "	...	5	0
Total		— 11	— 0
1877.			
1st Quarter	...	7	1
2nd "	...	20	3
3rd "	...	20	3
4th "	...	3	1
Total		— 50	— 8
Grand Total		— 7,806	— 1,282

### HOUSE CONSTRUCTION,

under the Bye-laws adopted in 1876, for regulating the construction of New Streets and New Buildings within the Borough, has made considerable advances, foremost among which is the abolition of the back-to-back system. The provision of more space around the dwelling is another great improvement, but the drainage has not yet received that attention which its influence for good or harm demands. Drains are put down, constructed without any regard to their effect on health, the sole object seeming to be to carry off slops; but so badly, as a rule, are drains constructed, that they fail even to do this simple office, and entail the further evil of succeeding in bringing into houses the dangerous gases from the sewers, or those engendered within the drains themselves. To mention shortly the leading defects of a common drain as constantly met with. It has no trap, or the trap is upon such a bad principle that it allows drain air to come *out* of the drain and prevents liquids from going *into* it; this is especially so with the common bell-trap. If it be of brickwork the masonry is often badly constructed, and allows leakage into the soil, with the effect of contaminating air and water; and if it consists of so-called sanitary pipes, the numerous inevitable joints are left without lute or puddle, and so afford as many points of exit for both liquids and gases, occasioning dampness and

impurity of soil and walls and floors, with all their attendant dangers. This is the simplest case, such as is commonly presented by small-house property ; a consideration of the defects in better class property, where the luxuries of sinks, bathroom, lavatory, and water-closet are indulged in, would reveal still more prolific sources of danger. It is difficult to deal with the more complicated case, and the intelligence of the class concerned ought to be sufficient to protect them ; but in the laying of all external drains, I am more than ever convinced that the work should be subject in every case to supervision by a competent Corporation Officer. This step is necessary to guard against the indifference and ignorance, and in some cases the carelessness, if not dishonesty, of the persons concerned. One can pardon the neglect resulting from ignorance, and to some extent that from carelessness, but I have been witness of the wilful disobedience of workmen who have been specially directed to puddle the joints of sanitary pipe drains, but who, nevertheless, have simply inserted the narrow end of the one pipe into the wide end of the next one, and have then filled in the soil, leaving the joints without a particle of either mortar or clay. The result is that the drain leaks at every joint, and the least evil that can follow is damp ground, walls, and floors ; but, more probably, the earth becomes infiltrated with the worst forms of organic, namely, excrementitious impurity, to the certain contamination of either air or water, or both, and the inevitable injury to the health of the persons within their influence. I see no way of remedying this state of things, except by insisting that every drain laid, whether in connection with old or new property, shall be submitted, before it is covered up, to the inspection of a proper person. The question is one of immense importance in a sanitary aspect, for it involves the purity or impurity of the soil over the whole town, and the condition of the soil is one affecting the general tone of the public health, and either the existence or the intensity of many grave forms of disease, especially those of the Zymotic class. I have, on a former occasion, referred to this matter, but a strong conviction of its importance is my justification for bringing it again under your notice, with a view to practical measures being adopted with respect to it. The action you are taking to abolish ashpits, dumbwells, and other surface nuisances, will not be complete until this matter of the surface drainage is also properly dealt with.

The comparative freedom of the Borough from Small-pox during the year is a very gratifying circumstance, and is doubtless mainly due to the efficient and very general

#### VACCINATION

which now prevails. In proportion, as this protective operation is thoroughly efficient and general, so will be our freedom from Small-pox visitations ; but as a provision against inefficient primary Vaccination, and because there is good reason to believe that in some cases even efficient primary vaccination loses its protective influence with lapse of time, it is very desirable that

#### RE-VACCINATION

should be performed. The best time for the operation is between the ages of 12 and 15 years, but in times of Small-pox visitations it should be resorted to at all ages. I have mentioned the fact before, but it will bear repetition, that persons who have been re-vaccinated scarcely ever take Small-pox ; but in the few instances in which they do so, a fatal termination never occurs, and the disease invariably on the contrary assumes the mildest possible form.

The disadvantage resulting from the disinclination on the part of persons, both lay and medical, as to the

#### REPORTING CASES OF ZYMOTIC DISEASE

still makes itself much felt. An early intimation of the existence of such cases would render it possible to check their spread, but, unfortunately, in most cases the first information obtained is that from the Registrar's Weekly Death Returns. A few months ago three cases of Small-pox occurred in one house, information of which reached me by pure accident; ultimately one of them died, and thus a valuable life was lost, which probably might have been saved. No communication was made at any time by the Surgeon in attendance, and it is a fact forcibly illustrating the necessity for some legislative action on the subject, that, out of upwards of 200 medical practitioners in the borough, only seventeen reported cases of disease during the whole of the year 1877.

If it were not for the apparent invidiousness of the proceeding I should like to pay a just tribute to the high sense of professional duty, and the truly unselfish and philanthropic action of these gentlemen, by placing their names on record.

The streets in which have taken place the most deaths from Zymotic Disease are—

Miles Street	...	...	...	17
Great Barr Street	..	...	...	13
New John Street West	...	...	...	13
Charles Henry Street	...	...	...	12
Cheapside	...	...	...	12
Hospital Street	...	...	...	12
Irving Street	...	...	...	12
Richard Street	...	...	...	12
Tower Street	...	..	...	12
Coventry Road	...	...	...	11
Farm Street	...	...	...	11

With a view to the better representation of the distribution of certain Zymotic diseases, I append the

#### DISEASE MAPS

referring to Scarlet Fever, Measles, and Typhoid, which have been recently prepared for your Committee, and upon which reports have already been presented to you.

#### THE BOROUGH HOSPITAL.

During the year 38 out of the 50 cases of Small-pox reported have been treated in the Institution against 11 cases in 1876, and 43 of Scarlet Fever against 38 in the year 1876.

It is to be regretted that more use is not made of the Hospital in the treatment of Scarlet Fever, a disease which is excessively infectious, but which only needs isolation for its suppression. The principal obstacle to the employment of the advantages of the Hospital is unquestionably the objection which parents, mothers particularly, have to parting with their children, they prefer putting up with all the disadvantages and dangers of home treatment to a separation from their little ones while suffering from acute diseases. There is not the same objection shown in chronic ailments, but the dangers to the public, as well as to the patients, from Scarlet Fever are so great, that no means should be neglected for rendering popular the treatment of cases in Hospital.

## THE DISINFECTING STATION.

The number of articles disinfected at the above establishment is 1,403, consisting of :—

Bolsters and Pillows	...	...	...	...	315
Mattresses	...	...	...	...	126
Blankets	...	...	...	...	103
Beds	...	...	...	...	115
Sheets	...	...	...	...	346
Counterpanes	...	...	...	...	68
Other Articles	...	...	...	...	330
Total					1,403

The working cost of the Station for the year, including men's wages, horses, and gas, is about £200, viz. :—

Wages of two Men	...	...	...	£130	0	0
Horsekeep and Shoeing	...	...	...	52	0	0
Gas for Heating and Lighting	...	...	...	11	11	10
Coal	...	...	...	1	18	5
					£195 10 3	

## WATER SUPPLY.

The examination of the Corporation Water Supply, and of the Surface Wells of the town, has been carried on as heretofore. The analytical results are recorded in Table XV. It is satisfactory to find that the character of the supply continues to exhibit a progressive improvement, as shewn by the annual averages given in the Table.

I have analysed during the year the water of 490 surface wells; of these, 461 were found polluted. Up to the end of the year, 366 had been closed, and some others still remain to be dealt with. In the majority of cases a conference of your sub-committee with the owners has sufficed to obtain the closing of the wells complained of, without a resort to magisterial proceedings. Some few landlords are unreasonable, and not to be convinced by any amount of evidence—not even by such as they obtain from their own analyst; but it is very satisfactory to find that the majority of them seem willing to discontinue the supply of impure water to their tenants as soon as the fact of such impurity is made known to them. The results of the analyses are given in Table XV.

## SEWAGE AND REFUSE DISPOSAL.

During the year 1877 six miles of sewers were constructed in streets taken to by the Corporation, and three miles in streets not taken to; this extension of the sewerage of the town, which is so essential to its health, is still being continued.

The abolition of the noisome and dangerous ashpits is being rapidly effected, and the privies attached to them are in constant process of conversion into pan closets. It is not at all unusual to find the end or side of a house forming one of the boundaries of a damp or even wet ashpit, and it is almost as constantly found that this particular house is the abode of Zymotic disease; ashpits of such a character, and in such situations, are the first to receive attention and undergo alteration.

The number of pans introduced during the year is 6,648; the total number introduced being at the end of the year, 22,668.

### THE PAVING

of the roads and footpaths has been very considerably extended, and constitutes a great and much-needed improvement. It is satisfactory to see that more attention is being paid by the police to the condition of the footpaths, which are much neglected; and it is to be hoped that the bye-laws bearing on this question will be strictly and systematically enforced. The throwing of refuse into the gutters and roadways is a common and most objectionable practice, and it is, on sanitary grounds alone, desirable that it should be suppressed.

At the end of the year, the length of the streets in the Borough was  $193\frac{3}{4}$  miles; 151 miles had been taken to by the Corporation, leaving  $42\frac{3}{4}$  not taken to. In the former and through private lands the sewers measured about 129 miles, in the latter, 35 miles. Ten miles of the carriage ways are paved, while two miles on tramway routes are partly paved and partly macadamised.

I believe that the more thorough scavenging and cleansing of the streets would exert a marked influence on the public health. The paving of the streets would render the process much easier and cheaper.

### MORTUARIES.

These four establishments have been found of much service and convenience. During the year there were deposited in them 65 bodies, viz. :—in

Kenion Street	...	...	...	...	...	8
Ladywood	...	...	...	...	...	13
Duke Street	...	...	...	...	...	12
Moor Street	...	...	...	...	...	32

### SANITARY WORK

has been energetically conducted during the year, more particularly with respect to houses where Infectious Diseases have occurred, ordinary dwelling houses in a neglected state, lodging houses, houses let in lodgings, slaughter houses, bake-houses, work rooms, manufactories, chimney stacks, courts, ashpits, surface wells, the improper keeping of animals, &c. The details of the greater part of the sanitary work done are given in Table VI.

### SLAUGHTER-HOUSES,

which are private, exist in about the same number as during the last few years, viz. :—278 against 278 in 1876 and 274 in 1875. Of the whole number 162 only are licensed, the rest being registered. The experience of the past year has strengthened my conviction, if that were possible, of the importance of replacing private slaughter-houses by a public abattoir. Under present circumstances facilities exist for secretly disposing of bad meat, which could not obtain in one public establishment which would admit of the supervision of the whole of the meat slaughtered; and there is good reason to know that in many instances the facilities mentioned are taken advantage of.

### THE KEEPING OF ANIMALS

in enclosed spaces, like yards and courts, in attics, cellars, and other unsuitable places, still continues to be too much practised.

The number of notices served during the year for the removal of such animals as have been kept in a filthy and improper state, or place, is 758, against 892 in the preceding year. The following comparative statements give the details :—

	1876.	1877.
Pigs ... ..	247	280
Fowls ... ..	459	369
Pigeons ... ..	113	57
Ducks and Geese ... ..	42	35
Rabbits ... ..	18	9
Donkeys ... ..	5	4
Horses ... ..	4	2
Other Animals .. ..	4	2
Total ... ..	<u>892</u>	<u>758</u>

The owners of the Pigs consisted of—

	1876.	1877.
Private Persons ... ..	144	125
Publicans ... ..	38	63
Butchers ... ..	25	36
Tradesmen ... ..	21	20
Milkmen .. ..	16	20
Bakers ... ..	—	13
Tripe Dressers ... ..	3	3
Total ... ..	<u>247</u>	<u>280</u>

The amount of organic impurity occasioned by animals is a prolific source of deteriorated health ; it is one of the great depressing influences predisposing to attacks of various forms of disease, and the improper keeping of animals ought to be, therefore, steadily discouraged.

Many subjects have been specially reported on during the year, among which are the sanitary condition of properties, sewer ventilation, closet accommodation, methods of disposal of intercepted matter and various collateral questions, the causes of certain forms of Zymotic disease and their distribution, and Infantile Mortality.

I have the honour to remain,

Mr. Chairman and Gentlemen,

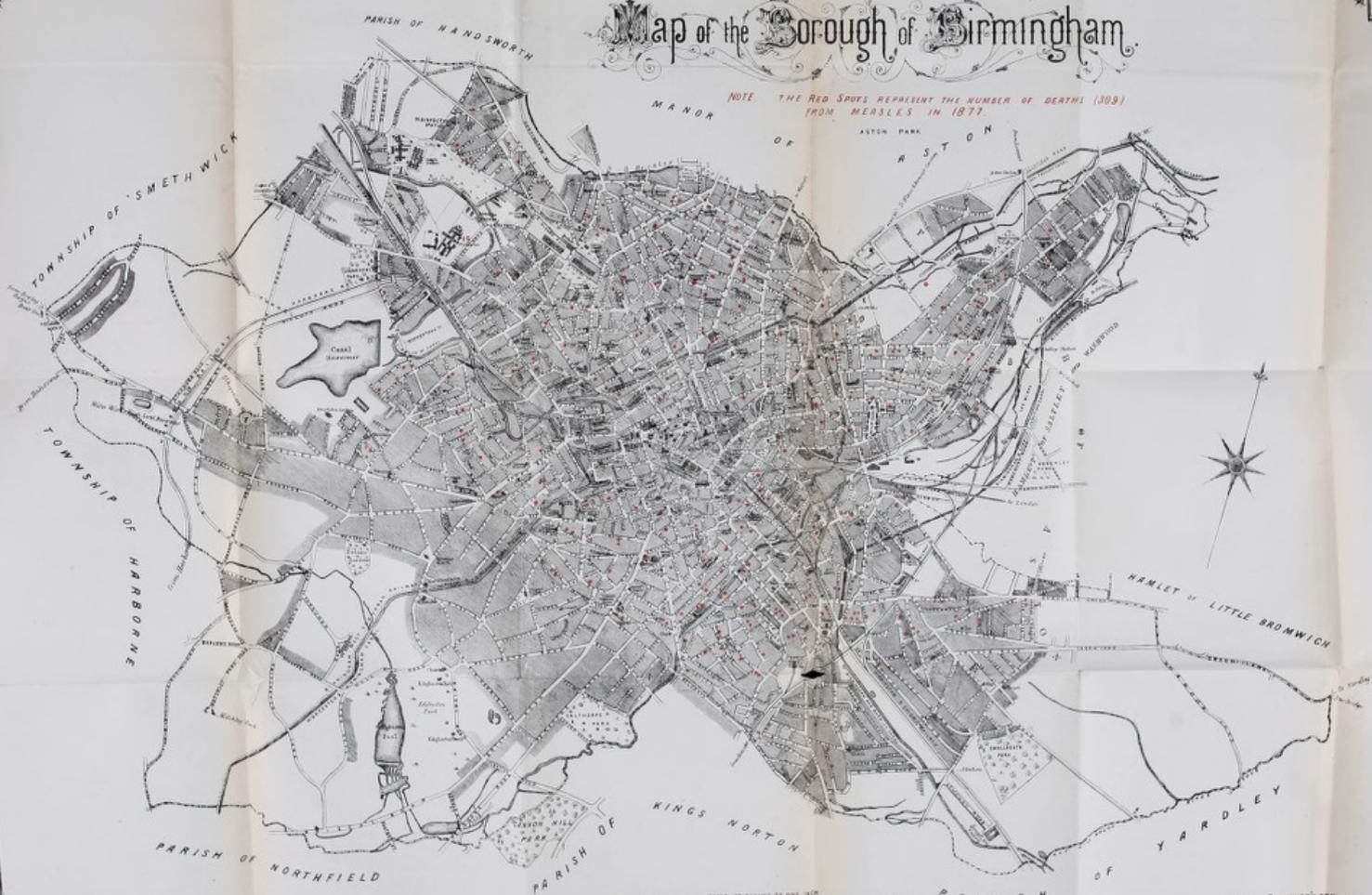
Your obedient Servant,

ALFRED HILL, M.D.,

*Medical Officer of Health.*

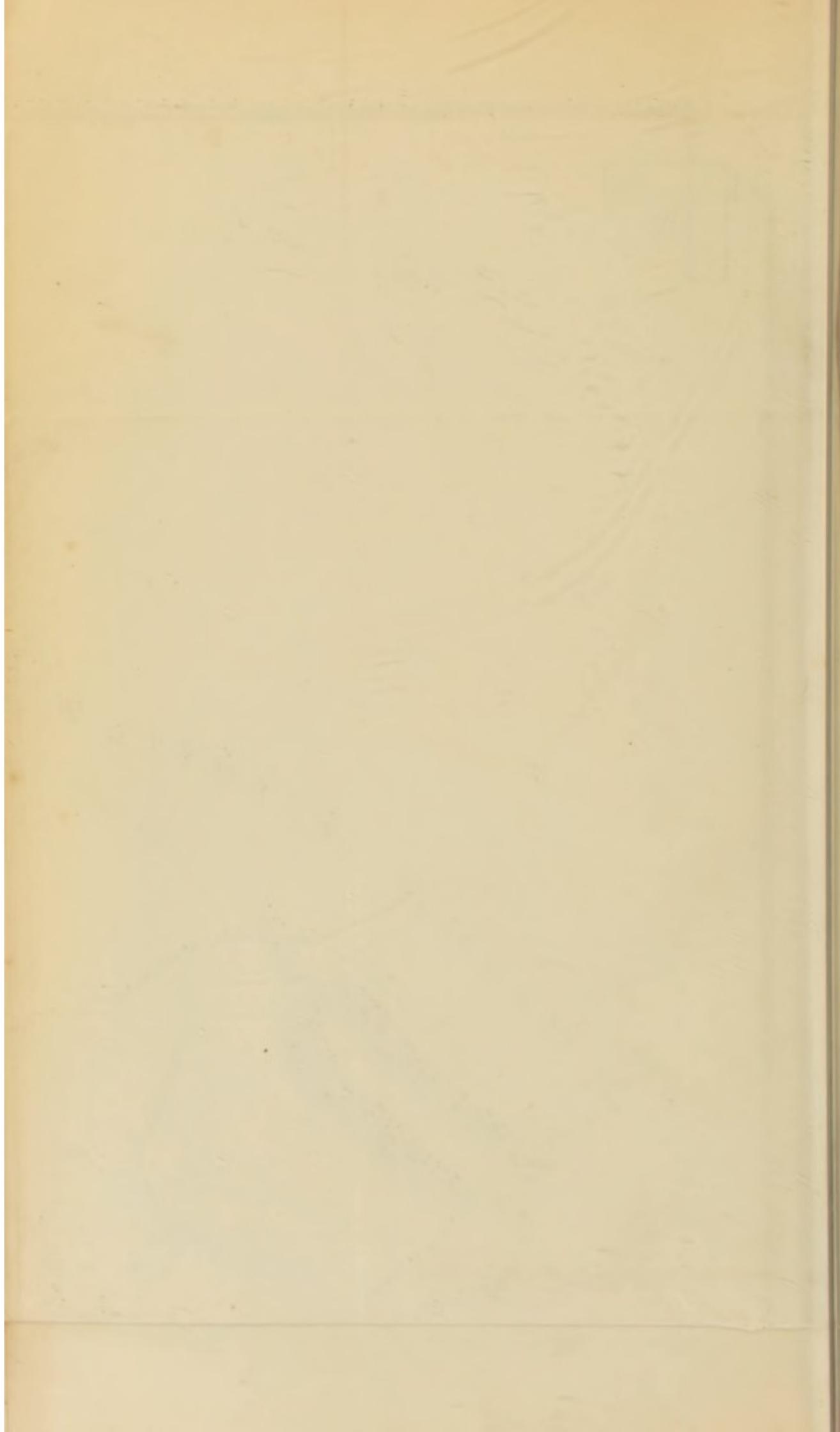
# Map of the Borough of Birmingham

NOTE THE RED SPOTS REPRESENT THE NUMBER OF DEATHS (309) FROM MEASLES IN 1877.



