

[Report 1883] / Medical Officer of Health, Birmingham.

Contributors

Birmingham (England). Council.

Publication/Creation

1883

Persistent URL

<https://wellcomecollection.org/works/ew4bb2q2>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

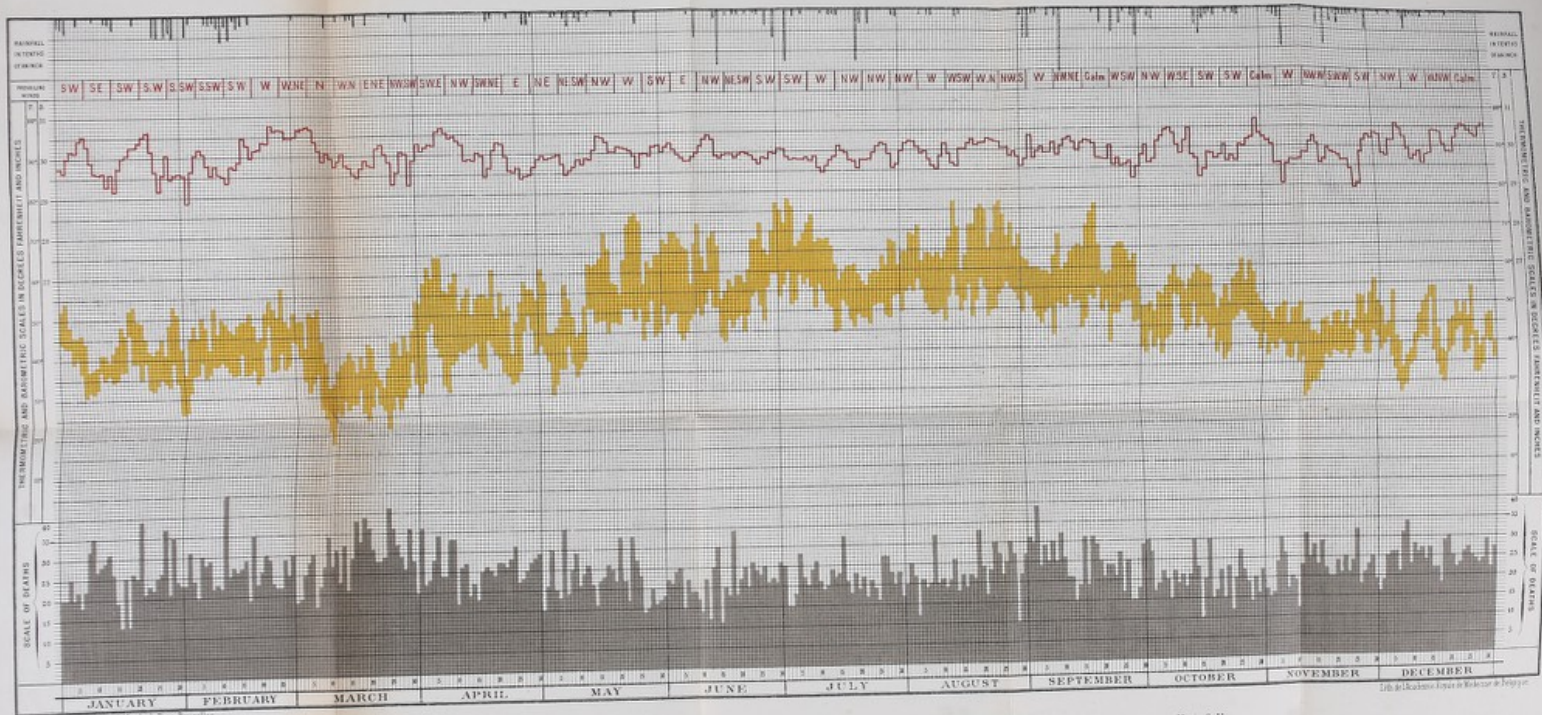
You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.




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

Borough of Birmingham.

Chart illustrating the relations of the number of deaths to the principal meteorological conditions on each day of the year 1883.



MORTALITY: — Deaths
 METEOROLOGY: — Temperature (maximum and minimum) — Barometric pressure (corrected and reduced to 32° Fahrenheit and sea level) — Rainfall



Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b28928234>

REPORT

ON THE

HEALTH OF THE BOROUGH

OF

BIRMINGHAM,

FOR THE YEAR 1883,

ALSO,

ON THE PROCEEDINGS TAKEN UNDER THE ACT FOR THE

PREVENTION OF ADULTERATION

OF ARTICLES OF FOOD AND DRINK,

BY

ALFRED HILL, M.D., F.I.C.,

Medical Officer of Health,

and

Analyst to the Borough.

PRINTED BY ORDER OF THE HEALTH COMMITTEE.

BIRMINGHAM:

GEO. JONES AND SON, TOWN HALL PRINTING OFFICES, EDMUND STREET.

781
05

88730

HEALTH DEPARTMENT,

THE COUNCIL HOUSE,

Birmingham, March 24th, 1884.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

In submitting my Eleventh Annual Report upon the Health of the Borough it is my agreeable duty to point out the favourable sanitary position which the town continued to maintain in the year 1883. It is true there was a slight increase upon the previous year in the total mortality, but it was only fractional, being actually 0·4, or less than the half of one per thousand of the population. Introductory
Remarks.

The principal cause of the slight increase is the unusual prevalence of Small-pox and Scarlet Fever, both of which are sure to occur at intervals more or less regular. Both diseases are now gradually declining, and there is good reason to believe that they will continue to do so.

I. VITAL STATISTICS.

The population of the Borough in the middle of the year 1883, based by the Registrar-General on the number enumerated in the 1881 census, and on the supposition that the same rate of increase has prevailed since then as obtained during the decade succeeding the previous census in 1871, was 414,846. This estimate, though the best available at Somerset House, must necessarily be only an approximate one, and from various circumstances is sometimes liable to considerable error. The amount of possible discrepancy between the estimate of population and that actually observed naturally increases with the distance of time from the taking of the last census, and it not unfrequently happens that the computed population of a locality is proved on actual enumeration to be very wide of the mark. I need only point out as an example the erroneous estimate of Population.

Population
(continued).

our own population furnished by the Registrar-General's office in 1871, based on the uniform plan I have just referred to, which the Registration Authority has no choice but to adopt. The census of that year afforded the information that the estimate then given was in excess of the actual number living in the Borough at that time by no less than 33,594, or very nearly ten per cent. of the number recorded. It is scarcely necessary to observe that, if we are to be always made truly aware and kept cognisant of the actual and relative mortality of the Borough, it is of the highest importance, indeed, essential, that its gross population, and the number of persons living at certain periods of life, should be so nearly correct that the calculations based thereon should not be appreciably vitiated. After our own experience for some time prior to the census of 1871, and the serious differences found to exist of late years between the estimated and actual number of people in Salford, Nottingham, Oldham, and some other towns, it is clear that it would be an immense advantage to the nation for several purposes, but for sanitation more particularly, if the length of time permitted to elapse between the taking of one census and another were reduced by at least one-half. The growing importance of this question leads one to hope that the day is not far distant when a quinquennial numbering of the people shall be carried out.

Natural
increase.

The excess of Births over Deaths in the Borough, or the natural increase of population, without regard to the number of persons leaving or coming into the Borough, was 5,987, equivalent to a rate of 1.4 per cent.; the natural increase in the previous year was 1.6 per cent. This somewhat decided fall in the natural increase of the population has been produced by the circumstance that, whilst the Birth-rate has still further fallen, the Death-rate exhibits a movement in the other direction. It is noteworthy that this actual increase of population has now fallen again to a lower figure than the Registrar-General's estimate, which is 6,314, and is smaller than in any year since 1875.

Area.
Density.

The area of the Borough still remains the same, viz., 8,400 acres, consequently, the mean density of the population continues to augment. There were at the middle of the year on an average 49.4 persons per acre, as compared with 48.6 in the preceding year, and 42.4 in my first year of office—1873. As there are large tracts of land in the Borough, particularly on its south-eastern side, still unbuilt upon, it follows as a matter of course that the average number of people on an acre in the inhabited parts of the town is considerably larger than that stated. Again, it is noteworthy that in some of our better suburbs, particularly in Edgbaston, the population is very sparse; while in some portions of the town, notoriously in the neighbourhood of St. George's Ward, its density is very great.

The statement below contains an estimate of the population, the density, and the death-rate from all causes in some of the British towns during 1883 :—

Comparative statement of Death-rate, &c., in certain large towns.

Population, Density, and Death-rate of certain Towns.	Estimated Population, 1883.	No. of Persons per Acre.	Death-rate.
London	3,955,814	52·5	20·4
Liverpool	566,753	108·8	26·6
Birmingham	414,846	49·4	21·0
Manchester... ..	339,252	79·0	27·6
Sheffield	295,497	15·0	22·9
Leeds	321,611	14·9	23·2
Salford	190,465	36·8	22·3
Newcastle-on-Tyne	149,464	27·8	25·4
Norwich	89,612	12·0	19·6
Bristol	212,799	47·8	17·8
Glasgow	515,589	85·5	28·1
Dublin	349,685	34·8	29·1

The height of Birmingham above the mean sea level varies between 310 feet at the Nechells end of the Borough, and 600 feet in Rotton Park Ward. Generally speaking, the western side of the town stands considerably higher than the eastern. Elevation.

Birmingham, however, enjoys not only the advantage of a considerable elevation, thus securing a greater movement of the atmosphere—a circumstance of considerable importance in a manufacturing town—than it would be likely to possess were its altitude below that of the surrounding district, but it has also other natural conditions which cannot fail to prove beneficial to the general health of its inhabitants. Among these I may again mention that its surfaces are generally remarkably undulating, very few portions of the Borough being sufficiently flat to permit of liquids stagnating on the surface, regardless of the composition of the soil. We have, it is true, one limited area—the neighbourhood of the Brookfields—which does not possess the boon of sloping surfaces, and the bad results of such a condition are exemplified by the fact that for many years this locality has been a greater source of zymotic diseases generally than, perhaps, any other portion of the Borough. There remains, too, the fact, to which I have alluded in previous reports, that the soil on which the Borough stands is generally of a sandy or gravelly, and therefore of a porous character, thus conducing to greater dryness of surface, with its many concomitant advantages, than would otherwise be obtainable. Clay exists near the surface in a few portions of the Borough, chiefly on the Yardley or south-eastern side, but its area is comparatively very small. Geological position.

MARRIAGES.

The number of persons married in the Borough during 1883 was 7,268, against 7,162 in 1882, and 6,522 in 1881, and Marriages in the Borough.

Marriages in
the Borough
(continued).

is equal to an annual rate of 17·5 per 1,000 of the population, as compared with rates of 16·2 and 17·5 in the years 1881 and 1882 respectively.

Marriage-rate.

In the annexed statement are to be found the Marriage statistics for the Borough during the last eleven years :—

MARRIAGES IN THE BOROUGH.

Year.	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883
No. of Marriages	3,637	3,514	3,606	3,736	3,683	3,245	3,046	3,215	3,261	3,581	3,634
Rate per 1,000 of the Population	20·4	19·4	20·1	20·1	19·5	16·7	15·7	16·3	16·2	17·5	17·5

A comparison of the Marriage-rate for 1883 with those in previous years, shows that though the rate is higher than the average of those of the last four years, it is still considerably below those observed prior to 1878.