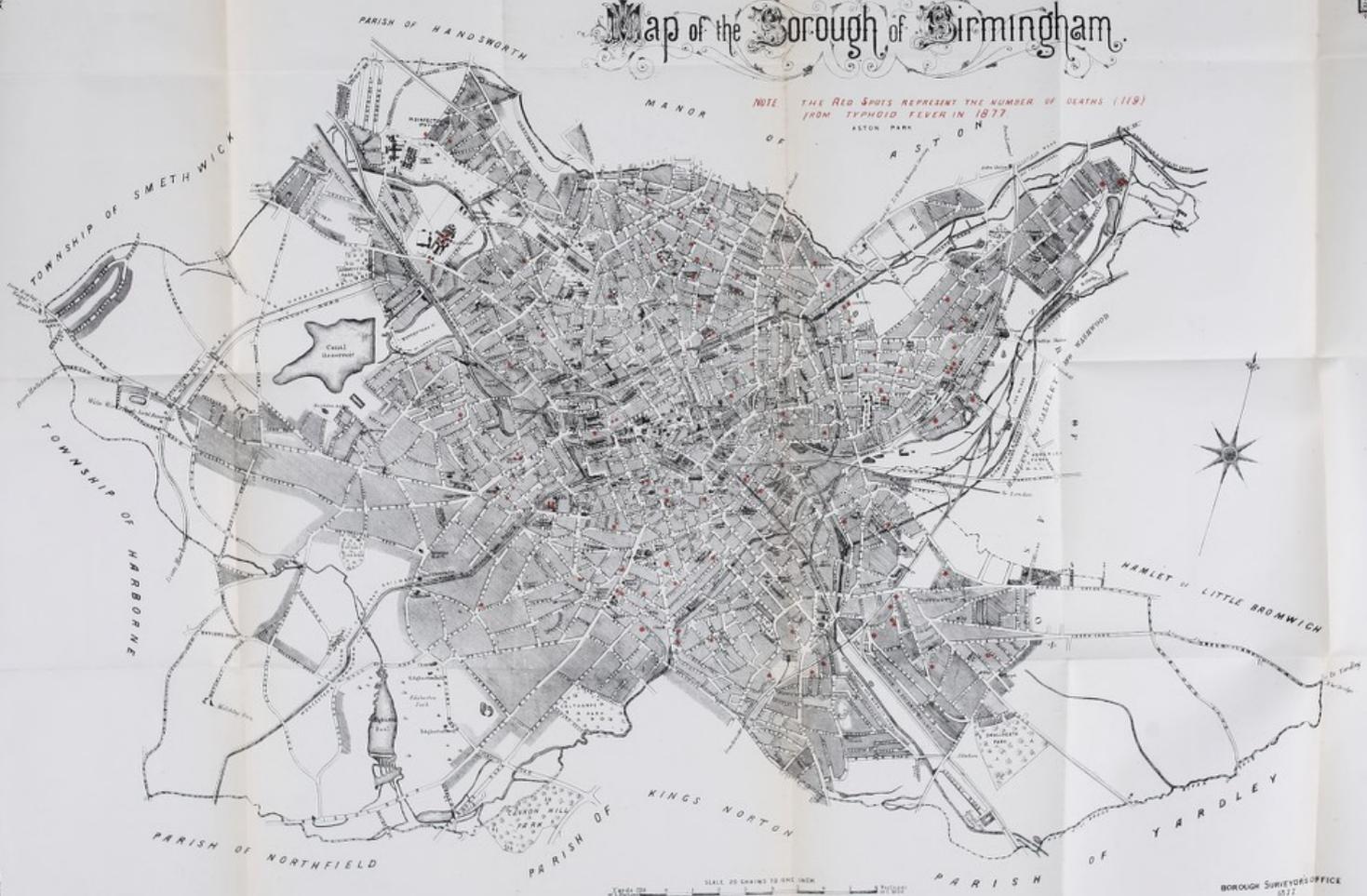
SCALE 20 CHAINS TO ONE INCH  
SCALE OF ONE MILE

BOROUGH SURVEYOR'S OFFICE  
1877



# Map of the Borough of Birmingham.

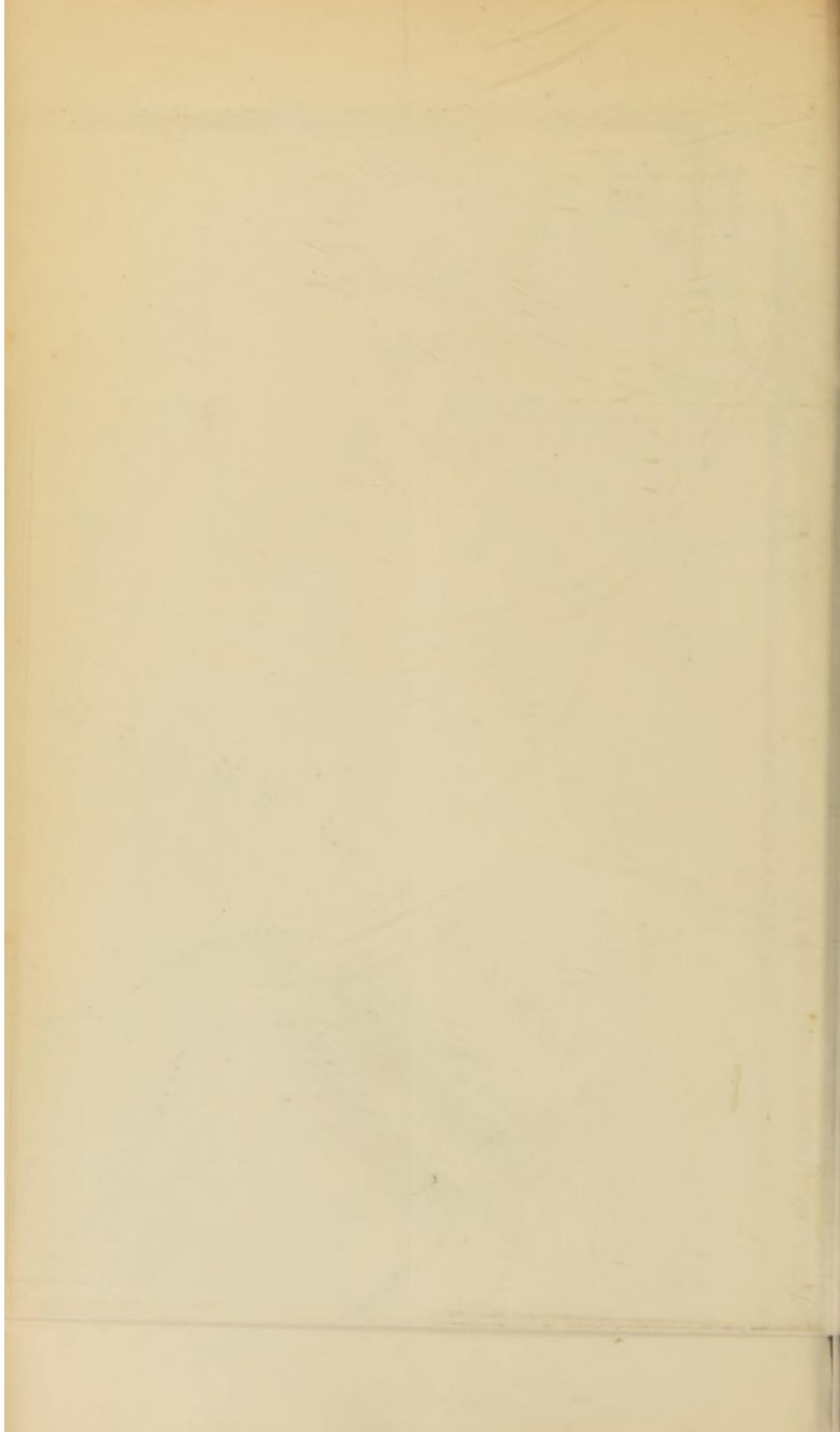
MANOR OF ASTON PARK  
NOTE THE RED SPOTS REPRESENT THE NUMBER OF DEATHS (119) FROM TYPHOID FEVER IN 1877.



SCALE 20 CHAINS TO ONE INCH  
2000 FEET TO ONE MILE

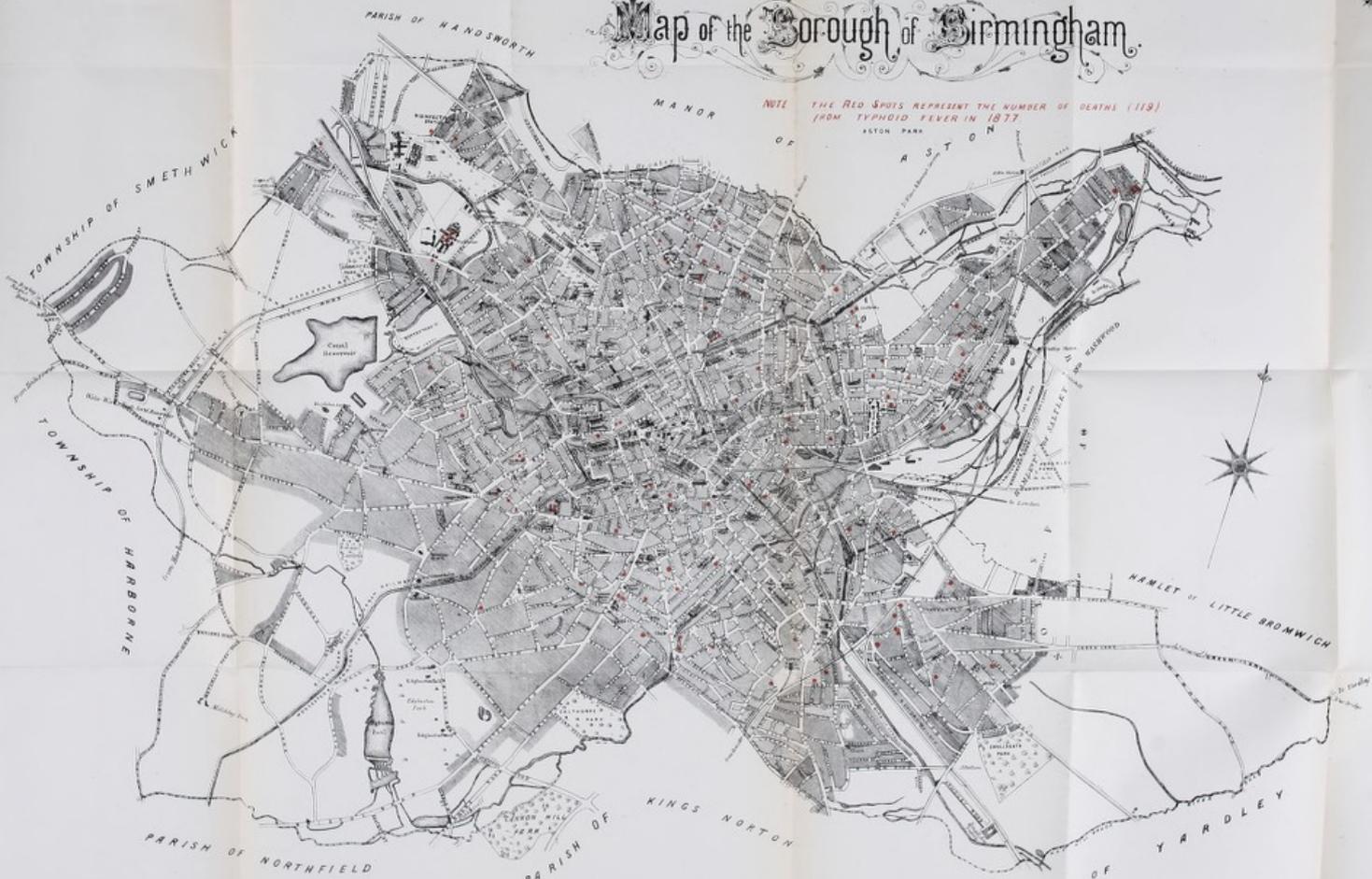
BOROUGH SURVEYORS OFFICE  
1877





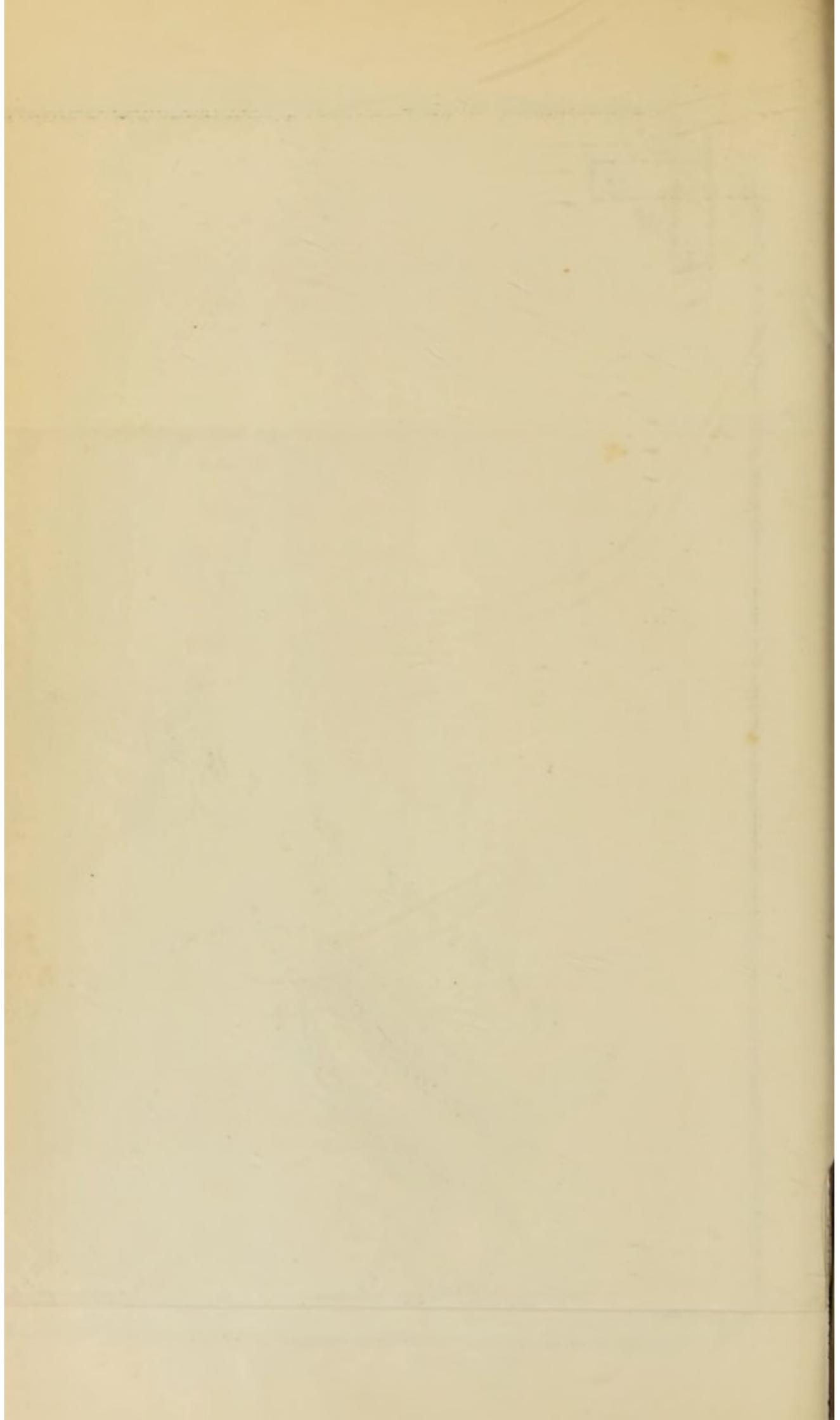
# Map of the Borough of Birmingham.

MANOR OF ASTON  
NOTE THE RED SPOTS REPRESENT THE NUMBER OF DEATHS (119) FROM TYPHOID FEVER IN 1877.



SCALE 20 CHAINS TO ONE INCH  
SCALE OF ONE MILE

BOROUGH SURVEYORS OFFICE  
1877



**TABLE I.**  
**BIRTHS & DEATHS (GROSS NUMBERS).**

DATE.	BIRTHS.	DEATHS.
1877	16,001	9,038
1876	15,816	8,330
1875	14,862	9,668
1874	14,888	9,665
1873	14,497	8,990
1872	14,123	8,048
1871	13,443	8,594
1870	12,922	7,805
1869	12,779	7,737
1868	12,992	8,548
1867	13,029	8,318
Average of Ten Years, } 1867—1876	13,935	8,570

NOTES.

- 1.—Population at Census, 1871, 343,787.
- 2.—Population, estimated to the middle of the Year, 1877, 377,436.
- 3.—Area in Acres, 8,400.
4. Number of Inhabited Houses in Borough at Census, 1871, 68,532.
- 5.—Average number of Persons in each House at Census, 1871, 5.0.

TABLE II.

ANNUAL RATE OF MORTALITY, DEATH RATES AMONG CHILDREN, AND DEATHS IN PUBLIC INSTITUTIONS.

DATE.	Annual rate of Mortality per 1,000 living.	Deaths of Children under 1 year : percentage to total Deaths.	Percentage of Deaths of Children under 1 year to Registered Births.	Deaths of Children under 5 years : percentage to total Deaths.	Percentage of Deaths in Public Institutions.
1877	23.95	29.1	16.4	49.4	12.2
1876	22.4	30.5	16.0	46.6	11.6
1875	26.3	30.6	19.6	49.4	11.8
1874	26.8	27.8	17.8	47.5	11.8
1873	24.8	29.2	18.1	49.2	11.6
1872	23.1	29.1	16.6		12.0
1871	24.9	29.7	19.0		10.9
1870	23.0	29.9	18.1		11.4
1869	23.1				
1868	25.9				
1867	25.6				
Average of 10 Years } 1867—1876 }	24.6				



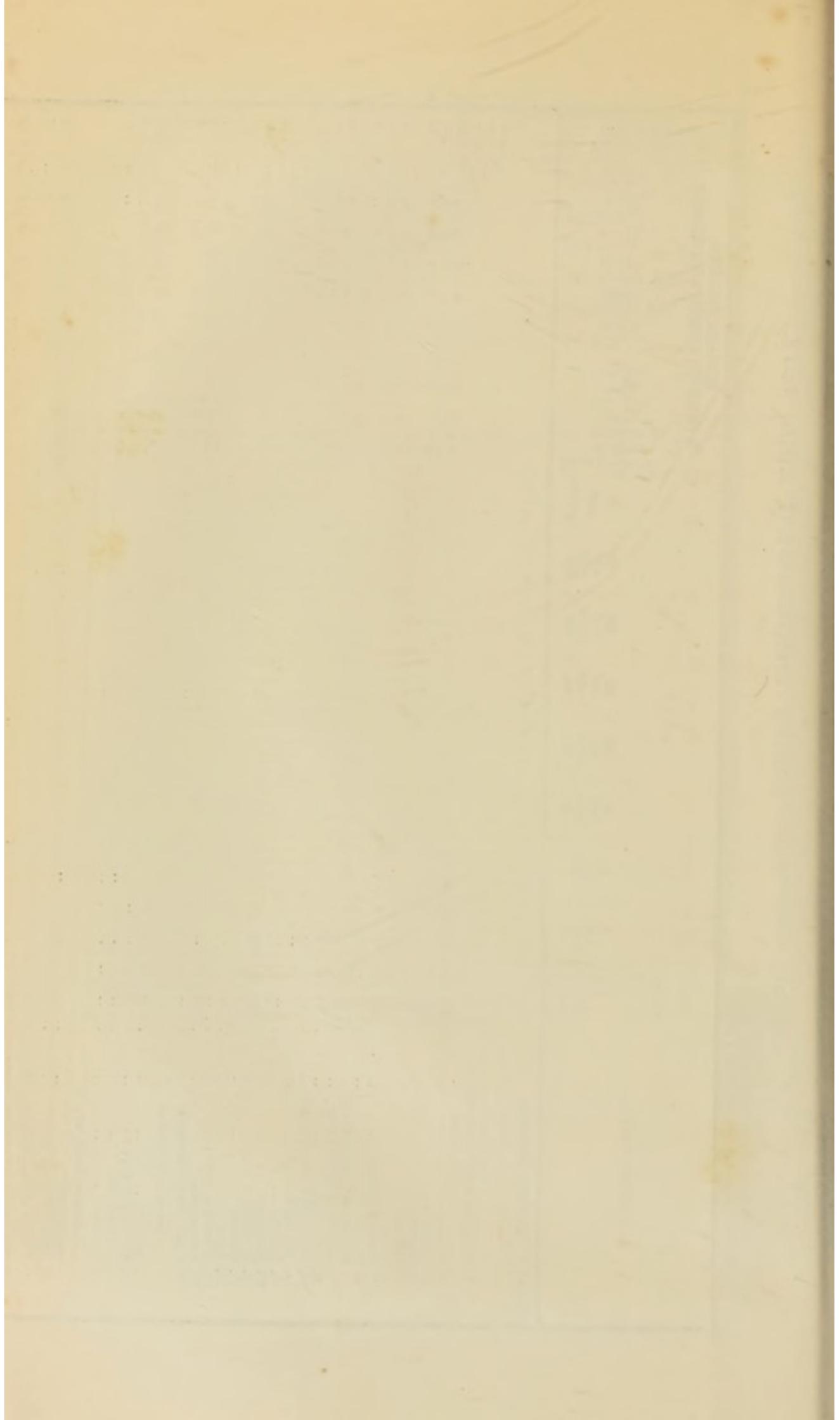


TABLE IV.

Mortality from certain classes of Diseases, and proportions to population and to 1,000 deaths in 1877 :—

CLASS OF DISEASES.	Total Deaths.	Death Rate per 1,000 of the population.	Proportion of Deaths to 1,000 Deaths.
1.—Seven principal Zymotic Diseases	1,576	4·18	174
2.—Pulmonary (other than Phthisis)	1,838	4·88	204
3.—Tubercular ... ..	970	2·57	107
4.—Wasting Diseases of Infants ...	837	2·22	93
5.—Convulsive Diseases of Infants ...	618	1·64	68

NOTES.

- 1.—Includes Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhoea.
- 3.—Includes Phthisis, Scrofula, Rickets, and Tabes.
- 4.—Includes Marasmus, Atrophy, Debility, Want of Breast Milk, and Premature Birth.
- 5.—Includes Hydrocephalus, Infantile Meningitis, Convulsions, and Teething.