Births.

The number of

BIRTHS

registered during the year is 14,701, against 14,869 in the previous year, and 15,111 in 1881, and consists of 7,351 males and 7,350 females. The numbers for each quarter of the years 1873 to 1883, both inclusive, and the Birth-rates for each of those years, are subjoined :—

	1873.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.	Birth-rate.
Total	...	3,741	3,564	3,378	3,814	14,497	40·78
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	41·25
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	40·57
Males	...	1,929	1,884	1,815	1,904	7,532	
Females	...	1,857	1,853	1,766	1,853	7,329	
Sexless	...	1	—	—	—	1	
1876.							
Total	...	4,140	3,924	3,803	3,949	15,816	42·53
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	42·39
Males	...	2,139	2,015	1,878	2,037	8,069	
Females	...	2,157	1,994	1,891	1,898	7,932	
1878.							
Total	...	4,139	4,096	3,849	3,880	15,964	41·67
Males	...	2,160	2,051	1,962	1,982	8,155	
Females	...	1,979	2,045	1,887	1,898	7,809	

1879.							Births (continued).
Total	...	4,124	3,912	3,723	4,087	15,846	
Males	...	2,086	1,992	1,878	2,096	8,052	
Females	...	2,038	1,920	1,845	1,991	7,794	
1880.							
Total	...	3,964	4,104	3,572	3,471	15,111	
Males	...	2,023	2,100	1,762	1,802	7,687	
Females	...	1,941	2,004	1,810	1,669	7,424	
1881.							
Total	...	3,965	3,754	3,560	3,590	14,869	
Males	...	1,991	1,893	1,804	1,822	7,510	
Females	...	1,974	1,861	1,756	1,768	7,359	
1882.							
Total	...	3,968	3,760	3,478	3,660	14,866	
Males	...	2,010	1,922	1,784	1,903	7,619	
Females	...	1,958	1,836	1,694	1,757	7,247	
1883.							
Total	...	3,975	3,814	3,460	3,452	14,701	
Males	...	1,969	1,934	1,708	1,740	7,351	
Females	...	2,006	1,880	1,752	1,712	7,350	

The remarkable and long-continued decline in the Birth-rate is not confined to Birmingham, or to any particular portion or portions of the country, but is general throughout England and Wales, the Birth-rate for which during the year in question was only 33·2 per 1,000, and lower than that observed in any year since 1849. This constantly diminishing Birth-rate has, as might be expected, run parallel with an unusually depressed Marriage-rate, and in this fact lies, doubtless, an explanation of the extremely large reduction which the Birth-rate has undergone during the last seven years.

The statement below contains a comparison of the Birth-rates in most of the principal large English towns for the past year :—

Average of 23 large London L'pool Birm. Manch. Leeds Sheff'd Salf'd N'castle N'wich Bristol Towns.										
34·7	33·9	35·2	35·4	35·9	34·7	36·7	35·7	36·7	34·1	34·1

It is thus seen that though the Birth-rate of Birmingham has sunk to an unprecedentedly low level it is still above the average rate of the twenty-eight largest English towns, and not very materially below any of the towns with which it is fairly comparable, all of which have experienced a more or less simultaneous large reduction in their Birth-rate.

VACCINATION.

The returns furnished me on this matter, copies of which may be found in Table X., are duplicates of those annually supplied by order of the Local Government Board to that

Vaccination
(continued).

Authority at the close of the year; it has always been found impossible to make the period of the Vaccination returns coincide with those of the ordinary year, as the law does not render it compulsory on parents to account for the Vaccination of their children till at least three months after birth.

Vaccination in
the Parish of
Birmingham.

They indicate that during the twelve months which ended on the 30th of last June the births of 8,836 infants were registered in the Parish of Birmingham, of whom 7,693, or 87.1 per cent. were Vaccinated with success; 898, or 10.2 per cent., died before Vaccination could or need be according to law performed; and 120, or 1.3 per cent., had been removed by their parents from the district without the knowledge of the Vaccination Officer, and could therefore not be traced. The remainder of the children not so accounted for were either not susceptible to Vaccination, had been taken to other districts, the Vaccination Officer of which had been made aware of the fact, or their Vaccination had been postponed on account of ill-health.

In Aston
Parish.

In that part of the parish of Aston within the Borough 5,496 births were recorded by the local Registrar during the same period of time; on 4,526, or 82.4 per cent. of these children, the operation of Vaccination was performed with success. The deaths of 523, or 9.5 per cent., were registered during the year as without vaccination, and 447, or 8.1 per cent., remained unvaccinated at the end of the year, chiefly due to the circumstance that the parents had, by removal from the residences where the children were born, succeeded in evading the officer appointed to see that the Vaccination laws are enforced.

In Edgbaston

The statistics relating to that portion of the Parish of King's Norton within the Borough, comprising the district of Edgbaston, indicate that the Vaccination Officer was apprised by the Registrars of the births of 447 infants; in 407 of these, or the large percentage of 91.1, the Vaccination resulted satisfactorily; 30, or 6.7 per cent. of them died before Vaccination could be carried out, leaving 2.2 per cent. unvaccinated at the end of the period, the Vaccination of the majority of these being unavoidably deferred by the production of a medical certificate to the effect that the state of their health demanded its postponement.

The due enforcement of Vaccination in this district, during the year covered by these returns, has been entrusted to a newly-appointed Vaccination Officer, and to his credit it may be said that the statistics now present a most gratifying and instructive feature for this portion of the Borough, namely, that while the percentage of children who remained unvaccinated when the results for the year were submitted to the Local Government Board was in 1880 9.2, in 1881 10.5, and in 1882 6.6, last year it fell to only 2.2.

The statement appended sets forth a comparison of the percentages of children successfully Vaccinated, and of those not Vaccinated for various reasons in those portions of the Borough controlled by separate Vaccination authorities during the past four years :—

PARISH.	Year.	Vaccinated.	Died before Vaccination.	Removed from District and not found.	Unfit, insusceptible, or otherwise.	Table of comparison of Vaccination.
Birmingham	1880	86.2	9.7	3.0	1.1	
	1881	87.3	9.6	1.7	1.4	
	1882	88.9	9.2	1.0	0.9	
	1883	87.1	10.2	1.3	1.4	
Aston (Borough portion)	1880	81.3	9.3	6.4	3.0	
	1881	83.2	10.3	5.5	1.0	
	1882	81.8	9.3	6.4	2.5	
	1883	82.4	9.5	5.2	2.9	
Edgbaston	1880	82.6	8.2	1.8	7.4	
	1881	81.3	8.2	3.2	7.3	
	1882	86.1	7.3	3.6	3.0	
	1883	91.1	6.7	0.9	1.3	

A cursory review of the above figures—for the statistics from which they are deduced I am severally indebted to Mr. Bowen, Clerk to the Birmingham Guardians, and to Messrs. Stephens and Johnson, Vaccination Officers for the Parishes of Aston and King's Norton respectively—brings to light the fact that the numbers of those who escape the vigilance of the Vaccination Officers in portions of two adjoining Unions—Aston and King's Norton—present a remarkable contrast, for while in Edgbaston the percentage of children who live to the age of three months and remain unvaccinated is only 2.2, in Aston so many as 8.1 per cent., or nearly four times the number, evade the Vaccination Officer's efforts.

The figures for that part of the Aston Parish within the Borough present, however, one satisfactory aspect—it is that the percentage of non-vaccinated children is not so high as in the previous year, when it was 8.9.

It is much to be desired that the improvement initiated during the period embraced by the last return should go on increasing.

DEATHS.

Deaths.

The Deaths of 8,714 persons were registered during 1883, against 8,425 in 1882, and 8,845, the average number in the ten years 1873-1882. The Death-rate has unfortunately suffered a further slight increase upon the very low rates of the last three years, but the rise this year over its predecessor is again but fractional, amounting in the aggregate to only 0.39, or under $\frac{2}{5}$ ths of one per 1,000 of the population per annum, 0.27 of which lies at the door of the epidemic of Small-pox, leaving only the extremely small excess of 0.12 to be otherwise accounted for. The Death-rate for the year under consideration was 21.01, as compared with rates of 23.9, 25.2, 21.8, 20.5, 19.7, and 20.6 respectively during the six years commencing with 1877; and 23.7, the average Death-rate of the eighteen years immediately preceding. It is also a matter for notice and congratulation that the mortality not only keeps relatively lower, but even the actual number of Deaths recorded last year, with a larger population, was also lower than the average number during the previous decade.

Death-rate.

Saving of Life.

It is, therefore, again my pleasurable duty to place on record that the year recently ended, like each of the four preceding, is one of a series which claim, compared with their immediate predecessors, a large saving of life. In this instance, though the saving is less than that of the two preceding years, it is still substantial, and adds yet another monument to the great worth of, and the beneficial results which accrue from, the vigorous prosecution of sanitary measures. It should be borne in mind, however, that the recent cool summers and mild winters have exerted a highly favourable influence on the Public Health, and caused the improvement recorded in the health of the Borough in recent years to be greater than it otherwise would have been. It would therefore be unwise and impolitic to assume that quite the whole of this great gain of human life is the result of better health conditions and of superior sanitary supervision, though there can be no doubt that very much of it is so due. If, however, only a fractional part of this good result, with the lessened amount of sickness which it involves, and the untold benefit to the community which the enjoyment of better health brings in its train, and of which our records bear no witness, were all that could be claimed as the outcome of improved hygienic arrangements, then the end attained by the town—the better health and longer life of its citizens—more than justifies the expenditure and labour necessary for its fulfilment.

If the mortality and the population of the years 1865 and 1883 had been the same, the actual number of deaths in the latter year would not have been 8,714, but 10,162, or 1,148 more than were actually registered.

The mortality last year was at such a rate that of 47·6 Deaths persons living, one died during that period; in the previous year only one out of 48·5 persons died. The shortened expectation of life, which last year's figures disclose, is more than accounted for by the greater fatality during 1883 than in 1882, of both Small-pox and Scarlet Fever. Deaths
(continued).

On the issue of the Registrar-General's Report, it may be observed that the Death-rates there published do not quite correspond with the figures set forth in these pages. The discrepancy which always exists between the two sets of figures is the result of a method of allotting the mortality different from the one I have no option but to continue to use. The Registrar-General credits the Borough with all Deaths of Paupers who happen to die in Workhouses outside its area, but who rightly belong to it, because until poverty compelled them to become in-door paupers, or often until they are seized with their fatal illness, they were dwellers in the town. This course is clearly the proper one to take if (but on no other account it seems to me) it were possible to debit on the other hand the proper localities with the deaths of those who, residing without our boundaries, find it necessary to seek relief in the numerous medical and surgical Institutions in which Birmingham, like most large towns, abounds, and in these chance to succumb. Till this desirable mode of procedure shall become possible of achievement, I shall not feel justified in pursuing a course which has the effect of swelling the mortality bills of this town with the Deaths of all persons it is fairly possible to credit it with, but makes no allowance for quite contrary conditions. Not only does the Registrar-General's plan not tend to the attainment of more correct figures, but those obtained by this means must inevitably be more inaccurate than those obtained without any regard to the facts he allows for, as the error he is anxious to obviate is compensated for by the source of error already mentioned of a totally opposite character,—the one, in fact, doubtless very largely if not entirely, nullifying the other. While, therefore, I am aware that it would be a decided gain in point of accuracy, if it were practicable, to base all calculations on the Deaths of all its inhabitants who die either within or without the Borough, and on these only, instead of on those whose Deaths happen to occur within its confines, it can be of no possible benefit to make the health of the community appear worse than it is. Discrepancy
between
Registrar-
General's and
own figures.

The Deaths in the Institutions in the Borough made up last year a total of 1,369, and gave an annual Death-rate of 3·3 per 1,000 persons living. If, however, the Deaths in the Workhouse at Birmingham Heath be excluded, the rate was 1·7. Mortality in
Institutions.

In the following Table may be found the population, number of persons per acre, the total numbers of births and

Deaths (continued). deaths, and the Birth and Death-rates for each year since 1865 inclusive :—

Year.	Population Estimated in the middle of each year.	Density. Persons per acre.	Births.	Deaths.	Annual Rate per 1,000 living.	
					Births.	Deaths.
1865	(The Estimate of Population in these years is not to be relied on.)	—	12,699	8,014	38·9	24·5
1866		—	12,877	8,042	38·5	24·0
1867		—	13,029	8,318	38·0	25·6
1868		—	12,992	8,548	36·3	25·9
1869		—	12,779	7,737	35·5	23·1
1870		—	12,922	7,805	35·0	23·0
1871	344,980	41·1	13,443	8,594	39·0	24·9
1872	350,164	41·7	14,123	8,048	40·5	23·1
1873	355,540	42·4	14,497	8,990	40·8	24·8
1874	360,892	43·0	14,888	9,665	41·2	26·8
1875	366,325	43·6	14,862	9,668	40·6	26·3
1876	371,839	44·3	15,816	8,330	42·5	22·4
1877	377,436	44·9	16,001	9,038	42·4	23·9
1878	383,117	45·6	15,964	9,662	41·7	25·2
1879	388,884	46·3	15,846	8,650	40·0	21·8
1880	394,738	47·0	15,111	8,088	38·3	20·5
1881	402,296	47·9	14,869	7,938	37·0	19·7
1882	408,532	48·6	14,866	8,425	36·4	20·6
1883	414,846	49·4	14,701	8,714	35·4	21·0

Comparative Death-Rate of Birmingham and large towns.

The Statement below affords a comparison of our Death-rate with that of other towns similarly circumstanced during the year last ended and the preceding ten years :—

Average of 20 large English Towns.	London	L'pool.	BIRM.	Manch.	Leeds	Sheff'ld	Salford	N'castle	Norw'h	Bristol
1883... 21·7...	20·4	26·6	21·0	27·6	23·2	22·9	22·3	25·4	19·6	17·8
1882... 22·6...	21·4	26·5	20·6	26·8	23·2	21·7	23·2	23·1	20·6	19·2
1881... 21·7...	21·2	26·7	19·7	25·5	21·6	21·1	22·6	21·8	19·5	19·6
1880... 22·6...	22·2	27·3	20·5	25·4	21·0	21·1	25·9	22·0	24·7	20·1
1879... 23·2...	23·3	27·1	21·8	26·9	22·6	21·3	24·9	23·6	22·0	21·1
1878... 24·4...	23·5	29·4	25·2	27·9	23·8	25·0	25·6	23·8	24·6	21·4
1877... 22·8...	21·9	26·5	23·9	27·4	22·3	21·9	25·1	22·4	21·0	21·8
1876... 23·6...	22·3	27·6	22·4	29·2	25·1	24·3	31·9	22·8	21·9	22·6
1875... 25·4...	23·7	27·5	26·3	29·9	26·4	24·8	31·5	26·1	24·5	26·8
1874... 25·4...	22·5	32·0	26·8	30·4	28·7	26·9	29·6	29·2	23·5	22·7
1873... 24·4...	22·5	25·9	24·8	30·1	27·6	25·8	29·3	30·1	21·5	23·1

It is noticeable that our Death-rate is still below the average rate of the twenty large English towns, and under that of those large towns with which it is at all reasonably comparable, except London and Bristol. The low point which the Bristol Death-rate has reached, after an interrupted fall since 1875, must be a source of great satisfaction both to its citizens and its rulers, and may be regarded as a desirable object of emulation by the Sanitary Authorities of all towns similarly circumstanced. The immense reduction observable

in the Death-rate of Salford, when compared with the high Death-rate for which it formerly had an unenviable distinction, also speaks volumes for the large saving of life to be effected by the removal of influences grossly injurious to health. Deaths
(continued).

The total number of deaths in each sex, and the rate of mortality for each quarter of the year, together with the totals for each of the four preceding years, are as under :—

	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total. 1883.	Total. 1882.	Total. 1881.	Total. 1880.	Total. 1879.
Total	2,443	2,129	2,098	2,044	8,714	8,425	7,938	8,088	8,650
Males	1,283	1,079	1,095	1,079	4,536	4,337	4,049	4,230	4,500
Females ...	1,160	1,050	1,003	965	4,178	4,088	3,889	3,858	4,150
Death-rate..	23·57	20·53	20·23	19·71	21·01	20·62	19·73	20·49	21·82

A glance at the Death-rate for each quarter of the year is sufficient to reveal the fact that the rate of mortality decreased quarter by quarter from the first to the last. Viewed as a whole, it was rather excessive in the first half of the year, but considerably below the average in the last half. A little consideration of the main causes of this variation will, I think, not be without interest. They will be found to be chiefly of a meteorological character, and therefore to a large extent beyond the reach of public sanitation.

January and February were uninterruptedly mild, and the beneficial effect of this was observable in the very low Death-rate which distinguished those two winter months. They were followed, however, by a bitterly cold March, with a long unbroken spell of piercingly harsh, strong northerly and easterly winds; and the results of the change were soon visible in a rapidly augmenting mortality rate, it rising by one bound in the last week of this month from 23·1 to 33·7, the highest point touched during the year. During the greater part of April and the first half of May the temperature continued low, but not excessively so, and certainly not sufficiently so to very seriously affect of itself the Death-rate; but still the mortality from many of the Local diseases, especially from Bronchitis and affections of the Lungs, continued unusually high. There can be no doubt that the great fatality of diseases of the chest during April, and to some extent even during May, was occasioned by the intensely cold and exceptionally trying weather experienced during March. With the advent of June the Death-rate fell to below 20 per 1,000, and from that time to the close of the year this weekly Death-rate was only exceeded on thirteen occasions. During the whole of this period of six months the climatic conditions were of a particularly favourable kind from a health point of view, a cool summer and early autumn, not conducive to the production of bowel diseases, being followed by remarkably mild weather during very nearly the whole of the last three months of the year, in which the lowest temperature observed at my house was only 26° F.; and the occurrence of a foggy atmosphere, so inimical to health, was a rarity.

Deaths
(continued).

If the epidemics of Small-pox and Scarlatina had not furnished so large a quota of victims during this period, the beneficial effects of these benign atmospheric conditions would naturally have been still more manifest.

Distribution of
deaths among
Registration
Sub-Districts.

The number of the Registration Sub-Districts has of late undergone no further diminution, but one other amalgamation, as the Registrarship of another District becomes vacant, is understood to be contemplated by the present Registrar-General. The Deaths have been thus distributed among the eight Sub-Districts during the last four years:—

	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total Deaths 1883	Total Deaths 1882	Total Deaths 1881	Total Deaths 1880	Death Rate 1883
Ladywood ...	288	237	264	215	1,004	971	907	892	19.1
St. Thomas ...	259	206	182	181	828	818	783	809	21.6
St. Martin ...	224	182	185	221	812	863	761	870	19.7
St. George ...	435	403	352	358	1,548	1,567	1,525	1,453	23.9
All Saints' ...	503	415	393	371	1,682	1,501	1,436	1,359	31.9
Deritend ...	377	341	336	354	1,408	1,365	1,312	1,443	16.8
Duddeston ...	285	293	330	278	1,186	1,100	988	1,024	20.8
Edgbaston ...	72	52	56	66	246	240	226	238	10.3

On comparing the figures for 1882 and 1883, it will be noticed that the Deaths have been larger in number during the year under review than in the preceding year, in every Registration Sub-District except two, those in which the contrary condition is observable being the Sub-Districts of St. Martin and St. George; the somewhat considerably augmented mortality ascribed to the All Saints' Registration Sub-Division is accounted for by the location in it of the Borough Hospital, where an unusually large number of infectious cases have been treated, with a consequently greater actual mortality than usual.

Causes of
Death-Rates
appearing too
high in certain
Sub-Districts.

I have appended to the Table a statement of the Death-rate of each of these Sub-Districts, deduced from the number of Deaths happening in them, and their gross estimated population, but, for purposes of comparison one with another, these figures possess little significance, as certain Districts are made to appear to have a very much higher Death-rate than is really the case, owing to the presence in them of Institutions for the treatment of the sick from all parts of the Borough and the outlying districts. It is manifestly only fair, therefore, when comparing their Death-rates with those of Districts not so circumstanced, to make such allowance for this fact, as will render the comparison as nearly just as the means at my command will permit. If I possessed such information as would enable me to distribute the deaths in these Institutions among the localities the patients resided in before coming there, I should, of course, be able to debit any particular portion of the Town with its share of the mortality in these Institutions, and thus the Death-rate of any District would be obtainable with much

greater accuracy than is now attainable. As, however, I have hitherto found it impossible to procure this information, I have no alternative, when endeavouring to obtain the Death-rate of these Registration Sub-Districts, but to avail myself of the only means afforded me to make the figures more comparable, and these are, to eliminate from each Sub-District all deaths in Institutions within the District; it is thus brought about that the Death-rate of the Registration Sub-District of Ladywood, which is made to appear with the inclusion of the mortality in the Children's Hospital as being 19·1, is, by the exclusion of the deaths in that Institution reduced to 18·1. Similarly, the rates for the Sub-Districts of St. Thomas and St. George would, by the elimination of the deaths in the Queen's and General Hospitals, stand respectively at 17·4 and 19·9, instead of at 21·6 and 23·9, as set down in the above statement. The most remarkable fall in the Death-rate, however, is by this mode of treatment always apparent in the Sub-District of All Saints', which includes within its boundaries not only the Small-pox and Fever wards of the Borough Hospital, and the Gaol—in which, however, a death is quite an uncommon occurrence, only one being registered in the twelve months under review—but also the Lunatic Asylum and the Workhouse. In both of these, but particularly the latter, there is unfortunately always a large but necessarily fluctuating number of people, among whom the mortality is, as might be expected when we bear in mind the class of inmates, abnormally high. The subtraction of the deaths in these Institutions from the total mortality of this Sub-District, usually has the effect of bringing down the Death-rate to about one-half of that which it would otherwise appear to be, and such is the case in the present instance, as, by disregarding the fatal cases of sickness in the Institutions I have mentioned, the Death-rate in this Registration Sub-District is found to fall from 31·9 to 14·9.

Deaths
(continued).