**TABLE V.**  
**SHOWING THE NUMBER OF DEATHS IN THE FIVE YEARS, 1872 TO 1876, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES,**  
**AND THE NUMBER IN 1877.**

	1872	1873	1874	1875	1876	Annual average of 5 years, 1872-1876.	Proportion of deaths to 1,000 deaths in 5 years, 1872-1876.	1877	Proportion of deaths to 1,000 deaths in 1877.
Small-pox ...	298	125	637	174	0	247	27.5	8	1.0
Measles ...	44	123	139	141	87	107	12.0	309	34.0
Scarlet Fever ...	409	587	737	265	204	440	49.0	237	26.0
Diphtheria ...	82	107	74	55	58	75	8.5	52	6.0
Whooping Cough ...	263	169	242	438	189	260	29.0	369	41.0
Fever ...	188	203	201	204	147	189	21.0	144	16.0
Diarrhoea ...	640	728	622	868	651	703	79.0	457	50.0
<b>TOTAL ...</b>	<b>1,924</b>	<b>2,042</b>	<b>2,652</b>	<b>2,145</b>	<b>1,336</b>	<b>2,021</b>	<b>226.0</b>	<b>1,576</b>	<b>174.0</b>
<b>London ...</b>	<b>12,699</b>	<b>11,385</b>	<b>11,230</b>	<b>13,411</b>	<b>12,565</b>	<b>12,258</b>	<b>163.0</b>	<b>10,292</b>	<b>134.0</b>





WEEKLY REGISTER OF DEATHS IN THE BOROUGH OF BIRMINGHAM.

From December 31st, 1876, to December 29th, 1877.

CAUSES OF DEATH	1876							1877							Total	Average
	Jan	Feb	Mar	Apr	May	June	July	Jan	Feb	Mar	Apr	May	June	July		
<b>CLASS I.—ZYMOTIC DISEASES.</b>																
1. Small-pox																
2. Measles																
3. Typhoid fever																
4. Typhus																
5. Cholera																
6. Diphtheria																
7. Scarlet fever																
8. Erysipelas																
9. Puerperal fever																
10. Infantile diarrhoea																
11. Infantile cholera																
12. Infantile typhoid																
13. Infantile dysentery																
14. Infantile convulsions																
15. Infantile tetanus																
16. Infantile paralysis																
17. Infantile strabismus																
18. Infantile deafness																
19. Infantile blindness																
20. Infantile idiocy																
21. Infantile epilepsy																
22. Infantile chorea																
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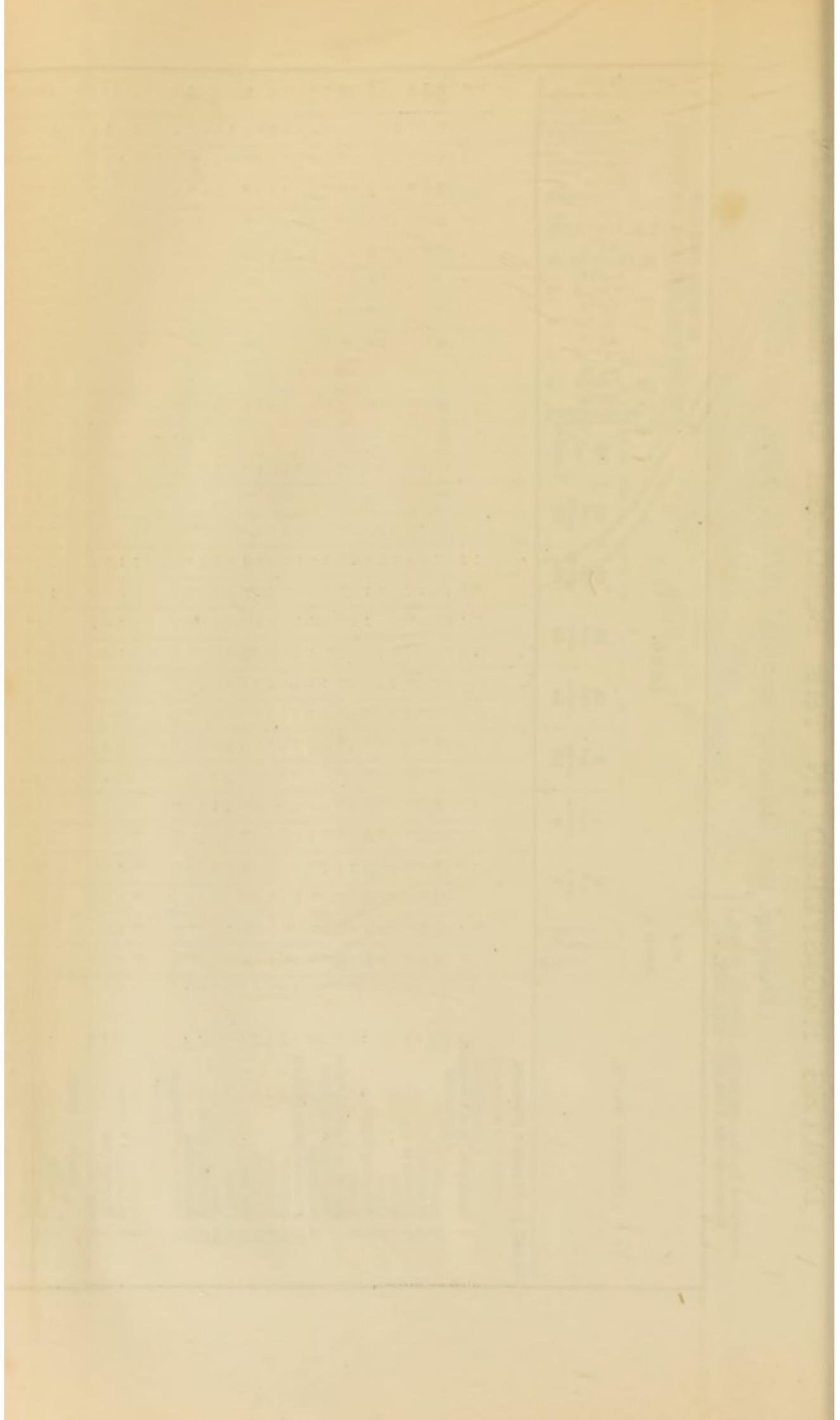
1847  
The undersigned do hereby certify that the within and foregoing is a true and correct copy of the original as the same appears from the records of the Court of Sessions for the County of Middlesex in the year 1847.

Wm. J. Fox  
Clerk of the Court



No.	Name	Age
1	John Smith	25
2	James Brown	30
3	William Jones	28
4	Robert Taylor	35
5	Thomas White	22
6	Richard Black	32
7	Henry Green	27
8	George Grey	38
9	Edward Hall	24
10	Thomas King	31
11	John Lee	29
12	James Miller	33
13	William Moore	26
14	Robert Parker	36
15	Thomas Reed	23
16	Richard Scott	34
17	Henry Walker	28
18	George Young	37
19	Edward Adams	25
20	Thomas Baker	32
21	John Clark	27
22	James Evans	35
23	William Fisher	24
24	Robert Grant	31
25	Thomas Hill	29
26	Richard King	33
27	Henry Lamb	26
28	George Martin	38
29	Edward Nelson	25
30	Thomas Owen	32
31	John Phillips	28
32	James Quinn	34
33	William Roberts	27
34	Robert Scott	36
35	Thomas Turner	23
36	Richard Walker	34
37	Henry Young	28
38	George Adams	37
39	Edward Baker	25
40	Thomas Clark	32
41	John Evans	27
42	James Fisher	35
43	William Grant	24
44	Robert Hill	31
45	Thomas King	29
46	Richard Lamb	33
47	Henry Martin	26
48	George Nelson	38
49	Edward Owen	25
50	Thomas Phillips	32
51	John Quinn	28
52	James Roberts	34
53	William Scott	27
54	Robert Turner	36
55	Thomas Walker	23
56	Richard Young	34
57	Henry Adams	28
58	George Baker	37
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79	Edward Evans	25
80	Thomas Fisher	32
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85	Thomas Martin	29
86	Richard Nelson	33
87	Henry Owen	26
88	George Phillips	38
89	Edward Quinn	25
90	Thomas Roberts	32
91	John Scott	28
92	James Turner	34
93	William Walker	27
94	Robert Young	36
95	Thomas Adams	23
96	Richard Baker	34
97	Henry Clark	28
98	George Evans	37
99	Edward Fisher	25
100	Thomas Grant	32







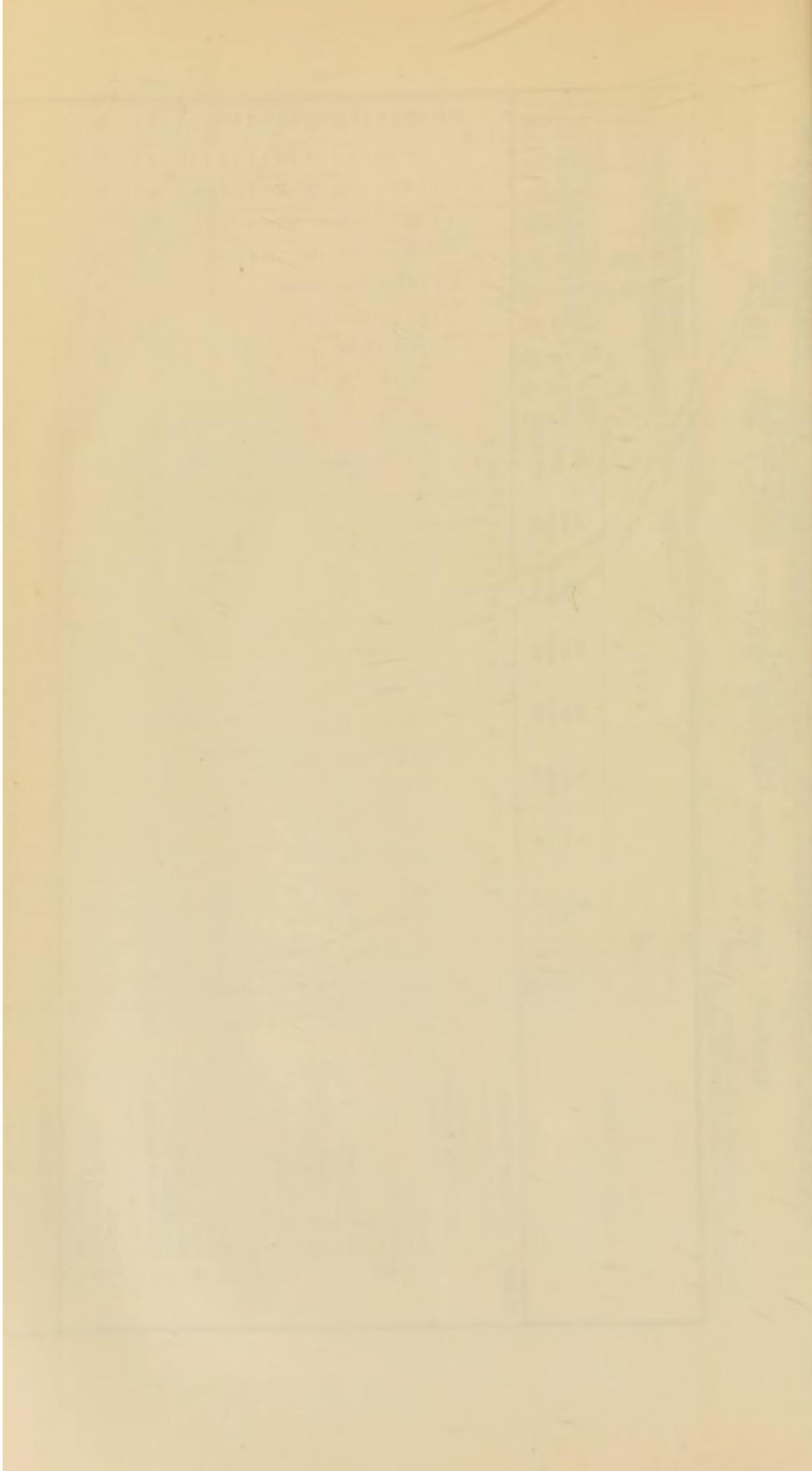






TABLE XII.

METEOROLOGICAL CONDITION OF THE AIR, AND AMOUNT OF RAINFALL FOR THE YEAR ENDING DECEMBER 29TH, 1877.

Observed at 63, Bloomsbury Street, Birmingham, at 8.0 a.m., by D. SMITH, Esq., F.R.A.S.

The Instruments are considered to be 340 feet above the mean level of the sea.

From the returns of the Registrar-General, the area within the Municipal Boundary of the Borough of Birmingham is taken at 8,400 acres, and the population estimated to the middle of the year, 1877, at 377,436.

1877.	Pressure of Air.		TEMPERATURE OF THE AIR				RAINFALL.		
	Barometer	Mean Monthly Reading (corrected and reduced to 32 degrees Fahrenheit)	Reading of Thermometer.				Gauge 8 inches diameter. Receiving surface 8 inches above the ground.		
			Highest in Shade.	Lowest in Shade.	Range of Temperature in the Month	Mean Temperature in the Month	Depth of Rain deposited upon a square foot of surface, in inches and parts.	Measurement converted into weight per Acre.	Number of Days on which Rain fell, when $\frac{1}{16}$ ths of an inch or more was measured.
Months.	In Parts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	In. Parts.	Tons.		
Jan., 4 weeks...	29.399	57°0	29°0	28°0	42°8	4.47	452	18	
Feb., 4 " ...	29.502	56.4	30.8	25.6	44.5	2.43	245	12	
Mar., 5 " ...	29.356	56.4	22.2	34.2	40.3	2.72	276	15	
April, 4 " ...	29.363	59.0	32.4	26.6	45.0	2.82	285	12	
May, 4 " ...	29.570	64.2	29.0	35.2	48.2	2.27	229	9	
June, 5 " ...	29.583	82.0	38.4	43.6	59.0	2.96	298	10	
July, 4 " ...	29.474	75.6	45.8	29.8	59.8	5.03	509	12	
Aug., 4 " ...	29.517	82.0	46.0	36.0	61.6	2.29	231	10	
Sept., 5 " ...	29.635	70.2	38.6	31.6	54.9	4.58	463	13	
Oct., 4 " ...	29.629	69.3	34.5	34.8	49.1	1.91	193	12	
Nov., 4 " ...	29.335	61.0	33.2	27.8	47.4	2.87	290	15	
Dec., 5 " ...	29.508	53.2	29.5	23.7	41.3	2.40	242	11	

The mean height of the Barometer for the year is 29.489 inches as compared with 29.491 inches in 1876, and 29.594 inches in 1875. The mean temperature is 49°5 and 0°4 above the average temperature for the previous ten years. Both the rainfall and the number of days on which  $\frac{1}{16}$ th of an inch was measured were in excess of the average. January, July, and September were the months in which fell the greatest amount of rain, while March, November, and January are credited with the largest number of wet days.



TABLE XIII.  
 RAINFALL AND TEMPERATURE IN EACH MONTH AND YEAR FROM 1867 TO 1877.  
 COMPILED FROM OBSERVATIONS MADE AT 63, BLOOMSBURY STREET, BIRMINGHAM, BY D. SMITH, Esq., F.R.A.S.

MONTH.	1867.		1868.		1869.		1870.		1871.		1872.		1873.		1874.		1875.		1876.		Average for 10 years 1867—76.		1877.	
	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.	Rainfall. <small>No. of days on which 1/10th of an inch or more was measured.</small>	Temperature.
January ...	3.765	15 34.0	2.290	12 37.9	3.460	12 41.6	2.285	13 38.0	1.485	9 32.5	4.750	21 40.4	4.448	19 41.4	1.865	10 41.4	3.112	16 44.4	1.755	6 36.1	2.921	13 39.0	4.447	18 42.8
February ...	1.605	10 44.3	1.890	12 43.1	3.075	13 45.3	2.300	10 36.0	1.730	9 42.5	3.410	15 43.8	1.761	11 35.1	2.685	9 38.2	1.675	10 36.0	2.551	14 39.6	2.261	11 40.4	2.431	12 44.5
March ...	5.660	15 36.5	2.920	12 44.1	2.500	9 36.2	1.660	6 40.6	1.240	8 44.1	2.365	12 44.0	2.661	14 39.9	1.721	16 44.6	8.811	5 40.7	3.162	22 40.8	2.471	12 43.1	2.721	15 40.3
April ...	2.430	15 37.6	1.935	9 47.9	1.825	8 49.8	0.915	5 49.1	3.850	10 47.6	3.925	10 47.6	0.777	7 46.6	1.455	5 50.5	1.709	7 47.2	1.981	13 47.5	2.011	9 46.4	2.821	12 45.0
May ...	0.950	5 52.9	1.675	5 56.9	5.745	17 50.2	1.300	7 33.9	2.165	7 53.6	2.265	11 49.3	2.545	12 50.6	3.247	7 50.5	2.110	12 54.8	1.005	5 48.1	2.271	9 52.0	2.271	9 48.2
June ...	1.800	9 57.8	0.190	1 61.3	1.210	7 56.4	0.785	4 60.7	3.005	11 54.7	5.770	15 58.3	1.659	9 58.2	1.113	5 58.5	3.915	15 58.0	2.238	8 58.0	2.288	9 58.2	2.961	10 59.0
July ...	2.485	9 59.4	0.395	3 65.3	0.580	2 63.6	1.270	5 64.2	4.550	17 59.5	3.565	11 65.0	5.161	11 62.3	1.268	8 64.0	8.114	13 58.9	1.426	6 65.4	2.888	9 61.9	5.031	12 59.8
August ...	2.490	6 61.5	5.515	10 62.2	1.260	8 60.6	1.720	5 61.0	2.180	6 61.7	3.810	10 60.3	3.435	18 61.1	1.985	14 60.1	1.807	7 62.0	1.225	5 62.7	2.541	9 61.3	2.291	10 61.6
September ...	3.590	10 57.4	2.470	7 57.6	4.105	13 58.2	0.800	7 55.4	6.010	11 55.5	2.645	8 57.0	2.131	8 54.0	4.545	10 56.4	3.891	14 59.3	5.831	21 55.7	3.671	12 56.6	4.581	13 54.9
October ...	2.885	15 48.7	1.920	11 47.0	1.660	8 49.6	6.215	16 50.5	1.955	12 49.6	4.650	19 47.1	1.861	9 47.8	2.711	12 51.2	7.211	16 47.4	2.269	9 53.0	3.331	12 49.2	1.611	12 49.1
November ...	1.016	4 40.6	1.815	8 41.5	2.035	9 44.3	2.195	11 40.7	0.835	4 37.7	3.475	18 44.3	1.831	10 43.0	1.451	10 41.6	3.311	10 41.9	2.941	8 43.4	2.091	9 41.9	2.871	15 47.4
December ...	2.400	15 38.4	6.065	26 44.9	4.005	13 36.5	2.205	13 32.8	1.615	9 39.0	4.505	17 41.1	0.975	5 41.3	4.375	16 33.9	1.451	10 39.1	5.681	19 42.9	3.211	14 39.0	2.401	11 41.3
YEAR ...	31.040	128 47.4	29.620	116 50.8	31.460	119 49.3	23.650	102 48.5	30.620	113 49.0	45.135	167 49.8	29.255	133 48.6	28.411	131 49.0	38.511	135 49.1	32.021	136 49.4	31.931	128 49.1	36.751	149 49.5



TABLE XIV.

NEW CASES OF DISEASE COMING UNDER TREATMENT DURING THE YEAR ENDING  
DECEMBER 29TH, 1877, AT THE FOLLOWING INSTITUTIONS, &c.

DISEASES.	I. General Hospital.	II. General Dispensary	III. Queen's Hospital.	IV. Children's Hospital.	V. The Work- house.	VI. Out-door Pauper Patients.	VII. Boro' Hosptl.	TOTAL.
Small Pox .....	...	1	...	...	...	10	38	49
Measles .....	13	12	2	12	78	213	...	330
Scarlet Fever .....	8	43	...	53	...	70	43	217
Diphtheria .....	6	6	4	3	...	5	...	24
Whooping Cough ...	21	42	25	870	53	81	...	1,092
Croup .....	8	12	1	8	1	2	...	32
Diarrhoea .....	665	162	232	1,469	89	298	...	2,915
Dysentery .....	1	...	...	1	...	..	...	2
Asiatic Cholera .....	...	...	...	...	...	...	...	...
Erysipelas .....	13	44	66	12	35	39	...	209
Continued Fever.....	...	39	2	4	...	1	...	46
Typhus .....	...	...	...	...	...	...	...	...
Typhoid .....	13	74	20	23	12	8	...	150
Relapsing .....	...	...	...	...	...	...	...	...
Febricula .....	17	40	30	285	14	479	...	865
Ague.....	2	1	...	...	1	...	...	4
Rheumatic Fever ...	59	85	77	3	5	49	...	278
Puerperal Fever .....	..	1	...	...	2	1	...	4
Bronchitis & Catarrh	1,243	2,595	921	3,538	531	2,196	...	11,024
Influenza .....	..	131	7	...	...	...	...	138
Pleurisy & Pneumonia	57	206	127	89	32	29	...	540
Phthisis .....	764	2,129	681	83	211	158	...	4,026
Constl. Syphilis .....	185	132	597	322	322	5	...	1,563
All other Diseases ...	7,547	13,170	9,023	9,308	2,847	3,726	..	45,621
Accidents.. .....	10,023	327	6,152	23	101	2	...	16,628
Totals .....	20,645	19,252	17,967	16,106	4,334	7,372	81	85,757

The above returns are furnished by (I.) Robert Saundly, Esq., M.B., and Howard G. Lowe, Esq., M.D.; (II.) Wm. Clibborn, Esq., M.B., and J. Henry Palmer, Esq.; (III.) John Spofforth, Esq., F.R.C.S.; (IV.) Wm. Rhodes and W. Moxon, Esqrs.; (V.) A. B. Simpson, Esq.; (VI.) W. G. Coulton, Esq., Clerk to the Guardians; and (VII.) Wm. Bates, Esq., F.R.C.S., Surgeon to the Borough Hospital.