I may remark, however, that such a method of procedure as that just adopted, though the best one attainable so long as it is impossible to obtain the desirable information I have previously alluded to, unfortunately produces by no means altogether satisfactory results, as it must be apparent to anyone on a little consideration, that, at the taking of the Census, a certain number of persons occupy these Institutions, and that they are set down as residents at large in the Sub-Districts in which Institutions of this nature happen to be placed. In the case of the Workhouse the number of such inmates is by no means an inconsiderable one, it being found at the time of the last Census in 1881, that there were 2,427 inmates in that Institution, 751 at the Lunatic Asylum, and 595 at the Gaol, all of which are situated in the All Saints' Sub-District. Consequently, if we are ever to state the Death-rate of such Districts with absolute accuracy, we must not only

Deaths
(continued).

know how many of the deaths registered in certain Sub-Districts actually occurred in persons not usually resident in these Districts, we must also be in a position to say what proportion of the population, which we are compelled to use as the basis of calculation, actually consisted of persons, who, when the Census was taken, were occupants of any Institution in the District, but not belonging to the latter.

At present, therefore, the corrections I make for each Sub-District containing any of the Institutions I have named are somewhat one-sided, as, while I subtract from the mortality returns of these Sub-Districts the deaths in the Institutions they contain, I can make no provision for the fact that the Census figures give the total number of people living in the District, and therefore include all those residing at the time in any Institution that may be situated within it. Except, however, in the case of the Registration Sub-District of All Saints', the error cannot be a material one, and is scarcely worthy of special regard; as, however, the gross population of the Gaol, Lunatic Asylum, and Workhouse must always bear a considerable proportion to the total population of the All Saints' Sub-District, it must necessarily happen that the very greatly reduced Death-rate, produced by discarding the mortality in the Institutions named, must be, under the plan I have adopted, in this instance more apparent than real.

Distribution of
Deaths among
the Wards.

In the annexed statement may be found the number of deaths in each Ward of the Borough during each quarter, together with the totals for the whole year, and the three preceding years:—

	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total 1883	Total 1882	Total 1881	Total 1880
Rotton Park (W., B.H.) ...	373	338	313	291	1,315	1,093	1,043	952
All Saints' (L.) ...	186	125	129	121	561	587	614	602
Ladywood (H.) ...	149	128	142	120	539	506	486	459
St. Paul ...	104	89	94	70	357	367	360	339
St. George... ..	164	152	142	127	585	541	484	443
St. Stephen ...	89	85	75	81	330	418	401	396
St. Mary (H.) ...	202	189	164	184	739	684	633	654
St. Bartholomew ...	154	133	129	180	596	608	519	570
Market Hall ...	83	54	50	56	243	280	308	314
St. Thomas (H.) ...	174	144	138	134	590	571	529	564
St. Martin... ..	111	82	90	78	361	401	357	451
Edgbaston ...	93	78	66	76	313	298	291	285
Deritend ...	147	124	133	147	551	515	470	547
Bordesley ...	164	154	143	132	593	604	590	649
Duddeston ...	114	128	131	126	499	442	387	415
Nechells ...	136	126	159	121	542	510	466	448

Ward
population.

I possess no accurate knowledge of the population of each Ward, and in consequence, the above table is practically of very little value, for without the possession of such facts

it is impossible to state the Death-rate of each Ward, and to thus be in a position to compare their respective conditions of health, as judged by the mortality at all ages and from all diseases. Owing to the larger mortality than last year in the Borough Hospital, the deaths in Rotton Park Ward, in which this Institution is situated are considerably more numerous than in 1882; the number of deaths in Saint Stephen's Ward is, however, much smaller than in the preceding year.

Ward
Population
(continued).

The following table enumerates the deaths at stated periods of life for each quarter of last year, and the totals for that and the two preceding years:—

Distribution of
Deaths among
the ætal periods

	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total 1883	Total 1882	Total 1881	Total 1880
Under 1 year of age ...	568	525	704	541	2,338	2,452	2,212	2,601
Between 1 and 5 years ...	404	355	365	356	1,480	1,527	1,429	1,442
" 5 " 20 " ...	190	160	176	162	688	596	495	488
" 20 " 40 " ...	315	291	266	243	1,115	1,028	978	925
" 40 " 60 " ...	438	339	285	327	1,389	1,363	1,319	1,235
At 60 years and upwards ...	528	459	302	415	1,704	1,459	1,506	1,397

A comparison of the totals for the last two years shows that the deaths exhibit a diminution under five years of age, but an augmentation at all the ætal periods above this. The smaller number of deaths among children under five years of age is the result of the lessened mortality during the year from Diarrhœa and Whooping Cough, both of which are always most fatal during the tender years of life; the reduction in the Death-rate at this period would have been much greater even than is actually the case, if the deaths from Scarlatina and from Atrophy at these ages had not been larger in number than usual. The increased number of deaths registered between the ages of five and forty is mainly owing to the epidemic of Small-pox, a malady which invariably finds the greatest number of subjects of attack, and in consequence, of victims, among those who, having reached puberty, have from lapse of time, to a large extent lost the protective and modifying effects of vaccination. At this period of life there is also visible an increased mortality from many of the local diseases, particularly from Bronchitis and Pneumonia, but this feature is decidedly more pronounced among those who had attained to sixty years of age, for the deaths among old people manifest a striking increase, due entirely to the excessive Death-rate from these pulmonary diseases and from decay of nature. This noticeable characteristic in the age distribution of the deaths is more than amply accounted for by the unusually heavy mortality among the aged during the Spring months, as a result of the cutting winds, with low temperature, then encountered.

Average age at
Death.

The average age at death during each quarter of this and the previous year is as follows:—

	1883.				1882.			
First Quarter ...	29	years	and	8 months.	25	years	and	10 months.
Second „ ...	34	„	„	1 „	32	„	„	4 „
Third „ ...	22	„	„	2 „	21	„	„	4 „
Fourth „ ...	27	„	„	1 „	26	„	„	8 „
Whole Year ...	28	„	„	3 „	26	„	„	5 „

It is remarkable that the average Death-age for each quarter of 1883 was higher than in the corresponding quarters of the previous year, and in the first and second quarters considerably so.

This latter result was undoubtedly brought about by the excessively cold blasts of March, following also, as they did, upon two unusually mild winters which had undoubtedly spared those, principally old people, who are least able to contend against severe weather, and who therefore fell victims to the first prolonged spell of sharp polar winds. A reference to the age Table on page 17 will confirm this view, for it shows that at 60 years and upwards 528 died in the first quarter of the year, an increase of 37 per cent. on the mortality of the corresponding quarter of the previous year. The weather of the month of March was exceptionally severe, and is, indeed, the most noticeable feature, in a sanitary sense, of the weather of the whole year. The greater average length of life reached by those who succumbed during the summer quarter of the year, receives its explanation from the fact that, owing to the general coolness of the summer season, the number of little ones who were fatally attacked by the Diarrhœal diseases peculiar to the warmest portion of the year was less than usual.

INFANT MORTALITY.

Infant
Mortality.

The number of deaths under one year of age was 2,338, equal to a rate of 15·9 per cent. of the Registered Births, and based on my estimated population under one year of age, equivalent to a rate of mortality of 182·1 per 1,000 infants living at that age. The rate of Infant mortality under one year for the whole of England and Wales was last year only 13·7 per cent. of the Births registered.

As will be seen, however, by the subjoined tables, the proportionate mortality among Infants under one year of age, whether measured by the number of deaths at this period of life on the deaths at all ages, or on the number of Births registered, compares favourably with that in the year 1882. If the Birth-rate had not continued to fall, the smaller proportion of those who failed to survive beyond the end of the first year of life would, of course, have been still more noticeable, but, on the other hand, it should be borne in mind that this

test of relation of children dying under one year of age to children born, is a particularly telling one, as the number of Infants dying in their first year is, *cæteris paribus*, certain to be largely governed by the number born. The absence of severe Autumnal Diarrhœa has doubtless been the greatest factor in the production of this lessened rate of Infant mortality, and being largely aided by a more than usually high Death-rate among old people, the reduction in the proportion of deaths under one year of age to the deaths at all ages, appears more pronounced than it otherwise would have been, and sinks, in fact, to a lower figure than has ever previously been reached during the time embraced by my records.

Infant
Mortality
(continued).

The percentage of deaths under one year to Births registered in the chief English large towns, during the past ten years has been as under:—

Percentage of
Infant Deaths
on Births.

Average of 20 large English Towns.											
English Towns.	London.	L'pool.	BIRM.	Manch.	Leeds.	Sheff'ld.	Salford.	N'castle.	Norw'h.	Bristol.	
1883...	15.9...	14.6	18.6	15.9	17.7	16.7	16.3	17.1	16.7	15.1	13.4
1882...	16.1...	15.1	17.8	16.5	17.9	18.0	16.5	17.8	16.6	16.9	14.2
1881...	15.2...	14.8	17.3	15.0	16.1	16.7	15.5	16.3	15.3	14.7	12.5
1880...	17.0...	15.8	19.1	17.2	18.0	17.4	16.5	20.0	17.1	21.6	14.6
1879...	15.1...	14.8	16.3	15.0	16.5	16.1	15.3	17.0	14.5	15.9	14.5
1878...	17.2...	16.4	19.3	17.0	17.5	18.8	17.6	18.5	16.1	21.1	16.0
1877...	15.4...	14.6	18.8	16.4	16.1	16.5	16.1	16.1	15.1	15.4	15.4
1876...	16.7...	15.7	20.8	16.0	18.0	18.1	16.9	18.9	16.7	17.8	15.3
1875...	17.6...	16.2	21.0	19.6	18.4	19.7	17.6	17.8	18.7	21.0	16.6
1874...	17.5...	15.6	23.3	17.8	19.7	19.9	18.8	18.9	19.8	17.8	15.3

In the subjoined table is given the percentages of deaths of Infants under one year to the total deaths at all ages in the principal large English towns during the year 1883, and its nine predecessors:—

Percentage of
Infant Deaths
on total Deaths

Average of 20 large English Towns.											
English Towns.	London.	L'pool.	BIRM.	Manch.	Leeds.	Sheff'ld.	Salford.	N'castle.	Norw'h.	Bristol.	
1883...	25.6...	24.2	24.5	26.8	23.0	24.8	26.1	27.2	24.1	26.1	24.0
1882...	25.6...	24.3	24.5	29.1	24.6	27.8	28.4	24.0	26.9	27.7	24.4
1881...	24.9...	24.1	24.4	27.7	23.3	28.5	27.9	27.9	25.8	25.5	22.0
1880...	26.8...	25.7	26.7	32.1	24.0	29.4	27.5	29.3	28.0	30.0	24.0
1879...	23.9...	23.2	23.3	27.5	22.4	26.3	25.6	27.3	22.6	24.7	24.7
1878...	26.5...	25.2	25.5	28.6	24.0	31.0	26.5	30.5	25.8	28.7	26.4
1877...	25.5...	24.1	27.5	29.1	22.6	29.7	25.5	27.1	26.6	24.7	25.4
1876...	26.9...	25.7	29.6	30.5	24.5	29.9	28.6	29.2	30.4	27.0	25.5
1875...	26.2 ..	24.4	29.4	30.6	24.3	30.1	29.2	26.7	29.1	28.0	22.6
1874...	26.4...	24.9	28.2	27.8	25.4	28.8	29.2	28.2	27.5	24.0	24.5

It is by no means an unsatisfactory feature that the number of children who die before attaining one year of age is not in excess of the average of the twenty largest English towns.

Deaths under
5 years.

The deaths of children under 5 years of age numbered 3,818, against 3,979, in 1882; the percentage or total deaths is 43·8 as compared with 47·2 last year.

Death-rates at
certain ætal
periods.

In order to acquire a more thorough knowledge of the changes constantly in progress in the Death-rate, and to be better able to form a judgment as to the probable causes of those changes, I have long felt it to be eminently desirable, that, in addition to knowing the actual numbers of deaths at certain ages,—knowledge of itself of a valueless kind—we should also be in possession of such facts as should enable us to say what are the actual *Death-rates* at the same periods of life. With the hope of attaining this object, I endeavoured at the time of the taking of the last Census to obtain this information, but was unable to do so; the publication of the necessary data by the Census Department a short time back, affords me at last the long wished for opportunity, and henceforth it will be possible to give a more or less accurate idea of the rates of mortality at certain ætal periods, as well as the Death-rate at all ages, which latter, important as it may be, and undoubtedly is, is nevertheless surpassed in value by the information which it is my privilege for the first time to publish.

The importance of securing this information is considerably enhanced if we bear in mind that Death-rates, like all other figures, can convey no possible information if they are not comparable with those of previous years and those of large masses of population, particularly such as are to be found in large towns similarly circumstanced. If, however, this desideratum is ever to be fully attained, it is absolutely necessary that the Health Authorities of all large communities, at least, should fully recognise the inestimable worth of a knowledge of the Death-rates at the various periods of life, because it is well known that the sex and age distribution in different towns from numerous causes widely varies. As, however, the best general test of comparison we yet have is that of the English Life Table Rates, I have placed side by side with the Death-rates at certain ages in Birmingham the corresponding rates of the English Life Table. I have also given on next page the estimates of population, and the number of deaths, upon which my calculations are based.

TABLE SHOWING POPULATION AND NUMBER OF DEATHS OF PERSONS, MALES AND FEMALES, AT ALL AGES, AND AT FIVE GROUPS OF AGES DURING THE YEAR 1883:—

Death-rates at certain aetal periods
(continued)

	PERSONS.		MALES.		FEMALES.	
	Estimated Population, 1883.	Deaths, 1883.	Estimated Population, 1883.	Deaths, 1883.	Estimated Population, 1883.	Deaths, 1883.
All ages.....	414,846	8,714	201,152	4,541	213,694	4,173
Under 5 years ...	60,549	3,818	30,162	2,071	30,387	1,747
5 to 20 „ ...	137,263	688	67,824	318	69,439	370
20 to 40 „ ...	127,821	1,115	61,164	553	66,657	562
40 to 60 „ ...	67,035	1,389	32,133	778	34,902	611
60 and upwards..	22,178	1,704	9,869	821	12,309	883

TABLE SHOWING RATE OF MORTALITY PER 1,000 PERSONS—MALES AND FEMALES—LIVING DURING 1883, AT ALL AGES, AND AT FIVE GROUPS OF AGES, COMPARED WITH THE ENGLISH LIFE TABLE RATES:—

	PERSONS.		MALES.		FEMALES.	
	Birmingham.	English Life Table.	Birmingham.	English Life Table.	Birmingham.	English Life Table.
All ages.....	21.1	21.5	22.5	22.4	19.5	20.7
Under 5 years ...	63.5	65.7	68.6	70.1	57.5	61.3
5 to 20 „ ..	5.0	7.1	4.7	7.0	5.3	7.2
20 to 40 „ ...	8.8	10.3	9.0	10.1	8.4	10.5
40 to 60 „ ..	20.7	18.3	24.2	19.4	17.5	17.2
60 and upwards..	76.8	71.7	83.2	73.9	71.7	69.7

A careful review of the figures in the Second Table brings to light some remarkable and hitherto—so far as Birmingham is concerned—partially unknown facts with regard to the distribution of mortality, both as to sex and age. The first thing that will probably strike even a casual observer of the statistics is the great disproportion in the rates of mortality in the two sexes, the Death-rate among females at all ages

Death-rates at
certain ætal
periods
(continued).

being no less than three per 1,000 less than that among males. This difference in the rates of the sexes is common to the whole of the country, and is found to exist at all the ages of life except at those between 5 and 40 years, this exception being probably the result of the addition to the Female Death-rate of those Deaths due to the accidents of childbirth. But though the duration of English Male life generally is not so long as that of Females, still the greater difference in the expectation of life among females than males is more decided in Birmingham than in the whole of England. The circumstance that Birmingham is a manufacturing town employing a vast amount of machinery, with consequently a considerable number of fatal accidents, inevitably tends to a greater mortality among men, who are, practically speaking, the only sufferers from this cause. The figures clearly prove, however, that this fact is of very little significance, and that very nearly the whole of this excess of Deaths in male persons occurs at two periods of life, under 5 years and above 40 years of age, the Death-rate of persons between 5 and 20 years of age being actually greatest among females. It is also worthy of notice that for the whole country, as well as for Birmingham, the figures exhibit a decided excess of mortality among male children over that of females. It would thus appear that the remark frequently made that boys are more difficult to rear than girls is founded upon fact.

It is most highly satisfactory to find that, though the Death-rate among Males in Birmingham was last year fractionally (0.1) higher than that given in the English Life Table, that for Females was 1.2 per 1,000 lower; and that for Persons, or both sexes combined, it was 0.4 below the rate for the whole country, as given in the Life Tables. The rates for Birmingham indicate a smaller mortality than has been observed on an average in the whole of England, in each sex up to 40 years of age. At the ætal periods above this the mortality, particularly among Males, was greater than that of the whole country at these ages. It happens, however, that owing to a lower rate of infant mortality than usual, in consequence of the comparatively low Diarrhoeal mortality, the Death-rate in children under 5 years of age comes out, in comparison with that found to exist on an average in the whole country, much more favourably than it does in all the years, except one, of the last decade.

The Death-rate in people over 40 years of age, on the other hand, compares unfavourably. The higher Death-rate noticeable in old people is, doubtless, owing to the great number of that class who succumbed during the bitterly cold spell of weather of last March.

In the statement below will be found particulars respecting Infant Mortality, and the deaths and death-rates from all causes, as well as from the seven principal Zymotic diseases at all ages and at certain ages during 1883, and the previous ten years:—

ANALYSIS OF THE MORTALITY IN THE BOROUGH OF BIRMINGHAM, IN EACH OF THE ELEVEN YEARS, 1873 TO 1883.

YEAR.	Deaths of Infants under 1 year.	Proportion of Deaths under 1 year 1,000 Births.	DEATHS.				Annual Rate per 1,000 living.			
			AT ALL AGES.		FROM ALL CAUSES.		AT ALL AGES.		FROM ALL CAUSES.	
			From all Causes.	From Seven Zymotic Diseases.	Of Children under 5 years.	Of Persons over 60 years.	From all Causes.	From Seven Zymotic Diseases.	Of Children under 5 years.	Of Persons over 60 years.
1873	2627	181	8990	2042	4424	1512	24·8	5·6	12·4	4·3
1874	2688	178	9665	2652	4589	1459	26·8	7·3	12·7	4·4
1875	2957	196	9668	2145	4785	1590	26·3	5·9	13·0	4·3
1876	2537	160	8330	1336	3881	1441	22·4	3·6	10·4	3·9
1877	2628	164	9038	1576	4460	1521	23·9	4·2	11·8	4·0
1878	2766	170	9662	2421	5128	1506	25·2	6·3	13·4	4·0
1879	2385	150	8650	1254	4095	1686	21·8	3·2	10·5	4·3
1880	2601	172	8088	1324	4043	1397	20·5	3·4	10·2	3·5
1881	2212	150	7938	1128	3741	1506	19·7	2·8	9·3	3·7
1882	2452	165	8425	1412	3979	1459	20·6	3·4	9·8	3·7
Average 1873 to 1882	2585	169	8845	1729	4312	1508	23·2	4·6	11·3	4·0
1883	2338	159	8714	1306	3818	1704	21·0	3·1	9·2	4·1

Details of the mortality are given in Table A on pages 35—37.

SPECIFIED CAUSES OF DEATH.

The Registrar-General having adopted a fresh nosological arrangement of the Causes of Death, I have determined, with a view to assist in insuring as far as possible an uniform classification, upon following on the lines he has laid down; and in consequence of this new departure, the List of Diseases and their grouping in Table A will be found to be considerably extended and modified. The old grouping of diseases into five classes, which did not include ill-defined causes of Death, has been discarded for the following plan:—

Specified causes of Death.

Specified causes
of Death
(continued).

Class I. now comprises all the Specific Febrile, or Zymotic Diseases, and has six sub-classes, termed respectively (1) Miasmatic, (2) Diarrhœal, (3) Malarial, (4) Zoogenous, (5) Venereal, (6) Septic. In Classes II. and III. are embraced Parasitic and Dietic diseases respectively, both having previously been classified in Class I. of the old nomenclature under the vague term "Other Zymotic Diseases." The Constitutional Class of Diseases which formerly stood second in order now occupies, in consequence of the introduction of these two new classes, the position of Class IV. ; while the two great classes for Deaths from Local and Developmental Diseases, which have hitherto been called Classes III. and IV., have now their relative positions reversed, and are termed respectively VI. and V. The class for Deaths from Violence is, by the introduction of separate orders for diseases caused by Parasites, or by insufficient nourishment, now numbered VII. instead of V. ; while all Deaths which cannot strictly be placed in any of the above groups are relegated to Class VIII.

It is a question of interest to know how the Deaths are distributed among these classes, and I therefore give the number of Deaths in each class, and the ratio that these bear to the total mortality.

During the year the Deaths were thus distributed among the eight primary classes of disease :—

Class I.—Zymotic Diseases	1,405, or 16·1 per cent. of total mortality.		
Class II.—Parasitic	17, or 0·2	"	"
Class III.—Dietic	27, or 0·3	"	"
Class IV.—Constitutional	1,192, or 13·7	"	"
Class V.—Developmental	627, or 7·2	"	"
Class VI.—Local	4,272, or 49·0	"	"
Class VII.—Violent Deaths	352, or 4·0	"	"
Class VIII.—Deaths from ill-defined and not specified causes	822, or 9·5	"	"

CLASS I.—ZYMOTIC DISEASES.

Zymotic
Diseases.

Croup, Quinsy, Rheumatism, Carbuncle, Delirium Tremens, and Chronic Alcoholism, Starvation, and other Dietic Diseases, Parasitic Affections, and a few other Causes of Death, are no longer put down in this class, to which they certainly do not appear rightly to belong ; while the Deaths from Ague, Remittent Fever, Pyæmia and Septicæmia, Erysipelas, and a few others, will be separately specified in it. Diarrhœa, Dysentery, and English Cholera, are placed in a sub-class by themselves. The Deaths in this class, as now constituted, numbered last year 1,405, the ratio of mortality being 3·4 per 1,000 of the population.