TABLE XV.—WATER: RESULTS OF ANALYSIS

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. CORPORATION WATER.</b>					
Jan. 11th	4 Court, Moseley Street ...	7°·8	27·02	·528	·093
Feb. 9th	3, Buck Street ...	7°·8	23·56	·499	·089
Mar. 9th	26 Court, Sherlock Street ...	6°·6	28·60	·231	·069
April 12th	4 Court, Navigation Street ...	11°·1	24·60	·203	·025
May 1st	13 Court, Milk Street ...	6°·1	27·80	·120	·023
June 4th	1 Court, Canal Street ...	15°·5	24·38	·333	·054
July 4th	2 Court, Great Barr Street ...	17°·2	22·40	·262	·045
Aug. 10th	2 Court, Church Street ...	18°·3	24·20	·216	·051
Sept. 13	13 Court, Lower Trinity Street ...	11°·7	21·90	·321	·048
Oct. 9th	35, Mill Street, Islington ...	12°·8	25·00	·137	·024
Nov. 6th	Rear 193, Aston Road ...	11°·1	24·38	·304	·049
Dec. 12th	10 Court, St. George Street ...	5°·5	27·82	·195	·048
	Average results, 1877 ...	10°·9	25·14	·279	·051
	" " 1876 ...	10°·0	25·13	·266	·063
	" " 1875 ...	9°·8	27·70	·285	·082
<b>WELL WATERS.</b>					
Jan. 5th	342, Pershore Road ...	...	149·0	...	...
" 9th	28 Court, High Street (Bordesley) ...	...	251·8	...	very small
" "	146, Lancaster Street... ..	...	151·2	...	"
" 11th	3 Court, Penn Street (Fever) ...	...	163·2	...	small
" 13th	Workhouse ... ..	...	16·4	...	moderate
" "	22, Sandy Lane (Typhoid) ...	...	79·0	...	...
" "	129, Long Street ... ..	...	113·0	...	small
" 15th	15 and 16, Thorp Street ...	...	180·0	...	...
" "	22—25, Inge Street ... ..	...	205·0	...	...
" "	1 Court, Stone Yard ... ..	...	283·2	...	rather large
" "	Back 11 and 12, Bordesley Street ...	...	164·6	...	...
" "	1—7, Mark Lane ... ..	...	209·4	...	...
" "	Wilkin's Buildings, Albert Street ...	...	196·2	...	moderate
" 16th	82, Herbert Road ... ..	...	136·4	...	...
" "	Back 36, Gopsall Street ... ..	...	198·6	...	moderate
" "	Back 30, Gopsall Street ... ..	...	176·8	...	"
" "	25, Park Road ... ..	...	181·6	...	small
" "	Warwick Terrace, Warwick Street ...	...	277·6	...	...
" 17th	26, Nelson Street ... ..	...	196·6	...	large
" "	208, Moseley Street ... ..	...	190·6	...	"
" 19th	2 Court, Highgate Street ... ..	...	842·0	...	trace
" "	44 and 45, Stratford Road ... ..	...	44·0	...	very small
" "	53—58, Camp Hill ... ..	...	137·0	...	"
" "	10 Court, Greenway Street ... ..	...	115·6	...	small
" "	47, Icknield Square ... ..	...	127·4	...	...
" "	170, Newtown Row ... ..	...	224·0	...	...
" 20th	George Terrace, George St., Nechells ...	...	88·2	...	rather large
" "	22, Villa Street ... ..	...	94·6	...	...
" "	63, George Street, Nechells ... ..	...	148·4	...	...
" "	42, Hawkes Street (Typhoid) ... ..	...	187·6	...	...
" 23rd	10 Court, Wheeler Street ... ..	...	101·2	...	rather large
" "	1 Court, Mill Street, Duddeston ...	...	115·8	...	moderate
" "	18 and 19, Elvetham Road ... ..	...	67·2	...	very small
" "	93 and 94, Kyrwick's Lane ... ..	...	125·0	...	small
" "	74, Caroline Street ... ..	...	96·6	...	"
" "	Back 68, Cardigan Street ... ..	...	221·8	...	large

EXPRESSED IN PARTS PER 100,000.

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Permanent.	Total.	
·003	·154	·249	1240	1·4	9°·74	9°·86	19°·60	Turbid
·002	·209	·299	1780	1·4	6°·62	8°·86	15°·48	Clear, yellowish
·002	·143	·213	1120	1·4	11°·7	8°·3	20°·0	Slightly turbid
·002	·237	·263	2060	1·9	7°·57	8°·86	16°·43	Clear
·001	·206	·230	1760	1·55	9°·6	6°·5	16°·1	Clear
·002	·153	·208	1220	2·0	8°·2	7°·4	15°·6	Turbid, contained vegetable fibres
·000	·142	·187	1100	1·5	7°·8	7°·0	14°·8	Clear, few suspended particles
·001	·206	·258	1750	2·0	1°·45	9°·30	10°·75	Turbid, greenish yellow contained infusoria
·002	·143	·192	1120	1·4	5°·3	7°·3	12°·6	Clear
·002	·253	·278	2220	1·9	5°·3	10°·9	16°·2	Clear
·003	·187	·238	1570	1·5	5°·5	7°·5	13°·0	Clear
·003	·374	·424	3440	1·9	8°·26	8°·14	16°·4	Bright, with a few particles
·002	·201	·253	1690	1·65	7°·25	8°·33	15°·58	
·002	·230	·295	1990	1·71	6°·27	10°·19	16°·46	
·0025	·166	·250	1420	1·78	6°·88	12°·50	19°·30	
·034	4·73	4·758	47260	10·2	...	...	...	Clear
·002	8·80	8·801	87700	24·0	...	...	...	Clear
·004	5·61	5·613	55810	19·3	...	...	...	Clear, suspended particles
·003	5·50	5·502	54700	21·0	...	...	...	
·003	trace	trace	0	1·0	...	...	...	Clear
·050	"	"	0	11·9	...	...	...	Clear
·003	3·52	3·522	34900	2·3	...	...	...	Clear
·080	6·60	6·660	66340	23·2	...	...	...	Clear
·028	13·20	13·223	131910	18·8	...	...	...	Clear
·002	9·02	9·022	89890	26·1	...	...	...	Clear
·045	6·60	6·637	66050	20·3	...	...	...	Clear, suspended particles
·008	3·74	3·746	37140	17·5	...	...	...	Clear
·011	6·60	6·609	65770	14·0	...	...	...	
·160	5·72	5·850	58200	8·6	...	...	...	Clear
·004	4·84	4·843	48110	26·0	...	...	...	Clear
·002	4·40	4·402	43700	14·3	...	...	...	Suspended particles
·002	3·74	3·742	37100	18·0	...	...	...	Much suspended matter
·100	4·62	4·702	46700	25·4	...	...	...	Clear
·012	2·20	2·210	21780	13·6	...	...	...	Turbid, much suspended matter
·003	6·05	6·052	60200	16·6	...	...	...	Slightly turbid
·001	·22	0·221	1890	9·0	...	...	...	Clear
·004	1·54	1·543	15110	4·1	...	...	...	Suspended particles
·001	4·18	4·181	41490	18·0	...	...	...	Ditto
·003	5·50	5·502	54700	10·3	...	...	...	Clear
·050	5·50	5·541	55090	16·8	...	...	...	Clear
·150	8·36	8·483	84610	22·8	...	...	...	Clear
·004	2·86	2·863	28310	9·0	...	...	...	Clear
·010	1·65	1·658	16260	6·8	...	...	...	Clear
·175	8·91	9·054	90220	12·0	...	...	...	Clear
·800	7·92	8·579	85470	17·0	...	...	...	Clear
·012	2·20	2·210	21780	10·0	...	...	...	Clear
·005	1·87	1·874	18420	17·6	...	...	...	Clear
·003	·66	·662	6300	10·0	...	...	...	Clear
·004	2·20	2·203	21710	13·0	...	...	...	Suspended particles
·016	5·50	5·513	54810	11·0	...	...	...	Rather Turbid
·004	6·60	6·603	65710	28·2	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued).</b>					
Jan. 23rd	Northbrook Place, Northbrook Street	...	168.8	...	very large
" "	85, Edward Street ...	...	196.0	...	small
" 25th	Albion Place, Main Street (Scarlet Fever) ...	...	157.0	...	large
" 27th	Back 4, Saint James Street ...	...	109.0	...	small
Feb. 6th	13, Suffolk Street ...	...	208.0	...	large
" "	220, Bristol Street ...	...	154.0	...	small
" "	98, Bromsgrove Street ...	...	158.6	...	"
" 7th	4, Worcester Wharf ...	...	245.4	...	...
" "	288, Watery Lane ...	...	1133.8	...	...
" "	2 Court, Howe Street ...	...	270.4	...	...
" "	38 Court, Great Russell Street ...	...	111.4	...	...
" 8th	103 and 104, Bristol Road ...	...	87.4	...	rather large
" "	146, Great King Street (Scarlet Fever) ...	...	87.4	...	large
" 9th	Gough Road ...	...	123.6	...	very large
" 10th	15 Court, Great Russell Street ...	...	130.0	...	...
" "	152, Brearley Street West ...	...	413.6	...	...
" 12th	52—54, Bridge Street ...	...	81.2	...	rather large
" "	32 and 33, Summer Lane ...	...	182.4	...	"
" "	36 and 37, Summer Lane ...	...	179.8	...	large
" "	358, Coventry Road ...	...	72.2	...	small
" "	Entry adjg. Hop Pole Inn, Lawley St. ...	...	238.8	...	"
" 13th	70, Coventry Road ...	...	73.2	...	"
" "	39, Summer Road ...	...	111.2	...	trace
" 14th	28, Court, Lawley Street ...	...	236.0	...	moderate
" "	Lock House, Nechells Green (Diphtheria) ...	...	209.8	...	"
" "	Wellington Pl., Lower Hospital Street ...	...	215.6	...	...
" "	Reading Terrace, Talfourd St. (Scarlet Fever) ...	...	116.0	...	very large
" "	213 and 214, Ladywood Road ...	...	162.8	...	large
" "	9 Court, Benacre Street ...	...	156.0	...	"
" 16th	29—40, Little Barr Street ...	...	179.2	...	"
" "	108 and 109, Moseley Road ...	...	222.0	...	rather large
" "	128, Lodge Road ...	...	162.0	...	...
" "	27 Court, Lawley Street ...	...	278.0	...	...
" "	66 and 67, Bridge Street West ...	...	124.0	...	...
" "	Back 186, Bolton Road (Scarlet Fever) ...	...	37.4	...	small
" 17th	Back 192—4, Bolton Road ...	...	41.0	...	large
" 21st	18, Elvetham Road ...	...	54.8	...	moderate
" 26th	Ellerslie, Hagley Road (Typhoid) ...	...	108.4	...	very large
" 28th	340, Pershore Road ...	...	132.0	...	"
Mar. 2nd	30, Court, Moor Street ...	...	102.0	...	moderate
" "	32, Navigation Street ...	...	156.0	...	large
" "	61, Suffolk Street ...	...	288.0	...	moderate
" "	38, Stoke Street ...	...	130.0	...	"
" "	Stoke Place, Stoke Street ...	...	204.0	...	..
" "	42 and 43 Courts, Irving Street ...	...	108.0	...	moderate
" "	27 Court, Irving Street ...	...	114.0	...	small
" "	7 Court, Horse Fair ...	...	272.0	...	rather large
" "	29, and 5 Court, Bow Street... ..	...	206.0	...	moderate
" 3rd	43, Smithfield Passage ...	...	77.4	...	...
" "	3, Bath Passage ...	...	248.0	...	...
" "	5, Bath Passage ...	...	132.0	...	moderate
" "	2, Court, Smithfield Passage ...	...	46.0	...	...

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Permanent.	Total.	
.020	9.24	9.256	92240	11.3	...	...	...	Clear
.003	7.04	7.042	70100	24.2	...	...	...	
.004	6.82	6.823	67910	12.2	...	...	...	Suspended particles
.001	3.96	3.960	39280	11.8	...	...	...	Clear
.018	7.70	7.715	76830	24.5	...	...	...	Turbid
.022	7.70	7.718	76860	18.5	...	...	...	Clear
.012	6.82	6.830	67980	16.2	...	...	...	Clear
1.600	4.40	5.630	55980	37.0	...	...	...	Very turbid
2.500	15.18	17.239	172070	37.4	...	...	...	Ditto, large quantity of suspended sand and clay
2.250	12.10	13.953	139210	32.0	...	...	...	Clear
2.500	5.50	7.560	75280	9.8	...	...	...	Ditto
.004	0.22	0.223	1913	3.9	...	...	...	Ditto
.008	2.20	2.206	21740	5.5	...	...	...	Suspended particles
.007	4.18	4.185	41530	6.3	...	...	...	Clear
.035	3.74	3.769	37370	14.6	...	...	...	Ditto
.040	5.94	5.973	59410	18.8	...	...	...	Turbid, acid
.014	3.30	3.311	32790	8.4	...	...	...	Suspended particles
.003	5.17	5.172	51400	18.2	...	...	...	Clear
.006	6.82	6.825	67930	21.0	...	...	...	Clear
.004	3.30	3.303	32710	5.2	...	...	...	
.002	6.38	6.382	63500	32.5	...	...	...	Clear
.002	3.30	3.302	32700	7.8	...	...	...	Suspended particles
.003	4.40	4.402	43700	6.8	...	...	...	Clear
.003	5.50	5.502	54700	37.0	...	...	...	Ditto
.002	.22	0.222	1900	13.5	...	...	...	Ditto
.060	11.55	11.599	115670	23.0	...	...	...	Ditto
.004	5.50	5.503	54710	9.6	...	...	...	Ditto
.005	7.81	7.814	77820	11.5	...	...	...	Suspended flocculent matters
.014	.99	1.001	9690	17.0	...	...	...	Ditto
.003	2.42	2.422	23900	19.3	...	...	...	Clear
.003	5.28	5.282	52510	17.8	...	...	...	Ditto
.070	9.90	9.958	99260	17.0	...	...	...	Suspended particles
2.000	0.0	1.640	16080	47.3	...	...	...	Very turbid, smell of sewage.
.060	0.22	0.269	2370	2.5	...	...	...	Clear
.007	trace	trace	0	2.5	...	...	...	Ditto
.008	"	"	0	1.6	...	...	...	Ditto
.005	"	"	0	5.3	...	...	...	
.006	4.40	4.405	43730	6.8	...	...	...	Very slightly turbid
.008	3.30	3.306	32740	8.1	...	...	...	Large quantity of suspended particles
.005	1.76	1.764	17320	11.1	...	...	...	Clear
.020	5.28	5.296	52640	29.2	...	...	...	Rather turbid
.006	6.16	6.165	61330	26.5	...	...	...	Clear
.004	6.60	6.603	65710	19.4	...	...	...	Ditto
.024	9.90	9.920	98880	25.6	...	...	...	Ditto
.004	5.50	5.503	54710	13.1	...	...	...	Ditto
.004	3.96	3.963	39310	16.0	...	...	...	Turbid
.004	18.70	18.703	186710	42.1	...	...	...	Clear
.005	11.55	11.554	115220	15.7	...	...	...	Rather turbid
.080	1.65	1.716	16840	6.0	...	...	...	Clear
2.500	8.25	10.309	102770	52.5	...	...	...	Rather turbid
.009	4.62	4.627	45950	15.2	...	...	...	Clear, suspended particles
.025	0.22	0.240	2080	4.2	...	...	...	Ditto

TABLE XV.

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued).</b>					
Mar. 3rd	83, Dymoke Street ...	...	180·0	...	moderate
" "	48, High Street, Deritend ...	...	278·0	...	small
" "	9, Talfourd Street ...	...	128·0	...	"
" "	Verona Place, Talfourd Street (Scarlet Fever) ...	...	146·0	...	"
" "	Back 8, Saint Luke's Road ...	...	128·0	...	moderate
" "	Back 81, Nelson Street South ...	...	156·0	...	small
" "	29 and 30, Dymoke Street (Scarlet Fever) ...	...	150·0	...	"
" "	28 Court, Cheapside ...	...	196·0	...	"
" 5th	125 and 126, Stratford Road ...	...	203·0	...	...
" "	129 and 130, Stratford Road ...	...	97·0	...	very large
" "	Redgrave's Terrace, Mole Street ...	...	106·6	...	"
" "	171 and 172, Stratford Road ...	...	50·0	...	...
" 6th	Back 146, Great King Street ...	...	61·2	...	very small
" "	77 and 78, Ryland Road ...	...	50·2	...	"
" 7th	189 and 190, Cooksey Road ...	...	54·4	...	...
" 8th	16 Court, Bromsgrove Street ...	...	299·0	...	...
" "	15 Court, Bromsgrove Street ...	...	221·0	...	...
" "	13 Court, Bromsgrove Street ...	...	235·6	...	...
" "	14 Court, Bromsgrove Street ...	...	277·4	...	...
" 9th	6 Court, Bell Barn Road ...	...	98·2	...	very small
" "	14 Court, Bell Barn Road ...	...	145·0	...	small
" "	Byron Terrace, Bell Barn Road ...	...	233·0	...	...
" "	Albion Terrace, Bell Barn Road ...	...	158·0	...	moderate
" "	5 Court, Saltley Road ...	...	236·0	...	very large
" "	12 Court, Devon Street ...	...	120·0	...	moderate
" "	13 Court, Devon Street ...	...	...	...	rather large
" "	43, Bloomsbury ...	...	199·6	...	very large
" 10th	Clock Dial Yard, Whittall Street ...	...	161·0	...	"
" "	Spring Oak, Hagley Road ...	...	68·6	...	moderate
" 12th	7 Court, Hurst Street ...	...	348·6	...	...
" "	1 Court, Thorp Street ...	...	226·0	...	...
" "	4 Court, Hurst Street ...	...	239·0	...	...
" "	8 Court, Hurst Street ...	...	219·2	...	...
" 13th	8 Court, Allison Street ...	...	108·6	...	...
" "	Brighton Place, St. Andrew's Street ...	...	109·6	...	...
" "	73½, Oxford Street ...	...	262·0	...	...
" "	4 Court, Bordesley Street ...	...	102·0	...	...
" 17th	Back 16, Blews Street West ...	...	217·2	...	...
" "	1—5 Blews Street West ...	...	120·0	...	...
" "	Back 8, Blews Street West ...	...	135·0	...	very large
" "	Blews' Buildings, Blews Street West ...	...	175·6	...	large
" "	4 Court, Baker Street ...	...	161·0	...	rather large
" "	94 & 95, Herbert Road (Scarlet Fever) ...	...	164·0	...	...
" "	65, Baker Street ...	...	200·6	...	small
" "	9 Court, Baker Street (Scarlet Fever) ...	...	172·0	...	...
" 21st	405—407, Coventry Road ...	...	181·0	...	small
" "	215 & 216, Coventry Rd. (Diphtheria) ...	...	59·0	...	very small
" "	41 & 42, Lower Tower St. (Typhoid) ...	...	218·0	...	moderate
" "	Wellington-pl., Lr. Hospital-st. (Scarlet Fever) ...	...	108·0	...	small
" 28th	3 Court, Bordesley Park Road (Scarlet Fever) ...	...	58·0	...	moderate
" "	179 and 180, Cooksey Road ...	...	116·0	...	very large
" "	177—179, Camp Hill ...	...	139·0	...	moderate

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor-ary.	Perman-ent.	Total.	
·002	3·30	3·301	32650	10·6	...	...	...	Clear
·002	8·80	8·801	87690	28·5	...	...	...	Clear
·001	4·18	4·181	41490	10·7	...	...	...	Clear
·002	5·94	5·941	59080	13·0	...	...	...	Clear
·004	trace	trace	0	20·1	...	...	...	Clear, some suspended particles
·004	5·72	5·723	56910	13·3	...	...	...	
·001	4·40	4·401	43690	11·2	...	...	...	Clear
·003	5·28	5·282	52500	21·6	...	...	...	Rather turbid
·600	7·70	8·194	81620	17·9	...	...	...	Numerous particles
·008	3·08	3·087	30550	6·5	...	...	...	Suspended particles
·015	2·20	2·212	24800	10·8	...	...	...	Ditto
·035	trace	0·029	2580	2·0	...	...	...	Ditto
·003	·55	0·552	5200	4·3	...	...	...	Clear
·002	0·0	0·0	0	4·3	..	..	...	Bright, contained large particles
·240	0·0	·198	0	3·5	...	...	...	Many large particles
·200	13·75	13·915	138830	28·8	...	...	...	Clear
·160	9·68	9·711	96790	23·0	...	...	...	Clear
·050	11·77	11·811	117890	19·0	...	...	...	Clear
·320	12·10	12·363	123310	30·0	...	...	...	Clear
·001	2·42	2·421	23890	10·6	...	...	...	Clear
·002	5·72	5·722	56900	12·0	...	...	...	Clear
·080	11·55	12·110	120790	20·5	...	...	...	Clear
·018	7·15	7·165	71330	25·2	...	...	...	Clear
·008	5·50	5·507	54750	23·7	...	..	...	Clear
·004	2·20	2·203	21710	5·8	...	...	...	Suspended flocculent matters
·005	1·32	1·324	12920	9·9	...	...	...	Clear
·012	5·17	5·180	51480	18·6	...	...	...	Suspended particles
·005	4·40	4·404	43720	22·4	...	...	...	Ditto
·004	·88	0·884	8520	4·0	...	...	...	Clear
3·200	14·30	16·665	166330	50·6	...	...	...	Ditto
·240	6·05	7·026	69940	37·0	...	...	...	Ditto
·800	6·60	7·259	72270	27·0	...	...	...	Ditto
·014	9·90	9·911	98890	25·0	...	...	...	Suspended particles
·018	3·41	3·425	33930	9·1	...	...	...	Ditto
·024	0·0	0·019	0	5·5	...	...	...	Suspended particles
·800	0·0	0·659	6270	46·8	...	...	...	Very turbid
2·000	trace	1·647	16150	12·4	...	...	...	Nearly clear, suspended particles
·006	7·70	7·705	76730	18·5	...	...	...	Clear
·020	0·0	0·016	0	27·4	...	...	...	Ditto
·004	4·29	4·293	42610	24·6	...	...	...	
·002	9·18	9·182	91500	21·3	...	...	..	Clear, suspended particles
·002	6·48	6·482	64500	10·2	...	...	...	Ditto
·034	6·912	6·940	69080	12·4	...	...	...	Turbid
·001	4·32	4·321	42890	24·3	...	...	...	Clear, a few suspended particles
·010	4·32	4·328	42960	11·0	...	...	...	Pretty clear, large particles
·001	8·53	8·540	85100	14·9	...	...	...	Clear
·001	0·0	0·0	0	2·5	...	...	...	Turbid
·001	9·396	9·397	93650	27·5	...	...	...	Clear, evaporates brown
·002	4·536	4·537	45050	14·2	...	...	...	Clear
·001	·108	0 109	770	2·3	...	...	...	Pretty clear
·001	6·912	6·913	69810	8·1	...	...	...	Clear, a few particles
·008	4·21	4·218	41860	9·6	...	...	...	Turbid