THE DEATHS FROM THE SEVEN PRINCIPAL ZYMOTICS,

Seven principal
Zymotics.

viz. :—Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever and Diarrhœa, have numbered 1,306, against 1,412 in 1882 ; 1,128 in 1881 ; and 1,729 the average number

during the ten years, 1873—1882. They are equivalent to an annual rate of mortality of 3·1 per 1,000 of the population, a rate lower than that of any year except one I possess records of, the one exception being the year 1881, when the mortality from these seven chief catching diseases was equal to a rate per 1,000 persons living of only 2·8. In the previous ten years of my tenure of office the rates from these seven diseases has been as follows in succession from 1873:—5·6, 7·3, 5·9, 3·6, 4·2, 6·3, 3·2, 3·4, 2·8 and 3·4.

Zymotic
Death-rate.

The table below gives a comparison of the Zymotic death-rate of Birmingham with that of the principal large towns during the past ten years:—

Zymotic death-
rates of large
towns.

Average of 20 large English Towns.	London.	L'pool.	BIRM.	Manch.	Leeds.	Sheffld.	Salford	N'castle	Norw'h	Bristol
1883 ... 2·6 ... 2·8	4·5	3·1	3·6	4·0	4·0	3·3	4·3	1·0	1·2	
1882 ... 3·9 ... 3·4	4·4	3·4	3·7	3·4	2·8	3·8	3·3	2·4	2·3	
1881 ... 3·4 ... 3·6	4·5	2·8	2·3	2·9	2·7	2·9	2·6	1·7	2·3	
1880 ... 4·0 ... 3·7	5·1	3·4	4·2	3·3	4·4	6·8	3·2	5·8	3·1	
1879 ... 3·2 ... 3·3	6·0	3·2	3·4	3·3	3·5	4·0	3·9	2·2	2·1	
1878 ... 4·4 ... 4·1	6·1	6·3	4·0	4·5	5·6	5·1	4·6	3·6	2·1	
1877 ... 3·5 ... 3·5	4·7	4·2	4·2	2·8	3·3	4·8	2·5	2·9	3·4	
1876 ... 4·1 ... 3·6	6·1	3·6	5·2	4·5	4·8	8·5	2·5	2·9	3·8	
1875 ... 4·4 ... 3·9	4·5	5·9	4·6	4·6	4·8	7·2	3·6	4·3	4·9	
1874 ... 4·5 ... 3·3	8·4	7·3	5·5	6·3	6·0	6·5	5·5	2·0	2·1	

The percentage of Zymotic deaths on total deaths in the same principal English towns during the last ten years, has been as follows:—

Percentage
of Zymotic
deaths on total
deaths.

Average of 20 large English Towns.		London.	L'pool.	BIRM.	Manch.	Leeds.	Sheffld.	Salford.	N'castle.	Norw'h.	Bristol
1883 ...	12·0 ...	13·4	16·8	14·9	12·9	17·0	17·3	14·9	17·0	5·1	6·9
1882 ...	16·1 ...	16·3	16·6	16·5	14·0	15·1	11·5	16·8	14·4	12·0	12·3
1881 ...	15·5 ...	17·0	16·8	14·2	9·1	13·6	13·0	12·9	12·1	8·7	11·7
1880 ...	17·7 ...	16·8	18·6	16·4	16·4	15·7	21·0	26·2	14·4	23·7	15·4
1879 ...	13·8 ...	14·3	21·2	14·5	12·8	14·6	16·5	16·1	16·5	10·0	10·1
1878 ...	18·2 ...	17·6	21·9	25·1	14·3	19·0	23·6	19·9	12·2	14·5	10·0
1877 ...	15·4 ...	16·0	17·8	17·4	15·4	12·6	15·1	19·1	10·3	13·8	15·7
1876 ...	17·3 ...	16·1	22·1	16·0	17·8	17·8	19·6	26·6	11·0	13·2	17·1
1875 ...	17·5 ...	16·5	16·4	22·2	15·5	17·4	19·4	22·9	13·8	17·6	18·5
1874 ...	18·0 ...	14·9	25·2	27·4	19·7	22·0	22·3	22·0	18·0	9·0	9·5

DIARRHŒA

has proved itself, as last year, the most fatal of these diseases, 412 deaths, including three ascribed to diarrhœa of a choleraic type, being recorded under this head, against 512 in the previous year. It has for many years been the practice, on the authority of the Registrar-General, in assigning the mortality from this disorder, to set down not only the deaths of those persons whose decease is stated to be primarily the result of

Diarrhœa.

Diarrhœa
(continued).

diarrhœa, but also those where diarrhœa is coupled with, though supervening on, and therefore occupying on the medical certificate of death a secondary place to atrophy, debility, convulsions, teething, old age, senile decay, or other such ill-defined cause of death, and this plan continues to be adopted for the purpose of more accurate and satisfactory classification. For many years past I have almost invariably had occasion to remark that the Sub-District of St. George, the one which embraces on the whole a more densely-populated portion than any other, has suffered the most heavily from this Herodian malady. The same undesirable pre-eminence is still possessed by this district, for it again occupies the unenviable position of sharing with the Registration Sub-District of St. Martin the greatest amount of mortality in proportion to population from diarrhœal diseases.

At different
ages.

Of the deaths put down to this cause the great majority were, as in former years, in infants under one year of age, the deaths at which period of life numbered last year no fewer than 289, or 70·1 per cent. of the total number at all ages; while as 19·9 per cent. occurred in children between one and five years of age, it follows that no less than 90·0 per cent. of those who were fatally attacked by this disorder were children under five years of age. This incidence of the disease is not at all peculiar to Birmingham, but is common throughout the country, for it is always found that Autumnal Diarrhœa finds the lion's share of its victims amongst those who have least stamina to withstand its ravages, and these are necessarily the very young and the aged, that is, the most feeble.

Causes of
infantile
Diarrhœa.

It may be thought, on observing the figures under this heading in Table A, that the mortality among the latter seems quite infinitesimal compared with that among young children, but it must be borne in mind that the number of people living at an advanced age is very small indeed, compared with that at an early period of life, before the numerous ills which flesh is heir to have exerted their destructive influences. The relative rarity of intestinal disorders among the aged and weakly is therefore not so great as it at first sight appears. There can be no doubt, however, that we have yet another important factor in the causation of this excessive amount of mortality from diarrhœa at the early periods of life, one which I have again and again alluded to in previous reports, viz., parental neglect. There are doubtless additional or contributory causes which it is to be hoped may, as a result of the enquiries and observations earnestly pursued by Dr. Ballard on behalf of the Local Government Board, be discovered; one of which is evidently, from previous experience, a high temperature; but it is quite clear, from observation and from the experience of other towns, that this great sacrifice of life on its very threshold is largely the result, not only of the ignorance of the vast majority of the mothers as to the proper mode of feeding and rearing their children, but also of their deliberate, though often compulsory, neglect of their offspring. In Birmingham, as in

many other manufacturing towns, it is notorious that large numbers of mothers leave their homes in a morning, in most cases for factory work, and their children in the care of elder members of the household, not unfrequently little older than those they are left to guard and attend to. Such a conclusion is to some extent borne out by the fact that Leicester, in which there is a large employment of female labour in factories, has been in the past the greatest sufferer from Autumnal Diarrhoea.

Causes of
infantile
Diarrhoea
(continued).

The past summer and autumn were cool, and doubtless, partly as a result of this, the mortality from the great autumnal scourge of infantile life, was decidedly below the average, standing only during the third or warmest quarter of the year at the comparatively low level of 2.6 per 1,000 persons living, against a rate of 3.8 in the summer quarter of the previous year, and 4.4 the average rate in the corresponding periods of the preceding ten years.

Death-rate in
the Summer
Quarter.

It will be noticed that in the Registrar-General's new grouping of diseases, which I have this year adopted, deaths of a diarrhoeal character are allotted a sub-class to themselves, and considering their importance, and the mystery hitherto surrounding the production of this class of disease, this step is a move in the right direction.

SCARLET FEVER.

The hopes expressed in my Annual Report for 1882 that we had passed the crest of the present epidemic wave, have not been realised during the past year, the deaths from this cause amounting to 326, against 256 in 1882. In the third quarter of the year Scarlatina was extremely prevalent and fatal in the Registration Sub-District of Duddeston. This district comprises the whole of Duddeston and Nechells Wards, and small portions of both Saint Stephen's and Saint Mary's Wards, but the mortality was confined almost entirely to the two first named wards, and was particularly excessive in that of Duddeston. Towards the end of the year this Zymotic, having probably attacked the great bulk of those susceptible to its influence in this part of the town, had little pabulum left to sustain it, and it quickly spent its virulence in this locality, not, however, before it had extended with less apparent severity to Smallheath and other neighbouring portions of the adjoining Registration Sub-District of Deritend, which had, up to this time, been particularly free from its presence.

Scarlet Fever.

The distribution of the Deaths over the Borough is indicated on a Map, which will be found appended to this Report.

WHOOPING COUGH

has been considerably less fatal than in any year since 1873, the deaths from this cause numbering 176, against 319 last year, 340 the average of the last two years, and 314 the average of the ten years 1873—1882, both inclusive. It is thus seen that, taking into account the growth of the population, the mortality from this contagious disease of children was last year

Whooping
Cough.

Whooping
Cough
(continued).

only about half the average amount of the two preceding years, during the whole of which this malady had been very prevalent in nearly every portion of the Borough. During the year under notice, this infectious disease has happily claimed a continually decreasing number of victims, and at its close I had the satisfaction of remarking in my Report for the fourth quarter that the number of deaths during that period had been only 17, and was lower than that in any previous quarter as far back as my records extend.

MEASLES

Measles.

has occasioned 155 deaths as compared with 150 deaths in the previous year and 126, the average number in the ten years 1872—1881. The Registration Sub-District of Deritend appears, judging from the mortality, to have suffered more severely than other parts of the Borough from this disease.

It is a matter for congratulation to be able to report that the rise in the

FEVER

Fever.

Death-rate, following in 1882 upon the continuous decline since my first year of office, 1873, which I had occasion to remark upon in my last Annual Report, has not been continued, but, on the other hand, there has been a slight decline. In the year under review, the three forms of fever classed under this head have conjointly been certified as the cause of death of 81 persons; one death was put down to Typhus, 73 were described as being due to Typhoid, while the remaining seven were classed under the heading of Simple Continued Fever, this properly including any simple or ill-defined form of fever not really of a typhoidal nature. As a case of actually true typhus has never yet been verified in Birmingham, according to my experience, it follows almost without saying that the death certified under that designation was improperly or carelessly diagnosed; while I have every reason to believe that, as in former years, a large proportion of those diseases described as typhoid were not true cases of that malignant disease, but were often simply low forms of a non-specific kind of Fever which should have been classed as "Simple Continued."

The following statement gives the Fever Death-rate in Birmingham and in the twenty largest English towns for each year since 1870:—

		Per 1,000 per annum.			
		Birmingham.		20 large Towns.	
1870	63	...	90
1871	53	...	78
1872	54	...	60
1873	57	...	59
1874	56	...	58
1875	56	...	52
1876	40	...	45
1877	38	...	42
1878	38	...	42
1879	22	...	29
1880	21	...	30
1881	16	...	31
1882	21	...	36
1883	20	...	33

The rate of mortality per 1,000 of the inhabitants, as seen by the statement above, has fallen to 0·20 per thousand, and though higher than that observed two years ago, it is lower than in any of the other years, and shows an immense reduction on the rate of 1870. It is still very appreciably below the average rate of the twenty large English towns.