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1877.	WELL WATERS—(continued).				
Mar. 28th	318—320, Coventry Rd. (Diphtheria)	...	121·6	...	larg
April 19th	20 and 21, Lee Crescent ... ..	...	61·0	...	moder
" "	94, Bristol Road (Diphtheria) ...	...	58·4	...	rather larg
" "	Back 109, Longmore Street (Typhoid)	...	130·4	...	larg
" "	1, Noel Road, Edgbaston (Small-pox)	...	73·4	...	"
" "	6 & 7 Courts, Lombard St. (Typhoid)	...	220·0	...	moderate
" "	13 Court, Aston Road (Typhoid) ...	...	106·0	...	...
" "	46—53, Bacchus Road (Diphtheria)...	...	61·0	...	moderate
" 24th	60—65, Ravenhurst Street ... ..	...	86·0	...	small
" "	134—136, Nechells Place (Diphtheria)	...	106·0	...	moderate
" "	26 & 27, Burbury Street (Scarlet Fever)	...	111·0	...	...
" "	16 Court, Navigation Street (Typhoid)	...	158·0	...	rather large
May 2nd	19½—22, Wright Street ... ..	...	156·0	...	...
" "	107, Bristol Road .. ..	...	72·8	...	moderate
" 3rd	4, Portland Road ... ..	...	82·0	...	...
" 7th	1, Saint Vincent Street ... ..	...	212·6	...	...
" 18th	19—21, Railway Terrace, Duddeston	...	284·0	...	...
" "	1—4, Holborn Hill (Diphtheria) ...	...	108·0	...	...
" 19th	Poplar Grove, Bridge Street West ...	...	106·0	...	...
June 4th	16 and 17, Lee Crescent ... ..	...	72·8	...	...
" 5th	7 Court, High Street, Deritend (Scarlet Fever) ... ..	...	309·8	...	...
" "	15, Clissold Street (Scarlet Fever) ...	...	46·2	...	...
" 7th	28 and 29, Lilly Green ... ..	...	280·8	...	...
" 11th	129 and 130, Herbert Road (Measles)	...	70·6	...	...
" "	92, Smallbrook Street ... ..	...	134·0	...	...
" 12th	20 and 21, Essex Street ... ..	...	173·2	...	moderate
" "	11 Court, Lombard Street (Typhoid)	...	248·0	...	rather large
" "	21, Albert Street, Key Hill (Small-pox)	...	24·8	...	...
" "	36, Norton Street (Scarlet Fever) ...	...	72·8	...	very small
" 25th	99—102, Grant Street ... ..	...	256·0	...	...
" "	2 Court, Sandy Lane... ..	...	207·0	...	...
" "	18, Wellington Road... ..	...	102·0	...	rather large
" "	131—5, Gooch Street ... ..	...	64·6	...	...
" "	144—5, Varna Road... ..	...	161·4	...	...
" 26th	Gofton Cottages, Lodge Road ... ..	...	46·0	...	...
July 4th	14 and 15, Norton Street (Small-pox)	...	181·0	...	...
" "	8 and 9, Long Street... ..	...	198·0	...	...
" "	120 and 121, Long Street ... ..	...	166·6	...	...
" "	30—33, Key Hill ... ..	...	291·0	...	...
" "	83 and 84, Bordesley Park Road (Typhoid)	...	58·0	...	moderate
" 5th	1 and 2 Courts, Watery Lane ... ..	...	296·0	...	very large
" 12th	383—7, Lodge Road ... ..	...	91·0	...	...
" 13th	379 and 380, Bristol Road ... ..	...	88·0	...	moderate
" "	229—231, Newtown Row ... ..	...	190·0	...	...
" "	Cromwell Square, Cromwell St. (Typhoid)	...	91·0	...	small
" 20th	15 and 16, Glover's Road ... ..	...	102·0	...	...
" "	97 and 98, Gladstone Road ... ..	...	80·6	...	large
" 21st	59 and 60, Ladywood Road ... ..	...	76·0	...	rather large
" "	207, Ieknield Port Road ... ..	...	128·0	...	...
" 25th	10 and 11, Bristol Road ... ..	...	98·0	...	...
" "	Warwick Terrace, Bellbarn Road (Typhoid)	...	163·0	...	...

(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS
					Tempor-ary.	Perman-ent.	Total.	
.004	3.456	3.458	34260	9.1	...	...	...	Rather turbid
.002	1.080	1.082	10490	6.6	...	...	...	Slightly turbid
.001	trace	0.0	0	3.0	...	...	...	Clear
.200	1.080	1.096	10640	14.5	...	...	...	Ditto
.010	5.292	5.300	52680	4.9	...	...	...	Ditto
0.0	6.480	6.480	64480	28.8	...	...	...	Ditto
.180	4.428	4.576	45440	9.0	...	...	...	Ditto
.001	2.592	2.593	25610	6.5	...	...	...	Clear, a few suspended particles
0.0	2.484	2.484	24520	9.2	...	...	...	Clear, with many suspended particles
.001	4.752	4.753	47210	10.9	...	...	...	Brown on evaporation
4.600	4.620	8.408	83760	15.8	...	...	...	Clear, brown on evaporation
.005	3.850	3.853	38200	36.6	...	...	...	Clear
.120	5.060	5.106	50740	15.5	...	...	...	Ditto
.003	.990	.992	9600	4.4	...	...	...	Ditto
.024	1.540	1.740	17080	7.8	...	...	...	Clear, evaporates brown
.460	1.100	1.480	14480	48.1	...	...	...	Turbid, floating particles
.200	13.200	13.364	133320	26.4	...	...	...	Pretty clear
.003	7.100	7.102	70700	12.9	...	...	...	Clear and bright, evaporates of a dirty colour
.006	5.500	5.504	54720	9.5	...	...	...	Pretty clear
.001	.204	.205	1730	12.6	...	...	...	Clear, suspended particles
0.0	10.120	10.120	100880	51.4	...	...	...	Clear
.001	.204	.205	1730	6.6	...	...	...	Turbid from suspended particles, looking like
.145	3.300	3.419	33870	42.3	...	...	...	Clear (rotted wood)
.540	0.0	.445	4120	7.4	...	...	...	Turbid, offensive odour
.001	5.184	5.185	51530	14.9	...	...	...	Clear
.006	8.580	8.585	85530	20.4	...	...	...	Clear
.001	10.010	10.011	99790	18.9	...	...	...	Clear
.001	0.110	.111	790	2.0	...	...	...	Pretty clear
.001	.660	.661	6270	5.6	...	...	...	Clear, and many suspended particles
.740	15.400	16.000	159770	24.2	...	...	...	Clear, brownish
.720	12.100	12.690	126610	20.3	...	...	...	Rather turbid
0.0	4.400	4.400	43680	19.2	...	...	...	Clear
.240	0.0	.198	1660	5.6	...	...	...	Turbid, brownish
.008	3.520	3.526	34940	9.7	...	...	...	Clear
0.0	1.430	1.430	14000	2.7	...	...	...	Ditto
1.600	12.65	13.967	139350	22.1	...	...	...	Clear
.220	10.12	10.301	102690	16.3	...	...	...	Turbid
.480	9.35	9.746	97140	15.2	...	...	...	Pretty clear; some particles
2.100	14.85	16.572	160572	34.8	...	...	...	Very turbid
0.0	0.0	0.0	0	1.8	...	...	...	Clear
0.0	7.92	7.92	78880	42.3	...	...	...	Clear
6.400	trace	5.27	52380	17.4	...	...	...	Turbid, offensive odour; has the character of Sewage
trace	2.42	2.420	23980	6.8	...	...	...	Clear, contained large suspended particles
.014	8.80	8.811	87790	23.9	...	...	...	Turbid
.002	3.08	3.081	30490	7.5	...	...	...	Clear
1.600	trace	1.317	12850	9.6	...	...	...	Numerous suspended particles
.001	1.76	1.761	17280	6.7	...	...	...	Clear, numerous suspended particles
.001	4.40	4.401	43680	7.6	...	...	...	Clear, a few floating particles
.230	8.25	8.440	84070	15.4	...	...	...	Clear
.180	1.02	1.168	11360	6.9	...	...	...	Contains suspended particles
.160	9.82	9.950	99190	18.9	...	...	...	Slightly turbid

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued.)</b>					
July 26th	205 and 206, Coventry Road ...	...	52.0	...	small
" "	213 and 214, Coventry Road ...	...	48.0	...	none
" 28th	4 Court, Allison Street ...	...	198.0	...	...
" "	16 Court, Allison Street ...	...	45.6	...	very small
" "	12 and 13, New Canal Street ...	...	195.2	...	...
" "	14 Court, Digbeth ...	...	334.0	...	large
" "	8 Court, Coventry Street ...	...	378.0	...	small
" 30th	39 and 40 Courts, Farm Street (small pox) ...	...	121.0	...	...
" 31st	16 Court, Great Russell Street ...	...	167.4	...	...
" "	60—63, Gooch Street ...	...	234.0	...	...
Aug. 1st	Kingston Terrace, St. Andrew's St. ...	...	94.0	...	small
" "	Clements' Buildings, Sandy Lane (Scarlet Fever) ...	...	162.6	...	small
" "	63 and 64, Soho Road (Diphtheria) ...	...	84.4	...	moderate
" "	Back 49, Stratford Street (Typhoid) ...	...	211.4	...	..
" 3rd	72 and 73, Leopold Street ...	...	153.6	...	moderate
" "	Victoria Terrace, Moseley Road ...	...	100.4	...	large
" 4th	63 and 64, Moseley Street (Fever) ...	...	216.4	...	moderate
" "	9 Court, Cheapside (Typhoid) ...	...	267.0	...	moderate
" "	106 and 107, Monument Lane ..	...	96.0	...	...
" 9th	Louisa Terrace, Argyle Street ...	...	68.3	...	small
" "	Louisa Terrace, Argyle Street ...	...	109.0	...	...
" "	235, Summer Lane ...	...	335.2	...	large
" "	91, Unett Street ...	...	68.6	...	small
" "	47, Barr Street West ...	...	83.0	...	large
" "	Louisa Terrace, Wharton Street ...	...	92.0	...	...
" 11th	6 Court, Little Ann St. (Scarlet Fever) ...	...	179.6	...	...
" 13th	12 Court, Well Street, (Diarrhoea) ...	...	364.6	...	...
" "	14 and 15, Albert Street (Diarrhoea) ...	...	79.4	...	...
" "	2 Court, Villa Street ...	...	190.0	...	...
" "	33 and 34, Burbury Street (Diarrhoea) ...	...	99.8	...	...
" "	79, Meriden Street (Diarrhoea) ...	...	250.4	...	large
" "	401 and 402, Bristol Road ..	...	52.4	...	small
" "	76 and 77, Summer Lane (Diarrhoea) ...	...	160.0	...	...
" "	110 and 111, Spring Hill (Diarrhoea) ...	...	185.0	...	...
" "	10 and 11, Clissold Street (Fever) ...	...	48.0	...	small
" "	5 Court, Bordesley Street (Diarrhoea) ...	...	98.0	...	moderate
" 15th	93 and 94, Ryland Street North (Fever) ...	...	202.0	...	...
" "	51, Great Barr Street (Scarlet Fever) ...	...	329.0	...	very large
" 17th	6 Court, Thomas Street ...	...	240.0	...	...
" "	7 Court, Charles Henry Street ...	...	175.0	...	rather large
" "	8 and 9, Frank St. (Whooping Cough) ...	...	156.4	...	ditto
" "	Brighton Terrace, Darwin Street (Fever) ...	...	198.6	...	small
" "	2 Court, Duddleston Row (Diarrhoea) ...	...	63.0	...	very large
" "	1 Court, Little Edward Street ...	...	229.0	...	ditto
" 20th	428 and 429, Bolton Road (Measles) ...	...	56.0	...	...
" "	34 and 35, St. Vincent Street (Scarlet Fever) ...	...	39.0	...	rather large
" "	147, Newtown Row (Scarlet Fever) ...	...	158.4	...	...
" "	10 and 11, Phillips Street (Diarrhoea) ...	...	84.0	...	large
" "	4 Court, Great Barr Street ...	...	322.6	...	...
" "	19 and 20, Bristol Road ...	...	135.6	...	large
" 22nd	158—164, Great Brook Street ...	...	376.0	...	very large
" "	Hope Terrace, Icknield Port Rd. (Diarrhoea) ...	...	135.0	...	rather large

(continued)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Perman-ent.	Total.	
0.0	1.08	1.080	10480	5.8	...	...	...	Clear
0.0	trace	trace	0	2.1	...	...	...	Clear
.240	.66	.857	8250	36.4	...	...	...	Clear, residue dirty brown
0.0	.44	.440	4080	3.9	...	...	...	Clear
.640	4.51	5.037	50050	45.2	...	...	...	Clear, residue rather dirty
.002	7.48	7.481	74490	61.4	...	...	...	Clear
.002	.55	.551	5190	73.0	...	...	...	Turbid
.240	2.20	2.397	23650	11.4	...	...	...	Clear, residue dirtybrown
.640	8.80	9.327	92950	14.7	...	...	...	Clear
.022	4.51	4.528	44960	28.4	...	...	...	Clear
.002	1.54	1.551	15190	5.4	...	...	...	Clear
.002	1.10	1.101	10690	13.6	...	...	...	Clear
.003	.88	.882	8500	72.4	...	...	...	Clear
.400	9.02	.935	93180	20.8	...	...	...	Clear
.004	2.09	2.093	20613	10.1	...	...	...	Clear
.003	2.64	2.642	26100	3.5	...	...	...	Clear
.001	.22	.221	1890	21.6	...	...	...	Clear
.005	0.10	.104	720	34.5	...	...	...	Clear
.520	4.62	5.041	50000	10.2	...	...	...	Clear
0.0	1.10	1.100	10680	4.2	...	...	...	Clear
.040	2.20	2.233	22000	10.1	...	...	...	Clear
.003	3.52	3.522	34900	29.2	...	...	...	Clear
.001	1.98	1.981	19490	7.5	...	...	...	Clear
.006	1.10	1.105	10730	10.7	...	...	...	Clear
1.600	.22	1.537	15050	7.0	...	...	...	Clear
.018	2.64	2.655	26230	23.6	...	...	...	Clear
.570	8.36	8.829	88610	23.5	...	...	...	Clear
.014	2.97	2.981	29490	6.1	...	...	...	Clear
.640	.11	.637	6050	23.8	...	...	...	Clear
1.200	1.65	2.638	26060	9.5	...	...	...	Clear, brown residue
.002	1.87	1.871	18390	62.6	...	...	...	Clear
.002	.55	.551	5190	5.0	...	...	...	Clear
.060	9.35	9.404	93720	19.5	...	...	...	Clear
.800	5.50	6.160	61280	34.8	...	...	...	Clear, brown residue
.003	3.08	3.082	30500	9.7	...	...	...	Clear
.005	3.30	3.304	32720	9.5	...	...	...	Clear
.280	6.60	6.830	67980	18.5	...	...	...	Clear
.002	13.75	13.751	137190	34.8	...	...	...	Clear
.200	5.61	5.674	56420	36.8	...	...	...	Clear
.002	.44	.441	4090	19.6	...	...	...	Clear
.002	trace	trace	0	13.9	...	...	...	Clear
.001	3.08	3.080	30480	15.2	...	...	...	Clear
.007	trace	trace	0	3.0	...	...	...	Clear
.004	trace	trace	0	32.0	...	...	...	Clear
.480	trace	.395	3630	2.6	...	...	...	Clear
005	.55	.554	5220	5.5	...	...	...	Clear
6.400	4.40	9.650	96180	19.8	...	...	...	Clear
.004	2.97	2.973	29410	10.5	...	...	...	Clear
.015	10.34	10.350	103210	42.7	...	...	...	Clear, brown residue
.002	3.41	3.411	33790	7.2	...	...	...	Clear
.007	5.39	5.395	53640	101.1	...	...	...	Clear
.005	9.90	9.904	98820	19.7	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued).</b>					
Aug. 22nd	79 and 80, Cregoe Street (Diarrhœa) .	...	97·0	...	rather large.
" "	146 & 147, Mount St., Nechells (Typhoid)	...	89·2	...	...
" "	Back 47, Brearley Street (Scarlet Fever)	...	200·0	...	...
" "	Back 59, Cregoe Street .....	...	157·0	..	...
" 24th	5 and 6, Lilly Green (Diarrhœa) ... ..	...	250·2	...	...
" "	137—8, Newtown Row .....	...	113·4	...	...
" "	16 Court, Watery Lane (Diarrhœa) ...	...	149·2	...	moderate
" "	35 and 36, Watery Lane (Diarrhœa) ..	...	173·6	...	ditto
" "	8 Court, Howard Place (Fever).....	...	168·6	...	ditto
" "	30, Cross Street (Diarrhœa) .....	...	402·4	...	ditto
" 27th	9 Court, Bromsgrove Street .....	...	503·0	...	...
" "	3 Court, Bromsgrove Street (Fever) ...	...	254·0	...	...
" "	10 Court, Bromsgrove Street (Typhoid)	...	146·6	...	...
" "	22, Bromsgrove Street (Measles) .....	...	271·6	...	...
" "	Clifton Place, Winson Green Road ...	...	197·0	...	...
" "	39, Icknield Port Road .....	...	164·0	...	...
" 29th	20 Court, Moseley Street (Diarrhœa)...	...	129·6	...	...
" "	97, Smallbrook Street (Scarlet Fever) .	...	151·8	...	very large
" "	3 Court, Great Colmore Street .....	...	112·4	...	small
" "	Bath Terrace, Chequers Walk .....	...	163·6	...	...
" "	2 Court, Lawden Road (Diarrhœa) ...	...	104·6	...	...
" "	Vale Court, Park Street (Diarrhœa) ...	...	440·0	...	...
Sept. 1st	Police Station, Dudley Road (Scarlet Fever)...	...	80·0	...	...
" "	9 Court, Sun Street (Diarrhœa).....	...	51·0	...	moderate
" "	14 Court, Sun Street.....	...	180·0	...	large
" "	13 Court, Sun Street.....	...	173·0	...	...
" "	93 to 96, Hingeston Street .....	...	60·0	...	small
" "	14 Court, New John Street West (Measles)	...	163·0	...	moderate
" 4th	14 and 15, Macdonald Street (Diarrhœa)	...	220·0	...	very large
" "	2 Court, Dartmouth Street (Diarrhœa)	...	280·0	...	...
" "	11, Court, Howard Place (Fever) .....	...	233·0	...	rather large
" "	14, Court, Navigation Street (Diarrhœa)	...	180·0	...	moderate
" "	Back 56, Smallbrook Street (Diarrhœa)	...	183·6	...	moderate
" "	25 and 26, St. Luke's Road (Fever) ...	...	130·0	...	very large
" 6th	28 Court and 221, Sherlock Street ...	...	188·0	...	..
" "	5 and 6 Courts, Darwin Street (Fever)	...	153·0	...	rather large
" "	238 and 239, Heneage Street (Diarrhœa)	...	164·0	...	small
" "	56 and 57, Upper Windsor St. (Diarrhœa)	...	188·7	...	rather large
" "	95—98, Lower Tower Street (Scarlet Fever)	...	329·6	...	...
" "	48, New Summer Street (Diarrhœa)...	...	240·4	...	...
" 8th	209—212, Farm Street .....	...	241·8	...	...
" "	217—220, Farm Street (Fever).....	...	108·8	...	moderate
" 7th	Back 86, Lawley Street (Diarrhœa) ...	...	232·6	...	...
" "	26—28, Vauxhall Road (Diarrhœa) ...	...	81·0	...	moderate
" 8th	37 and 38, Worcester Street .....	...	151·4	...	..
" "	15 Court, Bristol Street (Scarlet Fever)	...	202·6	...	...
" 12th	22 and 23, Emily Street.....	...	144·0	...	...
" "	17 Court, Dymoke Street (Diarrhœa)...	...	134·8	...	rather large
" "	16 Court, Summer Lane .....	...	170·0	...	moderate
" "	39 and 40, Bromsgrove St. (Diarrhœa)	...	216·0	...	...
" "	215 and 216, Ladywood Road .....	...	153·4	...	rather large
" "	7 Court, Essington Street (Diarrhœa)...	...	244·6	...	...

(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites	Total Combined Nitrogen.	Previous Sewage or Animal Contamination (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Permanent.	Total.	
.005	0.99	0.994	9620	11.5	...	...	...	Clear
.012	4.51	4.520	44880	6.0	...	...	...	Clear
.560	10.89	11.350	113190	27.3	...	...	...	Clear
.014	7.81	7.820	77890	15.3	...	...	...	Clear, residue brown
.800	0.22	0.880	8480	23.7	...	...	...	Clear
.100	0.22	0.302	2700	14.0	...	...	...	Clear
.005	2.20	2.204	21720	10.7	...	...	...	Clear
.001	0.88	0.881	8490	17.8	...	...	...	Clear
.001	2.42	2.421	23890	25.0	...	...	...	Clear
.001	11.33	11.304	113020	109.6	...	...	...	Clear
1.600	17.60	18.912	188800	62.1	...	...	...	Turbid, brown residue
.600	9.90	10.394	103620	31.0	...	...	...	Clear
.100	2.42	2.502	24700	18.5	...	...	...	Clear
.400	9.02	9.350	93180	30.8	...	...	...	Clear
1.000	9.35	10.173	101410	30.5	...	...	...	Turbid, brown residue
.300	4.95	5.197	51650	27.3	...	...	...	Clear, brown residue
.100	2.86	2.940	29100	13.0	...	...	...	Clear, brownish residue
.005	3.30	3.304	32720	16.1	...	...	...	Clear
.002	0.22	0.221	1890	13.7	...	...	...	Clear
.600	6.38	6.870	68420	41.7	...	...	...	Clear
.100	3.19	3.270	32400	6.5	...	...	...	Clear
.560	8.69	9.150	91190	82.5	...	...	...	Clear
.015	4.40	4.412	43800	13.4	...	...	...	Clear
.003	.66	.662	6304	4.1	...	...	...	Clear
.001	2.31	2.311	22790	34.6	...	...	...	Clear
.350	2.86	3.148	31160	25.6	...	...	...	Clear
.001	.66	.661	6290	4.0	...	...	...	Clear
.003	7.15	7.152	71200	23.3	...	...	...	Clear
.003	trace	trace	0	31.4	...	...	...	Clear
.016	11.00	11.013	109810	30.2	...	...	...	Turbid
.005	7.70	7.704	76720	32.7	...	...	...	Clear
.003	.33	.332	3000	36.0	...	...	...	Clear
.004	5.28	5.283	52500	27.7	...	...	...	Clear
.005	4.95	4.954	49220	9.5	...	...	...	Clear
1.250	trace	1.029	9980	29.4	...	...	...	Turbid, odour of sewage
.003	2.53	2.532	25000	15.4	...	...	...	Clear
.005	2.31	2.314	22820	26.5	...	...	...	Clear
.007	6.05	6.055	60230	29.6	...	...	...	Clear
.030	14.85	14.874	148420	56.6	...	...	...	Clear
.320	10.45	10.170	106810	50.0	...	...	...	Clear
.015	5.39	5.402	53700	18.3	...	...	...	Clear, brownish residue
.003	2.20	2.202	21700	11.1	...	...	...	Clear
1.600	3.41	4.728	46960	26.5	...	...	...	Clear
.005	.22	.224	1920	10.4	...	...	...	Clear
.035	.44	.469	4370	13.7	...	...	...	Clear
.020	11.00	11.016	109840	21.6	...	...	...	Clear
.012	.55	.560	5280	12.1	...	...	...	Clear
.004	5.50	5.503	54710	15.0	...	...	...	Clear
.005	4.95	4.954	49220	23.0	...	...	...	Clear
.560	8.80	9.261	92290	24.7	...	...	...	Clear
.605	8.58	8.584	85520	12.2	...	...	...	Clear
.280	13.20	13.430	133980	38.8	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued).</b>					
Sep. 14th	118, Hagley Road (Diphtheria) ...	...	70·0	...	very large
" "	1 and 2, Lee Bank Road (Scarlet Fever) ...	...	155·8	...	...
" "	9 Court, Alcester Street (Diarrhœa) ...	...	254·6	...	...
" "	3 Court, Miles Street (Diarrhœa) ...	...	91·0	...	very large
" "	35, Great Barr Street... ..	...	253·4	...	ditto
" "	1 Court, Dartmouth Street ...	...	147·6	...	rather large
" 19th	1 Court, Tennant Street (Diarrhœa) ...	...	86·0	...	ditto
" "	59 to 66, Bristol Street (Typhoid) ...	...	105·8	..	ditto
" "	Friston Terrace, Friston Street (Diarrhœa) ...	...	45·6	...	moderate
" 20th	468 and 469, Moseley Road ...	...	140·0	...	large
" "	49 to 51, Stratford Street (Typhoid) ...	...	125·4	...	...
" "	11 Court, Pritchett Street (Diarrhœa) ...	...	206·6	...	...
" 21st	Spring Vale, Miles Street, (3rd Terrace) ...	...	127·0	...	...
" "	Ditto ditto (2nd Terrace) ...	...	103·0	...	...
" "	Ditto ditto (1st Terrace) ...	...	80·0	...	...
" 22nd	5 Court, Erasmus Road (Diarrhœa) ...	...	72·0	...	very large
" "	Mona Place, Spring Vale, Miles Street ...	...	112·0	...	rather large
" "	11 and 12, Hooper Street, (Scarlatina) ...	...	181·0	...	...
" 25th	Top Terrace, Spring Vale, Miles Street ...	...	135·0	...	very large
" "	56 and 57, Miles Street ...	...	130·0	...	...
" "	Wellington Place, Lower Hospital St. ...	...	84·4	...	moderate
" "	27 Court, Unett Street (Diarrhœa) ...	...	128·0	...	large
" "	286, Great Colmore Street ...	...	181·0	...	ditto
" "	1 Court, Bellbarn Road ...	...	172·0	...	ditto
" 27th	16 Court, Lee Bank Rd. (Scarlet Fever) ...	...	78·0	...	...
" "	9 and 10, Ryland Road ...	...	101·0	...	very large
" "	149, Leopold Street (Diarrhœa) ...	...	109·4	...	...
" "	12 and 13, Farm Street ...	...	42·0	...	very large
" "	7 Court, Villa Street (Measles) ...	...	92·0	...	rather large
" "	8 and 9 Courts, Villa Street (Measles) ...	...	78·0	...	ditto
" 29th	189 & 190, Lower Camden St. (Diarrhœa) ...	...	143·6	...	very large
" "	41 and 42 Courts, Farm Steeet (Scarlet Fever) ...	...	85·0	...	large
" "	14 and 15, New John St. West (Typhoid) ...	...	144·0	...	ditto
" "	13 Court, Price St. (Whooping Cough) ...	...	162·0	...	large
" "	136, Gooch Street ...	...	116·0	...	...
" "	139, Gooch Street ...	...	119·6	...	...
Oct. 2nd	2 Court, Lionel Street ...	...	271·6	...	...
" "	6 Court, Ludgate Hill (Diarrhœa) ...	...	170·0	...	...
" "	65 & 66 Courts, Farm Street ...	...	135·0	...	...
" "	66 Court, Farm Street ...	...	153·0	...	...
" "	66 Court, Farm Street ...	...	92·0	...	...
" "	10 & 11 Courts, Lower Hospital Street (Diarrhœa) ...	...	83·6	...	rather large
" 4th	Buckingham Place, Green St. (Diphtheria) ...	...	54·6	...	...
" "	130, Wellington Street (Scarlet Fever) ...	...	143·0	...	...
" "	14 Court, Smith Street (Diarrhœa) ...	...	154·0	...	large
" "	17 Court, Great Russell Street ...	...	120·0	...	very large
" "	436, Coventry Road (Diphtheria) ...	...	82·0	...	rather large
" "	2 Court, Miles Street (Diarrhœa) ...	...	129·6	...	...
" 5th	8 & 9, Green Lane (Diarrhœa) ...	...	111·6	...	...
" "	19 & 20, Herbert Road ...	...	132·0	...	...
" 6th	35 to 41, Parliament Street (Scarlet Fever) ...	...	116·0	...	large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor-ary.	Perman-ent.	Total.	
·003	·11	·112	800	4·3	...	...	...	Turbid
·024	trace	·019	0	36·2	...	...	...	Clear
·280	trace	·230	1980	20·3	...	...	...	Clear
·001	trace	trace	0	6·0	...	...	...	Clear
·003	1·65	1·652	16200	37·7	...	...	...	Clear
·005	4·51	4·514	44820	25·0	...	...	...	Clear
·004	4·29	4·293	42610	10·7	...	...	...	Clear
·005	3·41	3·414	33820	7·4	...	...	...	Clear
·005	trace	trace	0	6·4	...	...	...	Clear
·004	·99	·993	9610	18·5	...	...	...	Clear
·140	·11	·225	1930	9·6	...	...	...	Clear
·720	1·10	1·693	16610	41·6	...	...	...	Clear
3·000	·44	2·900	28710	12·0	...	...	...	Turbid
1·000	4·29	5·113	50810	9·0	...	...	...	Clear
·100	2·42	2·502	24700	6·6	...	...	...	Clear
·006	2·75	2·755	27230	6·0	...	...	...	Clear
·004	1·87	1·873	18410	7·6	...	...	...	Clear
·100	3·30	3·382	33500	26·9	...	...	...	Clear
·007	·44	·446	4140	7·7	...	...	...	Turbid
2·500	2·20	4·259	42270	19·5	...	...	...	Clear
·007	3·52	3·526	34940	11·8	...	...	...	Clear
·005	6·60	6·604	65720	7·9	...	...	...	Clear
·005	6·60	6·604	65720	18·6	...	...	...	Clear
·004	4·95	4·953	49210	12·0	...	...	...	Clear
·100	5·72	5·802	57700	12·0	...	...	...	Clear
·013	4·62	4·630	45980	9·0	...	...	...	Clear
·036	2·20	2·296	22640	12·6	...	...	...	Clear
·007	trace	...	0	1·9	...	...	...	Clear
·003	3·85	3·853	38210	9·6	...	...	...	Clear
·005	3·19	3·195	31620	8·0	...	...	...	Clear
·009	1·32	1·328	12960	11·5	...	...	...	Clear
·008	2·20	2·207	21750	11·8	...	...	...	Clear
·007	5·83	5·836	58040	19·5	...	...	...	Clear
·003	3·41	3·412	33800	16·1	...	...	...	Clear
·300	trace	·247	2150	10·4	...	...	...	Turbid, residue brownish
·280	·11	·340	3080	10·1	...	...	...	Turbid
·280	3·30	3·530	34980	44·5	...	...	...	Clear, residue brownish
·700	·22	·800	7680	38·2	...	...	...	Clear, residue brownish
1·200	4·95	5·850	58180	13·2	...	...	...	Clear
4·000	5·61	8·810	87780	15·9	...	...	...	Clear
·700	2·75	3·250	38180	8·6	...	...	...	Clear, residue brownish
·004	·66	·663	6310	10·0	...	...	...	Clear
·014	1·32	1·332	13000	2·5	...	...	...	Clear, residue brownish
·100	5·72	5·800	57680	7·2	...	...	...	Clear, residue yellowish
·012	7·15	7·160	71280	12·8	...	...	...	Clear
·006	3·52	3·524	34920	11·5	...	...	...	Clear
·004	1·10	1·103	10710	5·2	...	...	...	Clear
·980	·55	1·357	13250	8·1	...	...	...	Clear, residue yellowish
·290	5·83	6·068	60360	12·6	...	...	...	Clear
·800	1·98	2·510	24780	12·8	...	...	...	Clear
·006	5·06	5·064	50320	9·3	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1877. WELL WATERS—(continued).</b>					
Oct. 6th	17 & 18, Glovers Road ... ..	...	120·0	...	large
" "	22 Court, Hampton Street ... ..	...	80·0	...	rather large
" "	62 & 63, Hockley Street (Typhoid) ...	...	147·6	...	large
" 10th	116 & 117, Long Street ... ..	...	174·0	...	very large
" "	22, Mole Street (Typhoid) ... ..	...	104·0	...	...
" "	39 & 40, Wheeler Street (Scarlet Fever) ...	...	84·0	...	very large
" 12th	50 to 56, Little King Street ... ..	...	188·8	...	moderate
" "	72, Little King Street (Scarlet Fever) ...	...	146·0	...	...
" "	10 Court, Holt Street (Scarlet Fever) ...	...	196·0	...	...
" "	141 to 143, Lawley Street ... ..	...	248·4	...	large
" "	26 & 27, Little Francis Street ... ..	...	174·6	...	...
" "	45 to 48, Bloomsbury ... ..	...	169·4	...	large
" 17th	4 & 5, The Hollies, Harborne Road... ..	...	116·0	...	...
" "	6 Court, Buckingham St. (Diarrhœa) ...	...	111·0	...	rather large
" "	129 to 132, New Spring Street ... ..	...	124·6	...	...
" "	Jennen's Bldgs., Blews St. West (Scarlet Fever) ...	...	127·4	...	...
" "	148 to 151, Lee Bank Road (Whooping Cough) ...	...	110·6	...	rather large
" "	43 Court, Great Russell Street (Scarlet Fever) ...	...	98·0	...	large
" 18th	5 to 10, Ravenhurst Street (Diarrhœa) ...	...	190·0	...	...
" "	179 & 180, High Street, Deritend ... ..	...	258·0	...	very large
" "	35 Court, Farm Street (Diarrhœa) ... ..	...	68·6	...	very large
" "	64 Court, Farm Street (Scarlet Fever) ...	...	126·0	...	moderate
" "	289 to 294, Farm Street ... ..	...	144·6	...	...
" "	67 to 74, Smith Street (Scarlet Fever) ...	...	156·0	...	...
" 20th	48 & 49 Angelina Street ... ..	...	91·0	...	very large
" "	1 & 2 Courts, Angelina Street ... ..	...	152·0	...	rather large
" "	36 Court, High Street, Deritend ... ..	...	280·6	...	large
" "	26 & 27, Parliament Street (Typhoid) ...	...	44·0	...	very large
" 22nd	272-275, Great Colmore Street ... ..	...	152·6	...	moderate
" "	21 & 22, Varna Road ... ..	...	127·4	...	moderate
" 23rd	74 & 75, Dollman Street ... ..	...	75·0	...	...
" "	182, Aston Road ... ..	...	151·0	...	moderate
" "	220 to 222, Aston Road ... ..	...	86·6	...	...
" "	3 Court, Vauxhall Road ... ..	...	88·4	...	small
" 24th	32 to 34, Hick Street, and 60 to 68, Highgate Street ... ..	...	132·6	...	very large
" "	Rupert Place, Angelina Street ... ..	...	68·4	...	rather large
" 26th	24, Waterworks Road ... ..	...	103·4	...	large
" "	Ryland Place, Broad Street (Typhoid) ...	...	128·0	...	moderate
" "	104 & 105, Bordesley Green ... ..	...	178·0	...	...
" "	211 & 212, Bordesley Green (Scarlet Fever) ...	...	90·8	...	...
" 27th	13 to 19, Radnor Street ... ..	...	87·0	...	very large
" "	22 & 23, Radnor Street ... ..	...	175·0	...	small
" 30th	72, Navigation Street ... ..	...	210·4	...	rather large
" "	74 & 75, Navigation Street ... ..	...	176·0	...	large
" "	37 Court, Bell Barn Road (Whooping Cough) ...	...	183·0	...	moderate
" "	8 to 12, Radnor Street ... ..	...	40·0	...	...
" "	25 to 27, Radnor St. (Whooping Cough) ...	...	112·0	...	...
" "	69 to 74, Hurst Street ... ..	...	263·0	...	...
" 31st	Clements' Square, Sandy Lane (Scarlet Fever) ...	...	148·4	...	small
" "	46 to 56, Sandy Lane ... ..	...	134·0	...	...
" "	18 & 19 Courts, Moseley Street ... ..	...	140·0	...	moderate