DIPHTHERIA

has been set down as the cause of death in 46 instances, against 49 in 1882, 57 in 1881, and 66 the average of the ten years previous to the one under notice. It is exceedingly gratifying to be in a position to record that the appreciable reduction in the Death-rate observed of recent years from this highly preventable disease continues uninterruptedly to progress, and to such an extent as to have brought about the happy result, that whilst Birmingham once stood in an extremely unfavourable position in this respect, having an average mortality from Diphtheria greater than that of any of the large towns, it now compares very favourably with the average Death-rate from this cause in the twenty large towns, which for some years has risen, and now stands at 0·17 per 1,000 persons living, as compared with a rate of only 0·11 in Birmingham.

The statement below gives a comparison of the rate in Birmingham with that in the 20 large towns during the last eleven years:—

DEATH-RATE FROM DIPHTHERIA PER 1,000 OF THE POPULATION.

Birmingham.										
1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883
·31	·21	·16	·16	·14	·22	·18	·13	·14	·12	·11
Twenty large Towns.										
·09	·16	·12	·09	·09	·13	·13	·12	·15	·17	·17

SMALL-POX

has been very prevalent during the year, but especially during the third quarter. In the second quarter it was very prevalent in the Wards of Duddeston and Nechells; it appeared to extend, however, from this District during the third quarter to the more northerly side of the town, particularly to All Saints' Ward. No fewer than 1,202 cases and 110 deaths from this disease have been recorded during the year. Last year the numbers of cases and deaths were respectively 89 and 17.

Out of the 1,090 persons treated in the Borough Hospital, 939 were found to have one or more vaccination marks, while 151 were unvaccinated. The deaths among the vaccinated number 40, and give a mortality of only 4·3 per cent., while those in the unvaccinated were 49, showing that 32·4 per cent. of the total of such cases succumbed to the disease. The mortality amongst the unvaccinated is thus seen to have been nearly eight times greater than among the vaccinated. The

Ratio of Small-pox Mortality.

ratio of mortality among the inmates of the Hospital has been very low, only 8·2 per cent.; in 1874 16·8 per cent. of the cases reported proved fatal, the proportions of fatal cases in the vaccinated and unvaccinated being respectively 12·9 and 47·7. The lower rates of mortality in both those protected and those unprotected by vaccination observed during the present epidemic, when compared with the figures recorded in the year 1874, when the last epidemic was at its height, is clear proof of the great value of more thorough vaccination and of better sanitary conditions.

Twenty large towns compared

DEATHS AND DEATH-RATE FROM SMALL-POX PER 100,000 OF THE POPULATION IN 20 LARGE ENGLISH TOWNS.

Town.	Population.	Deaths from Small-Pox in the year 1883.	Rate per 100,000.			
			1883.	1882.	1881.	1880.
London ...	3,955,814	134	3·4	11·1	61·9	13·0
Brighton ...	111,262	0	0·0	3·6	8·3	0·0
Portsmouth...	131,478	1	0·8	0·0	0·0	0·0
Norwich ...	89,612	0	0·0	0·0	1·1	0·0
Plymouth ...	74,977	0	0·0	0·0	2·6	0·0
Bristol ...	212,779	0	0·0	0·0	0·0	0·9
Wolverhampton ...	77,557	7	9·0	5·2	0·0	0·0
Birmingham ...	414,846	110	26·5	4·2	0·7	0·5
Leicester ...	129,483	0	0·0	0·0	0·0	0·0
Nottingham...	199,349	2	1·0	25·7	1·1	0·0
Liverpool ...	566,753	26	4·6	1·1	6·1	0·4
Manchester ...	339,252	1	0·3	4·7	0·9	0·5
Salford ...	190,465	0	0·0	3·3	4·0	0·0
Oldham ...	119,071	2	1·7	4·3	8·0	0·0
Bradford ...	204,807	0	0·0	1·1	1·1	0·5
Leeds ...	321,611	11	3·4	9·8	0·6	0·0
Sheffield ...	295,497	2	0·7	1·4	0·0	0·3
Hull ...	176,296	7	4·0	9·5	2·6	0·0
Sunderland ...	121,117	50	41·3	0·9	0·0	0·0
Newcastle-on-Tyne...	149,464	59	39·5	38·7	6·2	0·0
In 20 Towns ...	7,881,490	412	5·2	8·2	32·4	6·5

Cases and Deaths in the Borough from 1871.

The following statement gives the number of cases and deaths resulting from this disease in the Borough since 1871 :—

DATE.				Cases.	Deaths.
1871.					
November 11th to end of year...				359	43
Total				359	43
1872.				Cases.	Deaths.
1st Quarter					
1st	Quarter	...	...	798	96
2nd	"	..	...	632	92
3rd	"	...	...	355	67
4th	"	...	...	192	44
Total				1,977	299

DATE.				Cases.	Deaths.	Cases and Deaths in the Borough from 1871 (continued).
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
1878.						
1st Quarter	...	...	...	3	0	
2nd "	...	...	...	4	0	
3rd "	...	...	...	10	2	
4th "	...	...	...	10	3	
Total				...	27	5
1879.						
1st Quarter	...	...	...	1	0	
2nd "	...	...	...	0	0	
3rd "	...	...	...	3	0	
4th "	...	...	...	0	0	
Total				...	4	0
1880.						
1st Quarter	...	...	...	2	0	
2nd "	...	...	...	5	1	
3rd "	...	...	...	8	1	
4th "	...	...	...	3	0	
Total				...	18	2

Cases and Deaths in the Borough from 1871 to 1883. (continued).	DATE.			Cases.		Deaths.		
	1881.							
	1st Quarter	..	...	5		5		
	2nd "	..	...	9		1		
	3rd "	..	...	2		0		
	4th "	..	...	0		0		
	Total			16		6		
	1882.							
	1st Quarter	...	...	0		0		
	2nd "	...	...	43		6		
	3rd "	...	...	33		9		
	4th "	...	...	13		2		
	Total			89		17		
	1883.							
	1st Quarter	...	...	48		7		
	2nd "	...	...	152		9		
	3rd "	...	...	567		54		
	4th "	...	...	435		40		
	Total			1,202		110		
	Grand Total			9,162		1,422		

DISEASE MAP.

Disease Map.

Appended to the Report will be found a Map, giving the distribution over the Borough of the deaths from the three diseases—Measles, Scarlet Fever, and Typhoid. A cursory observation of it will show that, as previously, the only portions of the Borough which have been nearly exempt from these diseases have been those where there exists little or no material for them to attack, and this is an area embracing the more central portions of the town, and extending northwards, so as to include the jewellery districts of Saint Paul's Ward, which is chiefly occupied by factories, warehouses, and the like, and Edgbaston, where the children do not congregate together in large numbers, and consequently do not run the same risk of taking infection as their less-favoured brethren and sisters in other parts of the Borough, and where all the conditions of healthy life more fully obtain. The immunity of Edgbaston is rendered still more remarkably apparent by the circumstance that where such diseases as Scarlet Fever and Measles chance to occur, the lives of those attacked are generally preserved by the better attention, good medical treatment, and presence of every comfort which can possibly be procured; whilst those less fortunately circumstanced in other parts of the town, who have the misfortune to be laid low by these dangerous maladies, often succumb to them because they have not the advantage of such solicitous attention and favourable surroundings. Indeed, the medical certificates too often reveal the fact that in innumerable instances the fatal result was not brought about directly by the infectious disease, but by one

or more *sequelæ*—clear evidence in too many cases of want of proper attention, or even of neglect, and, as in the case of Scarlet Fever, frequently produced by too early exposure in the most critical of its stages, the concluding one of the illness, when the skin is peeling, and the body most needs to be guarded from sudden changes of temperature and from cold.

Disease Map
(continued).

II.—PARASITIC, AND III.—DIETIC DISEASES.

These additional classes have, as I have previously remarked, been taken out of the old Class I. The deaths recorded from the diseases in these classes have been few in number, only 44, though there can be no doubt that with regard to Intemperance and Delirium Tremens resulting therefrom, the mortality from these causes directly, as well as indirectly, is always under-stated on account of the reluctance which medical men entertain to state the true cause of death upon their certificates.

Parasitic and
Dietic Diseases.

IV.—CONSTITUTIONAL DISEASES.

This class has received considerable additions and modifications. Among the transferences to it may be mentioned all forms of Rheumatism, Rickets, and Diabetes. It has been credited during the year with the deaths of 1,192 persons, equal to a rate of 2.9 per 1,000 people living. The numbers of Deaths from the individual diseases in this group compare very closely with those recorded in the year 1882.

Constitutional
Diseases.

V.—DEVELOPMENTAL DISEASES.

Teething, Childbirth, and Atrophy, which were formerly included in this class, no longer belong to it.

Developmental
Diseases.

The Deaths of those diseases, now regarded as coming under this head, numbered last year 627, the ratio of mortality being 1.5.

The Deaths from Old Age show a considerable increase on the number in the previous year. Fewer children, however, have been prematurely born.

VI. LOCAL DISEASES.

This large and important class has undergone less alteration than most of the others. The chief changes calling for comment are that sub-classes have been arranged in this class for diseases of the Special Senses, of the Lymphatics, and of other gland-like organs whose use is still unknown, that the new nosology of this class goes into much greater detail than the old, that Croup, Quinsy, and Carbuncle have been transferred to it from the Zymotic Class, and that one disease, Diabetes, which up till now has been set down to Kidney disease, now

Local Diseases.

Local Diseases
(continued)

swells the total of the Constitutional group of diseases. This class is now divided into eleven sub-classes, separately relating to diseases of the nervous, circulatory, respiratory, digestive, lymphatic, urinary, reproductive and integumentary systems, to diseases of the bones and joints, and of certain organs whose exact functions are not clearly understood.

The Deaths in this newly-arranged class numbered last year 4,272, and were equal to a rate of 10·3 per 1,000 of the population. Diseases of the Brain, Heart, and Lungs were all appreciably more fatal than in the previous year; the whole of this excessive mortality from these diseases occurred during the months of March and April, and was probably largely due to the severe weather.

VII. VIOLENT DEATHS.

Violent Deaths.

The Deaths in this class correspond very nearly with the number in the previous year, and amount to 352, the Death-rate being 0·9.

VIII. DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.

Deaths from
Ill-defined and
not Specified
Causes.

Dropsy, Debility, Atrophy, Inanition, Mortification, Tumour, Abscess, Hæmorrhage, cases of Sudden Death, the causes of which are not ascertainable, and other ill-defined or not specified diseases are now included in this class.

CAUSES OF DEATHS AT CERTAIN GROUPS OF AGES OCCURRING IN THE REGISTRATION SUB-DISTRICTS OF THE BOROUGH OF BIRMINGHAM DURING THE YEAR 1883.