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Permanent.	Total.	
.820	1.54	2.210	21780	11.7	...	...	...	Clear
.006	4.40	4.405	43730	9.7	...	...	...	Clear
.008	7.70	7.706	76740	16.2	...	...	...	Clear
.250	7.48	7.686	76540	17.0	...	...	...	Clear
.003	3.30	3.302	32700	5.7	...	...	...	Clear
.001	2.53	2.531	24990	11.6	...	...	...	Clear
.160	9.35	9.480	94990	23.2	...	...	...	Clear
.700	18.37	18.950	189180	16.7	...	...	...	Clear, brown residue
.003	2.09	2.092	20600	33.2	...	...	...	Clear
.500	7.04	7.450	74180	30.8	...	...	...	Clear
.006	6.71	6.714	66830	26.1	...	...	...	Clear
.120	7.15	7.250	72180	10.9	...	...	...	Clear, yellowish residue
.060	5.50	5.549	55170	10.9	...	...	...	Clear
.005	6.60	6.604	65720	14.6	...	...	...	Clear
.150	5.39	5.510	54810	11.0	...	...	...	Clear, yellowish residue
.320	2.20	2.460	24310	25.2	...	...	...	Clear, brownish residue
.006	5.50	5.505	54730	11.0	...	...	...	Clear
.320	4.73	4.990	49610	14.0	...	...	...	Clear
.004	5.50	5.503	54710	22.2	...	...	...	Clear
.005	8.69	8.694	86620	44.3	...	...	...	Clear, residue yellowish
.004	2.53	2.533	25010	9.5	...	...	...	Clear
1.000	3.19	4.013	39810	12.9	...	...	...	Clear, brownish residue
.030	6.27	6.290	62630	13.0	...	...	...	Clear
.005	6.49	6.494	64620	16.2	...	...	...	Clear
.004	1.10	1.103	10710	7.4	...	...	...	Clear
.280	1.32	1.550	15180	13.1	...	...	...	Clear
.004	10.56	10.563	105310	33.6	...	...	...	Clear
.003	.88	.882	8500	3.1	...	...	...	Clear
.005	8.14	8.144	81120	19.1	...	...	...	Clear
.018	3.41	3.425	33930	10.2	...	...	...	Clear
.002	3.30	3.301	32690	4.5	...	...	...	Clear
.016	5.50	5.513	54810	19.1	...	...	...	Clear
.003	.55	.552	5200	18.7	...	...	...	Clear
.004	4.73	4.733	47010	12.5	...	...	...	Slightly turbid
.005	3.30	3.304	32720	7.3	...	...	...	Clear
.003	.88	.882	8500	3.0	...	...	...	Clear
.370	4.62	4.925	48930	11.6	...	...	...	Clear
.500	5.28	5.690	56580	20.2	...	...	...	Clear, residue brown
.300	5.72	5.967	59350	19.5	...	...	...	Clear
.005	1.10	1.104	10720	8.7	...	...	...	Clear, residue yellowish
.002	2.75	2.751	27190	4.0	...	...	...	Clear
.005	10.12	10.124	100920	16.6	...	...	...	Clear
.009	7.70	7.707	76750	47.4	...	...	...	Clear, residue brown
.004	6.05	6.053	60210	40.1	...	...	...	Clear, brownish residue
.006	8.03	8.035	80030	14.3	...	...	...	Clear
.001	.66	.661	6290	2.0	...	...	...	Clear
.050	4.40	4.441	44090	11.6	...	...	...	Clear
.070	12.10	12.158	121260	37.6	...	...	...	Clear
.001	6.49	6.491	64590	16.7	...	...	...	Clear
.001	4.84	4.841	48090	13.7	...	...	...	Clear
.002	3.08	3.081	30490	16.5	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Carbon.
<b>1877. WELL WATERS.—(continued.)</b>					
Oct. 31st	36, Darwin Street ... ..	...	148.8	...	large
" "	27 & 28, Warwick Street ... ..	...	249.0	...	rather large
" "	35 Court, High St., Deritend (Typhoid)	...	356.0	...	...
Nov. 3rd	7 & 8, Upper Dean Street ... ..	...	51.8	...	...
" "	2 Court, Pershore Street ... ..	...	71.0	...	...
" "	21 & 22, Pershore Street ... ..	...	56.0	...	large
" "	88 & 89, Pershore Street ... ..	...	238.8	...	...
" "	19 Court, William St. (Scarlet Fever)	...	168.0	...	...
" "	54 to 58, Johnstone Street ... ..	...	71.0	...	large
" 6th	90 to 92, Dartmouth St. (Diphtheria)	...	138.4	...	rather large
" "	Wotton's Buildings, Blews Street West (Scarlet Fever)	...	78.0	...	...
" "	20 & 21, Erasmus Road ... ..	...	74.0	...	very large
" "	Back 12, Henley Street (Typhoid) ...	...	79.8	...	...
" "	43 & 44 Courts, Farm Street... ..	...	108.0	...	very large
" "	5 to 9, Hooper Street (Scarlet Fever)	...	74.0	...	...
" 10th	14 & 15, Albert Street (Diarrhoea) ...	...	65.2	...	...
" "	10 to 12, Upper Dean Street... ..	...	67.0	...	...
" "	1 & 2 Courts, Centre Row ... ..	...	287.0	...	...
" "	1 Court, Latimer Street, and 45 & 46, Washington Street (Fever) ... ..	...	148.0	...	very large
" "	4 Court, Bromsgrove Street ... ..	...	264.6	...	...
" "	9 Court, Digbeth ... ..	...	213.6	...	very large
" 13th	3 Court, Bordesley Street (Typhoid)...	...	49.2	...	...
" "	3 Court, Bordesley Street ... ..	...	117.0	...	...
" "	8 Court, Wilton Street ... ..	...	245.0	...	very large
" "	10 Court, Wilton Street, and 72 & 73, Wheeler Street ... ..	...	276.0	...	...
" "	11 Court, Wilton Street and 15 Court, Wheeler Street (Scarlet Fever) ...	...	88.6	...	large
" "	3 Court, Duddeston Row (Measles) ...	...	125.6	...	...
" 16th	28 Court, Unett Street (Scarlet Fever)	...	119.2	...	large
" "	4 Court, Hall Street (Scarlet Fever) ...	...	124.0	...	very large
" 17th	10, Lower Windsor Street ... ..	...	405.0	...	large
" "	16, New Canal Street ... ..	...	236.0	...	...
" "	401 & 402, Bristol Street ... ..	...	85.6	...	rather large
" "	3 Court, Thorp Street... ..	...	276.6	...	...
" 20th	34 & 35, Wright Street ... ..	...	207.2	...	very large
" "	36 to 39, Wright Street ... ..	...	120.0	...	...
" 21st	Lawn Prospect, Blews St. West (Scarlet Fever) ... ..	...	125.0	...	...
" "	Lawn Prospect, Blews Street West ...	...	106.0	...	...
" "	21, Hill Street ... ..	...	326.6	...	very large
" "	14 Court, Navigation Street ... ..	...	186.6	...	rather large
" 22nd	84 & 86, Belgrave Road (Typhoid) ...	...	195.4	...	large
" 26th	Providence Terrace, Friston Street ...	...	39.2	...	very large
" "	60 & 62, Gough Road ... ..	...	38.0	...	moderate
" 27th	4 Court, Canal Street (Scarlet Fever)	...	38.0	...	large
" "	101 & 102, Burbury St. (Scarlet Fever)	...	182.0	...	...
" "	20 to 23, Icknield Port Road ... ..	...	132.0	...	...
" "	88 to 90, Bell Barn Road ... ..	...	90.6	...	...
" "	109, Pershore Road ... ..	...	93.6	...	...
" 30th	8 & 9, Priestley Road (Diphtheria) ...	...	127.2	...	very large
		..	53.2	...	very large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Permanent.	Total.	
·004	4·18	4·183	41510	14·5	...	...	...	Clear
·003	4·40	4·402	43700	23·9	...	...	...	Clear
·380	10·78	11·000	110580	56·6	...	...	...	Clear, brown residue
·200	1·10	1·264	12320	6·3	...	...	...	Clear
·160	2·20	2·330	22990	7·6	...	...	...	Clear
·003	1·21	1·212	11800	4·1	...	...	...	Clear
·250	11·22	11·420	113880	26·9	...	...	...	Clear
·280	7·92	8·150	81180	22·3	...	...	...	Clear
·005	3·19	3·194	31620	7·9	...	...	...	Clear
·003	1·43	1·432	14000	21·0	...	...	...	Clear, yellowish residue
·050	1·65	1·691	16590	10·8	...	...	...	Clear, yellowish residue
·005	2·53	2·534	25000	7·3	...	...	...	Clear
1·000	2·20	3·023	29910	8·8	...	...	...	Clear
·003	2·09	2·092	20600	14·2	...	...	...	Clear
·075	2·31	2·370	23400	7·5	...	...	...	Clear
·013	1·98	1·990	19580	5·8	...	...	...	Clear
·012	·44	·450	4180	5·7	...	...	...	Clear
1·420	10·01	11·179	111470	40·3	...	...	...	Clear
·008	1·87	1·876	18440	34·3	...	...	...	Clear
·170	7·92	8·060	80280	31·3	...	...	...	Clear
·004	1·32	1·323	12910	33·2	...	...	...	Clear
·040	·66	·692	6600	4·4	...	...	...	Clear
·250	3·30	3·506	34740	12·9	...	...	...	Clear
·003	8·25	8·252	82200	27·7	...	...	...	Clear
·060	13·86	13·909	138770	31·5	...	...	...	Clear
·004	2·20	2·203	21710	9·9	...	...	...	Clear
·160	7·59	7·722	76900	13·4	...	...	...	Clear
·005	6·38	6·384	63520	15·9	...	...	...	Clear
·008	11·00	11·006	109740	15·4	...	...	...	Clear
·003	16·50	16·502	164700	30·3	...	...	...	Clear
·350	5·06	5·348	53160	60·2	...	...	...	Clear
·003	·11	·113	810	6·9	...	...	...	Clear
·280	10·23	10·461	104290	38·0	...	...	...	Clear
·800	8·80	9·460	94280	20·6	...	...	...	Clear
1·000	5·39	6·213	61810	13·0	...	...	...	Clear
·007	1·65	1·656	16240	22·2	...	...	...	Clear
·018	2·20	2·215	21820	10·8	...	...	...	Clear, residue brown
·010	9·57	9·578	95460	42·1	...	...	...	Slightly turbid
·003	5·28	5·282	52500	35·5	...	...	...	Clear
·004	6·49	6·493	64610	17·8	...	...	...	Clear
·003	2·20	2·202	21700	5·3	...	...	...	Clear
·005	·44	·444	4140	4·4	...	...	...	Clear
2·500	4·62	4·679	46470	29·9	...	...	...	Clear
·820	7·81	8·487	84550	12·8	...	...	...	Clear
·017	5·50	5·514	54820	11·0	...	...	...	Clear
·013	trace	trace	0	10·5	...	...	...	Turbid, residue brown
·004	2·20	2·203	21710	13·0	...	...	...	Clear
·006	1·87	1·875	18430	4·8	...	...	...	Clear

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Nitrogen.	Organic Nitrogens
1877.	WELL WATERS.—continued.				
Nov. 30th	9—11, Braithwaite Rd. (Diphtheria)	...	109·0	...	...
Dec. 1st	86 & 87, Bristol Street ...	...	237·0	...	very large
" "	77 & 78, Balsall Heath Road... ..	...	97·4	...	"
" 3rd	34 & 35, Wheeley's Road ... ..	...	147·0	...	large
" "	17 to 19½, Hill Street ... ..	...	215·8	...	...
" 6th	10 to 13, Arthur Street (Typhoid) ...	...	87·2	...	large
" "	4 & 5, Arthur Street (Scarlet Fever)	...	67·4	...	"
" "	1, Highgate Street (Typhoid) ... ..	...	103·0	...	small
" "	48 & 49, Priestley Road (Diphtheria)	...	58·4	...	large
" 7th	77, Smallbrook Street ... ..	...	144·0	...	"
" "	78 & 79, Smallbrook Street ( <sup>Scarlet</sup> Fever) ...	...	122·8	...	"
" 10th	Houses occupied by James & Stansbie, Bacchus Road (Typhoid) ... ..	...	98·2	...	very large
" "	Houses occupied by Gilbert & Fletcher, Dudley Road ... ..	...	94·0	...	...
" "	4 & 5, Cuckoo Road (Typhoid) ... ..	...	76·0	...	rather large
" "	116 & 117, Bloomsbury (Scarlet Fever)	...	169·4	...	"
" "	1, Highgate St., and 114, Longmore St.	...	90·0	...	small
" "	1 to 10, Ryland Street, Deritend ( <sup>Diarrhœa</sup> )	...	231·8	...	moderate
" 12th	Five Dwellings, Monument Road ...	...	116·0	...	large
" "	131 & 132, George Street West ... ..	...	131·0	...	...
" 13th	18 Court, Digbeth (Measles)... ..	...	229·4	...	...
" 17th	71 & 72, Pershore Street ... ..	...	40·8	...	rather large
" "	204 to 209, Long Acre (Diarrhœa) ...	...	126·0	...	very large
" "	21—24, Beak Street ... ..	...	274·8	...	...
" "	71 & 72, Pershore Street ... ..	...	40·8	...	very large
" 18th	64 & 65, Norton Street ... ..	...	52·0	...	"
" "	129 & 130, New John Street West ...	...	112·0	...	"
" 19th	Orchard Terrace, Bristol St. (Typhoid)	...	206·0	...	"
" 20th	Orchard Terrace, Bellbarn Road ...	...	206·0	...	large
" "	39 & 40, Lee Crescent (Scarlet Fever)	...	68·0	...	rather large
" "	8 Court, Lister Street (Measles) ...	...	186·8	...	very large
" "	13 Court, Bloomsbury Street (Typhoid)	...	128·0	...	moderate
" "	1 to 5, Avon Terrace, Ford St. ( <sup>Scarlet</sup> Fever)	...	97·4	...	rather large
" "	6 to 10, Avon Terrace, Ford Street ...	...	83·0	...	!
" 24th	2 Court, Marshall Street ... ..	...	144·0	...	...
" "	12 Court, Stoke St. (Whooping Cough)	...	161·0	...	...
" 27th	49 & 51, Gough Road ... ..	...	90·8	...	...
" "	8 Court, Lench Street (Measles) ...	...	182·0	...	...
" "	277 to 279, Bellbarn Road ... ..	...	41·8	...	moderate
" "	14 Court, Allison Street ... ..	...	146·0	...	...
" 31st	18 & 19, Thomas St., Deritend ( <sup>Whooping</sup> Cough)	...	180·0	...	...
" "	87 & 88, Lower Tower Street (Measles)	...	251·0	...	...
" "	15 & 16, Darwin Street, and 163, Vaughton Street (Diarrhœa) ...	...	172·8	...	very large
" "	60—65, Guildford Street (Measles)	...	80·0	...	large
" "	43 Court, Summer Lane ( <sup>Whooping</sup> Cough) ...	...	232·8	...	...
" "	125 & 126, Great Lister St. (Typhoid)	...	123·0	...	...

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Temporary.	Perman-ent.	Total.	
·050	3·63	3·670	36390	7·6	...	...	..	Clear
·005.	7·70	7·702	76700	23·5	...	...	...	Clear
·005	1·98	1·984	19520	9·7	...	...	...	Clear
·007	2·31	2·315	22830	7·4	...	...	...	Clear
·035	8·14	8·169	81370	35·3	...	...	...	Clear
·004	3·30	3·303	32710	7·9	...	...	...	Clear
·005	2·09	2·094	20620	5·9	...	...	...	Clear
·002	1·98	1·981	19490	9·0	...	...	...	Clear
·006	1·98	1·985	19530	4·5	...	...	...	Clear
·003	3·30	3·302	32700	26·6	...	...	...	Clear
·003	2·86	2·862	28300	22·5	...	...	...	Clear
·003	4·40	4·402	43700	7·7	...	...	...	Clear
·060	4·73	4·780	47470	14·1	...	...	...	Clear, residue brown
·004	3·74	3·743	37110	6·1	...	...	...	Clear
·004	8·80	8·803	87710	16·8	...	...	...	Clear
·012	0·99	1·000	9680	5·6	...	...	...	Clear
·002	5·72	5·721	56890	20·0	...	...	...	Clear
·020	6·05	6·066	60340	12·1	...	...	...	Clear
·035	6·16	6·189	61570	13·5	...	...	...	Clear
1·010	8·58	9·411	93790	20·4	...	...	...	Clear
·007	trace	trace	0	3·5	...	...	...	Clear
·006	5·50	5·505	54730	7·2	...	...	...	Clear
·007	12·32	12·326	122940	60·5	...	...	...	Clear
·007	trace	trace	0	3·5	...	...	...	Clear
·006	0·99	0·995	9630	4·8	...	...	...	Clear
·006	6·49	6·494	64630	8·9	...	...	...	Clear
·005	9·13	9·134	91020	16·3	...	...	...	Clear
·006	7·81	7·815	77830	18·9	...	...	...	Clear
·005	1·32	1·324	12920	11·4	...	...	...	Clear
·006	5·50	5·505	54730	27·5	...	...	...	Clear
·006	3·41	3·415	33830	10·5	...	...	...	Clear
·020	2·09	2 106	20740	8·0	...	...	...	Clear
·006	1·32	1·325	12930	3·3	...	...	...	Clear
·250	1·10	1·306	12740	27·1	...	...	...	Clear
·420	7·70	8·046	80140	17·9	...	...	...	Clear
·040	2·31	2·342	23100	6·3	...	...	...	Clear
·018	5·72	5·735	57030	24·5	...	...	...	Clear
·002	1·10	1·101	10696	2·0	...	...	...	Clear
·040	4·51	4·543	45110	17·5	...	...	...	Clear
·070	5·28	5·338	53060	17·3	...	...	...	Clear
·650	11·55	12·085	120530	32·5	...	...	...	Clear
·003	4·95	4·952	49200	8·8	...	...	...	Clear
·002	3·19	3·191	31590	8·6	...	...	...	Clear
·012	10·89	10·900	108680	16·3	...	...	...	Clear
·030	6·05	6·075	60430	13·5	...	...	...	Clear

Table of the Number of Deaths occurring in each Street in the Borough of Birmingham during the Year, 1877.

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
<b>A</b>			Bishopgate Street ..	6	23	Chapel Street ..		3
Abberley Street ..	1	4	Bishop St., St. Martin's ..		8	Chapman Road ..	1	1
Abbey Street ..		8	Bishop Street, St. Mary's ..	1		Charles Arthur Street ..	2	9
Aberdeen Street ..	1	10	Bishop Street South ..	3	8	Charles Henry Street ..	12	23
A. B. Row ..			Bissell Street ..	3	8	Charlotte Road ..		1
Adam Street ..	2	15	Blake Lane ..			Charlotte Street ..	1	10
Adderley Street ..	4	11	Blews Street ..	2	9	Chattaway Street ..		1
Adelaide Street, Deritend ..	3	6	Blews Street West ..	1	7	Cheapside ..	12	52
Adelaide St., Duddleston ..	2	3	Bloomsbury ..	4	11	Cheatham Street ..		2
Albert Street, Deritend ..	1	4	Bloomsbury Street ..	5	17	Checquer's Walk ..	1	1
Albert Street, All Saints' ..	2	3	Blucher Street ..	1	6	Cherry Street ..		2
Albert Street, St. Martin's ..	1	1	Bolton Road ..	1	2	Cherry Wood Lane ..		2
Albion Street ..	1	4	Bolton Street ..	6	4	Chester St., Ladywood ..	5	16
Alcester Street ..	8	21	Bond Street ..	1		Chester St., Duddleston ..		3
Alexandra Road ..			Bordesley Green ..	6	12	Cheston Road ..		
Alexandra Street ..	2	1	Bordesley Green Road ..			Christ Church Passage ..		
Alfred Street ..		5	Bordesley Park Road ..	8	21	Church Road, All Saints' ..		3
Allocock Street ..	2	10	Bordesley Street ..	9	27	Church Road, Duddleston ..		5
Allesley Street ..		6	Bow Street ..	3	10	Church Road, Edgbaston ..		1
Allison Street ..	4	29	Bowyer Street ..	1	2	Church Street ..		6
All Saints' Street ..		4	Bracebridge Street ..		8	Clarendon Road ..		
Alma Crescent ..	1	1	Bradford Street ..	1	37	Clark Street ..	3	19
Alma Street ..			Braithwaite Road ..	1	1	Claverdon Street ..	4	13
Alston Street ..		5	Branston Street ..	1	15	Claybrook Street ..		2
Ampton Road ..			Brasshouse Passage ..		1	Clement Street ..		5
Anderton Road ..		3	Brass Street ..	2		Cleve Terrace ..		2
Anderton Street ..	1	2	Bread Street, St. Paul's ..	2	3	Clissold Street ..	3	3
Andover Street ..	2	1	Bread Street, St. Martin's ..	2	2	Cliveland Street ..		4
Angelina Street ..	2	23	Brearley Street ..	8	29	Coach Yard ..		
Ann Street ..			Brearley Street West ..	6	30	Coleman Street ..	4	14
Argyle Street ..	6	5	Brewery St., Deritend ..			Coleshill Street ..	5	16
Armoury Road ..			Brewery St., St. Mary's ..	2	1	College Street ..	2	8
Arsenal Street ..		1	Brewery St., Duddleston ..	7	14	Colmore Row ..		
Arthur Road ..		1	Brickiln Street ..	1	6	Commercial Street ..		
Arthur Street ..	7	21	Bridge Road ..			Communication Row ..	3	8
Ashted Row ..	4	19	Bridge Street, Duddleston ..	2		Congreve Street ..		2
Aston Brook Street ..		1	Bridge Street, St. Thomas ..		2	Constitution Hill ..	1	10
Aston Road ..	9	40	Bridge Street West ..	5	43	Conybere Street ..	1	16
Aston Street ..	2	6	Bristol Road ..	1	11	Cooksey Road ..	5	4
Asylum Road ..	1	4	Broad Street ..	6	21	Cope Street ..	2	3
Auckland Road ..		2	Bromsgrove Street ..	6	32	Coplow Street ..	1	1
Augusta Street ..	1	3	Brookfield Road ..	4	25	Cotton Row ..		1
Augustus Road ..			Brook Road ..			Cotton Street ..		3
Austin Street ..		3	Brook Street ..		1	Courthouse Yard ..		
Avenue Road ..	1	6	Broom Street ..	1	1	Coventry Road ..	11	40
<b>B</b>			Bruneton's Street ..			Coventry Street ..	5	9
Bacchus Road ..	3	11	Buckingham Street ..	3	12	Cox Street ..	2	8
Bagot Street ..	3	19	Buck Street ..	1	6	Coxwell Road ..		
Bailey Street ..			Bullock Road ..			Crabtree Road ..	1	6
Baker Street ..	1	3	Bullock Street ..		4	Cranemore Street ..		2
Balloon Street ..	1		Bull Ring ..	1	4	Cregoe Street ..	3	21
Balsall Heath Road ..			Bull Street ..		5	Crescent ..		1
Balsall Street ..		3	Burbury Street ..	5	7	Crescent Wharf ..		1
Banbury Street ..		2	Butler Street ..	2	1	Cromwell Street ..	9	46
Barford Street ..	9	21	<b>C</b>			Crooked Lane ..		
Barford Street South ..	2	18	Calthorpe Road ..		3	Cross Street ..	1	4
Barker Street ..		5	Cambridge Crescent ..	1		Cuckoo Road ..	3	6
Barlow's Road ..			Cambridge Street ..	2		Cumberland Street ..	1	
Barn Street ..	6	12	Camden Drive ..		3	Curzon Street ..	1	8
Barrack Street ..		1	Camden Grove ..			Cuthbert Road ..		
Barr Street ..	9	20	Camden Street ..	8	33	<b>D</b>		
Barr Street West ..	2	8	Camp Hill ..	1	12	Dale End ..	2	8
Bartholomew Row ..	1	3	Camp Street ..	1	1	Dartmouth Street ..	8	12
Bartholomew Street ..	1	12	Canal Street ..	1	1	Darwin Street ..	9	33
Baskerville Passage ..	1	12	Cannon Street ..	2	2	Dawson Street ..	1	7
Baskerville Place ..		1	Cape Lane ..			Dean Street ..		8
Bath Passage ..			Cape Street ..	1		Derby Street ..	1	2
Bath Row ..			Cardigan Street ..	6	14	Devon Street ..	1	17
Bath Street ..	1	13	Carlisle Street ..		2	Devonshire Street ..	3	11
Beach Street ..	1	9	Carlisle Street (All Saints') ..			Digbeth ..	3	26
Beak Street ..	8	14	Carlisle Street (Duddstn) ..			Digby Street ..		3
Beatrice Crescent ..	1	7	Caroline Street ..		9	Doe Street ..	1	3
Beaufort Road ..		2	Carpenter Road ..		6	Dolobran Road ..		1
Bedford Road ..		2	Carr's Lane ..		6	Dolman Street ..	2	8
Belgrave Road ..		2	Cartland Road ..	1	1	Drury Lane ..		1
Bell Barn Road ..	10	31	Carver Street ..	1	1	Duchess Road ..		
Bellis Street ..	2	2	Castle Street, St. Martin ..	1	9	Duddleston Mill Road ..	3	15
Bell Street ..			Castle Street, Deritend ..		2	Duddleston Row ..	3	6
Belmont Passage ..			Cathcart Street ..	2	8	Dudley Road ..	5	11
Belmont Row ..	1	5	Cato Street ..	2	8	Dudley Street ..		6
Benaere Street ..	1	8	Cato Street North ..	2	8	Dugdale Street ..		7
Bennett's Hill ..	5	19	Cattell Road ..	6	14	Duke Street ..	3	10
Berkeley Street ..			Cattell Grove ..	2	1	Dymoke Street ..	6	16
Berner's Street ..		1	Cecil Street ..	2	1	<b>E</b>		
Beswick Street ..	7		Centre Row ..	2	14	Eastern Road ..		
Betholom Row ..		1	Chad Road ..		1	Easy Row ..		
Birchall Street ..		1	Chapel House Street ..	5	5	Eden Place ..		
Bird Lane ..	1	3				Edgbaston Road ..		1

STREETS.	Zymotic Diseases		STREETS.	Zymotic Diseases		STREETS.	Zymotic Diseases	
	Diseases	Other Diseases		Diseases	Other Diseases		Diseases	Other Disease
Edgbaston Street ..	2	4	Great Hampton Street ..	8		Inge Street ..	1	14
Edmund Street ..		1	Great King Street ..	4	19	Ingleby Street ..	1	11
Edward Road ..			Great Lister Street ..	9	43	Inkerman Street ..	2	13
Edward Street ..	4	19	Great Queen Street ..			Irving Street ..	12	21
Elkington Street ..			Great Russell Street ..	9	26	Islington Row ..		2
Ellen Street ..	5	12	Great Tindal Street ..		4	Ivy Lane ..		2
Ellis Street ..		7	Greaves' Court ..					
Elvetham Road ..			Greenfield Crescent ..		1	J		
Emily Street ..	4	19	Green Lane ..	6	9	Jamaica Row ..	1	1
Emmeline Street ..			Green's Court ..			James Street ..		
Enfield Road ..			Green Street, Deritend ..		6	Jenkin's Street ..		2
Engine Street ..		1	Green Street, All Saints' ..	3	3	Jennen's Row ..		2
Erasmus Road ..	2	2	Green's Village ..	4	4	Johnson Street ..		5
Ernest Street ..			Greenway Street ..	1	20	Johnstone Street ..	3	5
Essex Street ..		12	Grindstone Road ..		1	John Street ..	5	14
Essington Street ..	3	8	Grosvenor Row ..		1			
Ethel Street ..			Grosvenor Street ..	1		K		
Exeter Row ..	3	5	Grosvenor Street West ..	3	18	Keeley Street ..	2	4
Eyre Street ..	1	5	Grove Street ..	3	2	Kelynge Street ..	2	7
F			Guest Street ..	2	4	Kendall Road ..		
Factory Road ..			Guildford Street ..	1		Kent Street ..		11
Falconer Road ..		1	Gullet, St. Martin ..			Kent Street North ..	2	8
Farm Road ..		1	Gullet, Deritend ..			Kenyon Street ..	2	7
Farm Street ..	11	46	Gullet, St. Thomas' ..			Key Hill ..	5	11
Farquhar Road ..			H			King Alfred's Place ..	1	1
Fawdry Street ..			Hagley Road ..	2	9	King Edward's Place ..		2
Fazeley Street ..	2	11	Hall Street ..	1	2	King Edward's Road ..	4	8
Fisher Street ..		5	Hampton Street ..	1	18	Kingston Road ..		4
Fleet Street ..	1	7	Handsworth New Road ..			Kingston Row ..		1
Floodgate Street ..	1	11	Hanley Street ..	4	5	King Street ..	1	
Florence Street ..	2	2	Harborne Road ..		8	Kyott's Lake Road ..		
Fordrough Lane ..			Harding St., St. George's ..	4	11	Kyrwick's Lane ..	4	12
Fordrough Street ..	1	3	Harding Street, All Saints' ..	1	1	L		
Ford Street ..	3	16	Harford Street ..		5	Ladypool Lane ..		3
Forge Street ..		3	Harrison's Road ..			Ladywell Passage ..		
Foundry Road ..	2		Hatchett Street ..	7	14	Ladywell Walk ..		1
Fowler Street ..			Hawkes Street ..	1	11	Ladywood Road ..	2	15
Fox Street ..	1	4	Heath Mill Lane ..	10	11	Lancaster Street ..	5	24
Francis Road ..		2	Heath Street ..	8	21	Lander Street ..		
Francis Street ..	5	16	Heath Street South ..	1	1	Langley Road ..		
Frankfort Street ..	1	1	Heaton Street ..	1	9	Lansdown Street ..		5
Franklin Street ..		1	Helena Street ..		2	Larches Street ..	1	13
Frank Street ..	1	4	Heneage Street ..	8	30	Latimer Street ..	2	4
Frederick Road ..		8	Henley Street ..	1	10	Latimer Street South ..	8	26
Frederick Street ..		3	Henn Street ..		3	Lawden Road ..	1	4
Freeman Road ..	2	13	Henn's Walk ..		2	Lawley Street ..	5	28
Freeman Street ..		2	Henrietta Street ..	2	3	Lawrence Street ..	1	13
Freeth Street ..	4	2	Henry Street ..	6	15	Lease Lane ..		4
Friston Street ..	7	22	Herbert Road ..	7	23	Ledsam Street ..		23
G			Hermitage Road ..			Lee Bank Road ..	5	18
Galton Street ..	1		Hickman Road ..			Lee Crescent ..	3	6
Garbett Street ..	4	16	Hick Square ..		1	Lee Mount ..		
Garrison Lane ..	4	19	Hick Street ..	1	9	Leek Street ..	2	2
Garrison Street ..	2	7	Highfield Road ..		3	Lees Street ..		1
Gas Street ..		1	Highgate Lane ..		3	Legge Lane ..	1	2
Geach Street ..	2	9	Highgate Place ..		3	Legge Street ..		9
Gee Street ..	1	5	Highgate Street ..	2	22	Lench Street ..	2	9
Gem Street ..		4	High Park Street ..	2	12	Lennox Street ..	6	11
George Road ..	3		High Street ..		6	Leopold Street ..	6	17
George Street (All Saints') ..		1	High Street, Deritend ..	9	39	Lichfield Street ..	2	6
George Street, Nechells ..	2		Hill Street ..	3	13	Lilly Green ..	2	5
George Street West ..	2	8	Hingeston Street ..	7	31	Lingard Street ..	1	1
Gibb Street ..		22	Hockley Hill ..		8	Lionel Street ..	1	14
Gillott Road ..	2	5	Hockley Pool Road ..			Lister Street ..	2	2
Gladstone Road ..		2	Hockley Street ..	1	5	Little Ann Street ..	2	6
Glebe Passage ..			Holborn Hill ..	1	6	Little Barr Street ..		4
Glebe Street ..		2	Holland Street ..	4	7	Little Bow Street ..	1	
Gloucester Street ..			Holliday Street ..	3	11	Little Broom Street ..		
Glover's Road ..		2	Hollier Street ..	2	2	Little Cannon Street ..		1
Glover's Street ..	4	17	Holloway Head ..	2	6	Little Cherry Street ..		
Godwin Street ..	2	7	Holly Road ..			Little Edward Street ..	1	4
Golden Hillock Road ..	1	1	Holt Street ..	3	17	Little Francis Street ..	1	
Gooch Street ..	4	23	Hooper Street ..	4	3	Little Green Lane ..	3	13
Goode Street ..	1	3	Hope St. (St. Martin's) ..	2	26	Little Hill Street ..		
Goodman Street ..			Hope Street (All Saints) ..			Little King Street ..	3	7
Goodrick Street ..	1		Horse Fair ..		1	Little Shadwell Street ..		
Gopsall Street ..	2	4	Hospital Street ..	12	27	Little Wright Street ..		1
Gosta Green ..	1	2	Howard Place ..	1	7	Liverpool Street ..	1	2
Gough Road ..		5	Howard Street ..		3	Livery Street ..	3	13
Gough Street ..		6	Howe Street ..	3	11	Lloyd Street ..		
Grace Road ..			Hubert Street ..			Lodge Road ..	4	24
Grafton Road ..			Humpage Road ..	1	1	Lombard Street ..	2	12
Graham Street ..		10	Hunter's Lane ..			London Prentice Street ..		12
Grange Road ..	6	7	Hunter's Vale ..		1	Long Acre ..	1	12
Grantham Road ..			Hurst Street ..	1	14	Longmore Street ..	2	3
Grant Street ..		6	Hutton Street ..			Long Street ..	5	9
Granville Street ..	2	10	Hyde Road ..		5	Lord Street ..	2	10
Great Barr Street ..	13	19	Hylton Street ..		1	Louisa Street ..		1
Great Brook Street ..	4	27	I			Loveday Street ..	2	9
Great Charles Street ..	2	8	Icknield Port Road ..	8	40	Love Lane ..	1	5
Great Colmore Street ..	4	35	Icknield Square ..	2	13	Lower Camden Street ..	6	13
Great Francis Street ..	8	19	Icknield Street East ..	1	16	Lower Dartmouth Street ..	2	6
Great Hampton Row ..	5	20	Icknield Street West ..	6	26	Lower Darwin Street ..		2





BOROUGH ANALYST'S LABORATORY,  
PUBLIC OFFICE, BIRMINGHAM,  
March 29th, 1878.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

During the year 1877, 176 samples of Food and Drink have been submitted to and analysed by me, under the provisions of the "Sale of Food and Drugs Bill." The majority of the articles were purchased by the Inspector of Nuisances. The following are the particulars:—

No.	DATE.—1877.	ARTICLE.	REMARKS.
337	Jan. 2nd...	Beer .....	Adulterated with common salt. Fined £5 and costs.
338	" " ...	Ditto .....	Of inferior quality.
339	" " ...	Ditto .....	Ditto.
340	" " ...	Ditto .....	Ditto.
341	" " ...	Gin .....	Adulterated with water, 39° under proof.
342	" " ...	Ditto .....	" " " 49° below proof. Fined 20/- and costs.
343	" " ...	Ditto .....	Adulterated with water, 36°·5 below proof.
344	" 22nd...	Ditto .....	" " 34°·5 " "
345	" " ...	Ditto .....	" " 36°·5 " "
346	" " ...	Ditto .....	" " 40°·6 " "
347	" 24th...	Ditto .....	" " 36°·5 " "
348	" " ...	Ditto .....	" " 40°·6 " "
349	" " ...	Ditto .....	" " 36°·5 " "
350	" " ...	Ditto .....	" " 33°·5 " "
351	" " ...	Ditto .....	" " 38°·5 " "
352	" " ...	Ditto .....	" " 30°·5 " "
353	" " ...	Milk .....	Contained 27·6 % of water, or 38 parts of water had been added to 100 of milk. Cream also had been abstracted. Fined 20/- and costs.
354	" " ...	Ditto .....	Genuine.
355	" " ...	Ditto .....	Genuine.
356	" 31st...	Gin .....	Adulterated with water, 38°·5 under proof.
357	" " ...	Ditto .....	" " 38°·5 " "
358	" " ...	Ditto .....	" " 42°·6 " " Fined 20/- and costs.
359	" " ...	Ditto .....	" " 42°·6 " " Fined 20/- and costs.
360	" " ...	Ditto .....	" " 38°·6 " "
361	" " ...	Ditto .....	" " 50°·8 " " Fined 10/- and costs.
362	" " ...	Ditto .....	" " 40°·6 " "
363	" " ...	Ditto .....	" " 40°·0 " "
364	" " ...	Ditto .....	" " 38°·5 " "
365	" " ...	Ditto .....	" " 38°·5 " "
366	" " ...	Ditto .....	" " 36°·5 " "
367	" " ...	Ditto .....	" " 38°·5 " "
368	" " ...	Mustard .....	Adulterated with about 30 % wheaten flour. Fined 5/- and costs.
369	Feb. 1st ...	Milk .....	Genuine.
370	" " ...	Ditto .....	Adulterated with 24 % of water, or 31·5 parts of water had been added to 100 of pure milk. Fined, 20/- and costs.
371	" " ...	Ditto .....	Adulterated with 25 % of water, or 33 parts of water had been added to 100 of genuine milk. Fined, 20/- and costs.
372	" 6th ...	Ditto .....	Genuine.
373	" " ...	Ditto .....	Adulterated with 13 % of water, or 15 parts of water had been added to 100 of genuine milk, Fined, 20/- and costs.

No.	DATE.—1877.	ARTICLE.	REMARKS.
374—	Feb. 6th...	Milk .....	Nearly Genuine.
375—	" 8th...	Ditto .....	Adulterated with 16 % of water, or to 100 parts of pure milk had been added 19 parts of water. Cream also abstracted. Fined, 20/- and costs.
376—	" " ...	Ditto .....	Nearly Genuine.
377—	" " ...	Ditto .....	Adulterated with 21·5 % of water, or 27 parts of water had been added to 100 of genuine milk. Fined, 20/- and costs.
377a—	" 9th...	Ditto .....	Genuine, tasted of horse or cow medicine.
378—	" 19th...	Gin .....	Adulterated with water ; 40·6 below proof.
379—	" " ...	Beer .....	Genuine.
380—	" " ...	Ditto ...	Adulterated with common salt.
381—	" " ...	Ditto .....	Genuine.
381a—	" 26th...	Milk ...	Adulterated with 12 % of water.
382—	" 28th...	Pork Sausage ...	Adulterated with about 7% of bread or other farinaceous substance.
383—	" " ...	Ditto .....	Ditto
384—	" " ...	Ditto .....	Ditto
385—	" " ...	Ditto .....	Nearly Genuine. Contained only a very little bread.
386—	March 7th...	Ditto .....	Genuine.
387—	" 13th..	Milk .....	Genuine.
388—	" " ...	Ditto .....	Genuine.
389—	" " ...	Ditto .....	Adulterated with 17·5% of water, and cream abstracted. Fined, 20/- and costs.
390—	" 15th...	Ditto .....	Deprived of about 70 % of its cream. Fined, 5/- and costs.
391—	" " ...	Ditto ...	Adulterated with 7 % of water, and some cream abstracted. Fined, 20/- and costs.
392—	" " ...	Ditto .....	Deprived of 50 % of its cream. Fined, 20/- and costs.
393—	" 28th...	Powdered loaf sugar	Genuine.
394—	April 10th...	Milk .....	Adulterated with 20 % of water. Private purchaser.
395—	" " ...	Ale .....	Of bad quality. Private purchaser.
396—	" 11th...	Sausage .....	Genuine.
396a—	May 8th...	Flour ...	Ditto
396b—	" 14th...	Black Pepper ...	Ditto
397—	" " ...	Mustard .....	Ditto
398—	" " ...	Black Tea .....	Ditto
399—	" 15th...	Green Tea .....	Ditto
400—	" " ...	Mustard .....	Ditto
401—	" " ...	Black Pepper...	Ditto
402—	" " ...	Black Tea .....	Ditto
403—	June 12th...	Milk .....	Ditto
404—	" " ...	Ditto .....	Adulterated with 18 % water. Fined 2/6 and Costs.
405—	" " ...	Ditto .....	Genuine.
406—	" " ...	Ditto .....	Ditto
407—	" " ...	Ditto ...	Adulterated with 15 % water. Fined 20/- and Costs.
408—	" " ...	Ditto .....	Genuine.
409...	" 14th...	Ale .....	Ditto
410—	" " ...	Ditto .....	Ditto
411—	" " ...	Ditto .....	Ditto
412—	" " ...	Ditto .....	Ditto
413—	" " ...	Ditto .....	Ditto
414—	" " ...	Ditto .....	Ditto
415—	" 27th...	Oatmeal .....	Genuine.
416—	" " ...	Ditto ..	Ditto
417—	" " ...	Ditto .....	Ditto
418—	" " ...	Ditto .....	Ditto
419—	" " ...	Ditto .....	Ditto
420—	" " ...	Ditto .....	Ditto
421—	" " ...	Ditto .....	Adulterated with 10 % barley meal.
422—	" 28th...	Flour .....	Genuine.
423—	" " ...	Ditto .....	Ditto
424—	" " ...	Ditto .....	Ditto
425—	" " ...	Ditto .....	Ditto
426—	" " ..	Ditto .....	Ditto
427—	" " ...	Ditto .....	Ditto
428—	" " ...	Ditto .....	Ditto

No.	DATE.—1877.	ARTICLE.	REMARKS.
429—	Aug. 7th...	Milk .....	Adulterated with 12 % water. Fined 10/- and Costs.
430—	" " ...	Ditto .....	Adulterated with 10 % water. Fined 10/- and Costs.
431—	" " ...	Ditto .....	Nearly Genuine.
432—	" " ...	Ditto .....	Adulterated with 11 % water. Fined 10/- and Costs.
433—	" 8th...	Black Tea .....	Genuine.
434—	" " ...	Black Pepper ...	Ditto
435—	" " ...	Green Tea .....	Ditto
436—	" " ...	Mustard .....	Ditto
437—	" " ...	Ditto .....	Adulterated with about 60 % Wheat Starch, and Turmeric.
438—	" " ...	Black Pepper ...	Genuine.
439—	" 10th...	Milk .....	Adulterated with 13 % water. Fined 10/- and Costs.
440—	" " ...	Ditto .....	" " 6 % " Paid Costs.
441—	" " ...	Ditto .....	" " 8.5 % " " "
442—	" " ...	Ditto .....	" " 7 % " " "
443—	" " ...	Ale .....	Contained 104.99 grains of common salt per gallon. Fined £5 and Costs.
444—	" " ...	Ditto .....	Contained 67.20 grains of common salt per gallon. Fined 40/- and Costs.
445—	" " ...	Ditto .....	Genuine.
446—	" " ...	Ditto .....	Contained 75.48 grains of common salt per gallon. Fined £5 and Costs.
447—	" " ...	Ditto .....	Genuine.
448—	" " ...	Ditto .....	Ditto
449—	" 30th...	Ditto .....	Contained 82.84 grains of common salt per gallon. Fined 20/- and Costs.
450—	" " ...	Ditto .....	Genuine.
451—	" " ...	Ditto .....	Ditto
452—	" " ...	Ditto .....	Ditto
453—	" " ...	Ditto .....	Ditto
454—	Sept. 6th ...	Ditto .....	Contained 70.54 grains of common salt per gallon. Fined 20/- and Costs.
455—	" " ...	Ditto .....	Genuine.
456—	" " ...	Ditto .....	Ditto
457—	" " ...	Ditto .....	Nearly Genuine.
458—	" " ...	Ditto .....	Genuine.
459—	" " ...	Ditto .....	Ditto
460—	" " ...	Ditto .....	Ditto
461—	Sept. 18th..	Ale .....	Weak in alcohol and extractive, but contained no adulterant.
462—	" 21st...	Ditto .....	Genuine.
463—	" 24th {	Precipitated Sulphur... }	Ditto
464—	" " ...	Ditto .....	Ditto
465—	" " ...	Ditto .....	Ditto
466—	" " ...	Ditto .....	Ditto
467—	" " ...	Ditto .....	Ditto
468—	" " ...	Ditto .....	Ditto
469—	" " ...	Ditto .....	Ditto
470—	" " ...	Ditto .....	Adulterated with Sulphate of Lime.
471—	" " ...	Ditto .....	Genuine.
472—	" " ...	Ditto .....	Ditto
473—	" " ...	Ditto .....	Adulterated with Sulphate of Lime.
474—	Nov. 7th...	Ditto .....	Adulterated with 50.13 % Sulphate of Lime.
475—	" " ...	Ditto .....	Adulterated with 51.10 % Sulphate of Lime.
476—	" " ...	Mustard .....	Genuine.
477—	" 8th...	Black Pepper ...	Ditto
478—	" " ...	Ditto .....	Adulterated with upwards of 4 % Sand and other earthy matter.
479—	" " ...	Mustard .....	Genuine.
480—	" " ...	Black Pepper ...	Ditto
481—	" " ...	Coffee .....	Ditto
482—	" 9th...	Precipitated Sulphur .....	Ditto
483—	" " ...	Ditto .....	Ditto
484—	" " ...	Ditto .....	Ditto
485—	" " ...	Ditto .....	Ditto
486—	" " ...	Ditto .....	Ditto

No.	DATE.—1877.	ARTICLE.	REMARKS.
487—	Nov. 9th..	Precipitated Sulphur .....	Adulterated with 65·02 % Sulphate of Lime.
488—	" " ...	Ditto .....	Genuine.
489—	" " ...	Ditto .....	Ditto
490—	" 16th...	Ditto .....	Adulterated with 43·5 % Sulphate of Lime.
491—	" " ...	Ditto .....	Genuine.
492—	" 26th...	Tea .....	Ditto
493—	" " ...	Coffee .....	Ditto
494—	" " ...	Mustard .....	Ditto
495—	" " ...	Tea .....	Ditto
496—	" " ...	Pepper.....	Ditto
497—	" 29th...	Milk .....	Ditto
498—	" " ...	Gin .....	Adulterated with water. 36° below proof.
499—	" " ...	Ditto .....	Genuine.
500—	" " ...	Ditto .....	Adulterated with water. 52° under proof
501—	" " ...	Ditto .....	Genuine.
502—	" " ...	Ditto .....	Adulterated with water. 45° under proof.
503—	" " ...	Ditto .....	Genuine.
504—	Dec. 19th...	Ditto .....	Adulterated with water. 38° under proof.
505—	" " ...	Ditto .....	Genuine.
506—	" " ...	Ditto .....	Ditto
507—	" " ...	Ditto .....	Ditto
508—	" " ...	Ditto .....	Ditto

The samples analysed comprise—

36	samples of	Gin.
36	"	Milk.
34	"	Ale.
23	"	Precipitated Sulphur.
8	"	Flour.
8	"	Mustard.
8	"	Pepper.
7	"	Oatmeal.
7	"	Tea.
6	"	Sausage.
2	"	Coffee.
1	"	Sugar.

Total ... 176 samples.

Of the 176 samples, 106 were genuine, and 70 adulterated, the latter consisting of 29 of Gin, 21 of Milk, 7 of Ale, 6 of Milk of Sulphur, 2 of Mustard, 1 of Pepper, 1 of Oatmeal, and 3 of Sausage.

Twenty-nine of the 36 samples of Gin had been much diluted with water, varying in strength from 30° to 52° under proof.

Of the 36 samples of Milk, 21 had either been adulterated with water, or had been deprived of their cream, or both.

The 34 samples of Ale submitted, consisted of 27 genuine, and 7 adulterated samples; the adulterant used was Common Salt.

Six of the 23 samples of Precipitated Sulphur were largely adulterated with Sulphate of Lime.

Two of the 8 samples of Mustard had been adulterated with Wheaten Flour and Turmeric; 1 of the 8 samples of Pepper contained Sand and other earthy matter; and 1 of the 7 samples of Oatmeal was adulterated with 10 % of Barley Meal.

Three of the 6 samples of sausage contained small quantities of bread.

I remain,

Gentlemen,

Your obedient servant,

ALFRED HILL, M.D.

*Borough Analyst.*