1883.	AGES.						REGISTRATION SUB-DISTRICTS.								Borough.
	0-1	1-5	5-20	20-40	40-60	60 and up.	Ladywood.	St. Thomas.	St. Martin.	St. George.	All Saints'.	Deritend.	Duddeston.	Edgbaston.	
ALL CAUSES	2338	1480	688	1115	1389	1704	1004	828	812	1548	1682	1408	1186	246	8714
I.—Specific Febrile, or Zymotic Diseases.															
1.—MIASMATIC DISEASES.															
Small-pox	14	6	28	47	14	1	2	...	...	5	96	1	4	2	110
Measles	30	118	7	...	...	...	8	3	19	34	24	46	21	...	155
Scarlet Fever	21	207	80	9	...	...	32	7	14	34	90	33	115	1	326
Typhus Fever .. .. .	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Whooping Cough	75	93	8	...	...	...	17	18	16	49	16	39	19	2	176
Diphtheria	3	21	21	1	...	...	8	1	1	5	10	13	1	7	46
Simple, Continued, or Ill-defined Fever .. .. .	...	2	3	...	2	...	4	...	...	1	...	1	1	...	7
Enteric or Typhoid Fever .. .. .	...	7	36	23	7	...	6	12	8	15	12	12	7	1	73
Other Miasmatic Diseases	1	2	1	2	1	...	1	...	1	2	...	2	1	...	7
2.—DIARRHOEAL DISEASES.															
Simple Cholera	1	...	1	...	1	...	...	...	...	...	...	2	...	1	3
Diarrhoea, Dysentery	288	82	10	2	8	19	61	33	55	60	48	74	56	2	409
3.—MALARIAL DISEASES.															
Remittent Fever .. .. .	...	...	1	...	...	...	...	...	...	...	...	1	...	...	1
Ague .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.—ZOOGENOUS DISEASES.															
Cowpox and effects of Vaccination .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases (<i>e.g.</i> , Hydrophobia, Glanders, Splenic Fever) .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5.—VENEREAL DISEASES.															
Syphilis	34	4	...	1	2	...	5	2	1	2	15	7	8	1	41
Gonorrhoea, Stricture of Urethra .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6.—SEPTIC DISEASES.															
Erysipelas	14	2	...	10	6	1	4	4	1	7	2	5	7	3	33
Pyæmia, Septicæmia	2	...	1	3	1	...	1	1	1	...	...	1	2	1	7
Puerperal Fever .. .. .	...	...	1	7	2	...	2	2	2	1	1	...	1	1	10
II.—Parasitic Diseases.															
Thrush, and other Vegetable Parasitic Diseases	14	1	...	...	...	...	7	1	1	3	...	2	1	...	15
Worms, Hydatids, and other Animal Parasitic Diseases .. .. .	...	...	1	1	...	...	2	...	...	...	...	...	...	...	2
III.—Dietic Diseases.															
Want of Breast Milk, Starvation	10	...	...	...	...	...	...	...	...	...	8	2	...	...	10
Scurvy .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chronic Alcoholism .. .. .	...	...	...	2	9	1	4	1	2	...	...	2	3	...	12
Delirium Tremens .. .. .	...	...	...	3	2	...	1	1	2	...	...	...	1	...	5
IV.—Constitutional Diseases.															
Rheumatic Fever, Rheumatism of the Heart .. .. .	...	...	4	4	5	...	2	2	1	3	1	2	2	...	13
Rheumatism .. .. .	...	3	11	10	11	7	9	10	5	7	2	7	...	2	42
Gout .. .. .	...	...	...	...	2	4	1	...	2	...	1	...	...	2	6
Rickets	2	19	...	...	...	...	7	2	1	2	3	5	1	...	21
Cancer, Malignant Disease .. .. .	...	1	3	12	115	66	27	34	13	28	38	28	14	15	197
Tabes Mesenterica	41	32	5	...	...	...	4	2	21	24	13	7	6	1	78
Tubercular Meningitis, Hydrocephalus	16	24	3	1	...	...	11	6	2	8	6	7	3	1	44
Phthisis	7	16	92	398	221	29	83	72	54	141	171	139	83	20	763
Other forms of Tuberculosis, Scrofula	4	...	2	2	...	...	1	2	...	4	1	...	...	...	8

CAUSES OF DEATHS AT CERTAIN GROUPS OF AGES OCCURRING IN THE REGISTRATION SUB-DISTRICTS OF THE BOROUGH OF BIRMINGHAM DURING THE YEAR 1883.

1883.	AGES.						REGISTRATION SUB-DISTRICTS.								Borough.
	0-1	1-5	5-20	20-40	40-60	60 and up.	Ladywood.	St. Thomas.	St. Martin.	St. George.	All Saints'.	Deritend.	Duddeston.	Edgbaston.	
IV.—Constitutional Dis.—continued.															
Purpura, Hæmorrhagic Diathesis .....	...	...	1	1	...	...	...	...	...	1	...	1	...	...	2
Anæmia, Chlorosis, Leucocythæmia .....	...	...	2	4	4	1	1	1	...	3	...	2	4	...	11
Glycosuria, Diabetes Mellitus .....	...	...	2	...	2	3	...	2	...	...	3	2	...	...	7
Other Constitutional Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Developmental Diseases.															
Premature Birth	173	...	...	...	...	...	27	17	11	23	16	...	27	9	173
Atelectasis	22	...	...	...	...	...	2	1	4	4	5	3	3	...	22
Congenital Malformations	24	1	1	1	...	...	6	3	4	2	4	2	3	3	27
Old Age .. .. .	...	...	...	...	2	403	36	26	27	45	165	44	44	18	405
VI.—Local Diseases.															
1.—DISEASES OF NERVOUS SYSTEM.															
Inflammation of Brain or Membranes ..	82	63	46	19	24	14	23	24	15	52	39	54	37	4	248
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis ..	2	2	3	36	104	169	30	20	28	51	105	42	25	15	316
Insanity, General Paralysis of the Insane ..	...	...	...	5	3	1	...	...	...	...	9	...	...	...	9
Epilepsy .. .. .	...	3	8	15	4	11	4	3	4	2	17	4	6	1	41
Convulsions	174	66	8	1	4	...	32	18	32	63	17	50	35	6	253
Laryngismus Stridulus (Spasm of Glottis) ..	4	10	1	...	...	...	2	1	2	4	...	3	3	...	15
Disease of Spinal Cord, Paraplegia, Paralysis Agitans ..	...	...	...	5	6	18	...	8	...	9	5	5	...	2	29
Other Diseases of Nervous System ..	21	24	21	14	22	24	13	17	9	16	20	20	19	3	126
2.—DISEASES OF ORGANS OF SPECIAL SENSE.															
(e.g., of Ear, Eye, and Nose).															
3.—DISEASES OF CIRCULATORY SYSTEM.															
Pericarditis .. .. .	...	...	3	17	13	1	6	2	1	12	7	4	1	1	34
Acute Endocarditis .. .. .	...	...	...	8	9	...	1	4	2	2	3	1	4	...	17
Valvular Diseases of Heart .. .. .	...	1	4	18	22	6	12	4	2	9	6	14	1	3	51
Other Diseases of Heart	6	5	46	35	149	160	54	59	28	59	69	69	51	12	401
Aneurism .. .. .	...	...	1	2	4	2	...	...	4	2	...	1	2	...	9
Embolism, Thrombosis .. .. .	...	...	...	3	2	...	1	1	1	2	...	...	...	...	5
Other Diseases of Blood Vessels ..	...	...	...	1	2	...	...	...	1	...	1	1	...	...	3
4.—DISEASES OF RESPIRATORY SYSTEM															
Laryngitis .. .. .	...	8	5	4	5	...	...	8	4	4	...	...	6	...	22
Croup	13	47	18	...	...	1	8	6	4	19	9	19	14	...	79
Emphysema, Asthma .. .. .	...	...	...	...	6	11	4	3	3	2	4	1	...	...	17
Bronchitis	261	217	19	70	245	393	132	128	164	215	208	179	160	19	1205
Pneumonia	69	88	40	47	72	105	46	40	34	89	84	62	56	12	423
Pleurisy	2	4	12	8	2	4	4	1	2	12	...	4	8	1	32
Other Diseases of Respiratory System ..	60	35	6	11	14	7	12	14	7	25	18	29	19	9	133
5.—DISEASES OF DIGESTIVE SYSTEM.															
Dentition	21	24	...	...	...	...	9	4	3	16	2	5	6	...	45
Sore Throat, Quinsy .. .. .	...	4	1	4	...	...	1	...	3	2	...	3	...	...	9
Diseases of Stomach	10	9	4	16	19	16	11	7	2	14	10	9	12	9	74
Enteritis	5	10	2	4	6	4	3	2	5	7	9	4	1	...	31
Obstructive Diseases of Intestines ..	2	4	3	9	6	10	3	4	5	6	4	6	3	3	34
Peritonitis	4	9	4	21	22	10	4	8	5	20	8	14	7	4	70
Ascites .. .. .	...	...	...	2	3	2	1	2	...	1	...	2	1	...	7
Cirrhosis of Liver .. .. .	...	...	...	9	32	18	7	6	10	11	9	6	6	4	59
Jaundice, and other Diseases of Liver ..	13	14	5	10	14	18	13	9	6	7	10	20	8	1	74
Other Diseases of Digestive System ..	6	2	...	1	3	8	2	1	3	5	4	2	2	1	20
6.—DISEASES OF LYMPHATIC SYSTEM															
(e.g., of Lymphatics and Spleen).															
7.—DISEASES OF GLAND-LIKE ORGANS OF UNCERTAIN USE															
(e.g., Bronchocele, Addison's Disease).															
...	...	...	2	3	...	...	1	2	...	1	...	...	1	...	5

CAUSES OF DEATHS AT CERTAIN GROUPS OF AGES OCCURRING IN THE REGISTRATION SUB-DISTRICTS OF THE BOROUGH OF BIRMINGHAM DURING THE YEAR 1883.

1883.	AGES.						REGISTRATION SUB-DISTRICTS.								Borough.
	0-1	1-5	5-20	20-40	40-60	60 and up.	Ladywood.	St. Thomas.	St. Martin.	St. George.	All Saints'.	Deritend.	Duddeston.	Edgbaston.	
Local Diseases—continued.															
8.—DISEASES OF URINARY SYSTEM.															
Nephritis .. .. .	...	1	5	11	15	14	6	4	3	9	7	8	6	3	46
Bright's Disease, Albuminuria	2	5	7	14	29	20	9	12	6	13	12	11	7	7	77
Disease of Bladder or of Prostate .. .. .	...	2	...	7	8	5	2	2	1	4	5	3	5	...	22
Other Diseases of the Urinary System .. .. .	...	2	10	12	13	12	6	8	2	8	10	6	7	2	49
9.—DISEASES OF REPRODUCTIVE SYSTEM.															
(A) Of Organs of Generation.															
Male Organs .. .. .	...	...	...	1	1	...	1	...	...	...	...	...	1	...	2
Female Organs .. .. .	...	1	2	4	6	3	6	3	...	1	...	3	2	1	16
(B) Of Parturition.															
Abortion, Miscarriage .. .. .	...	...	1	9	...	...	...	2	1	3	2	1	1	...	10
Puerperal Convulsions .. .. .	...	...	1	20	1	...	1	3	2	4	6	3	2	1	22
Placenta Prævia, Flooding .. .. .	...	...	...	6	...	...	1	...	...	2	2	1	...	...	6
Other Accidents of Child-birth .. .. .	...	...	1	14	4	...	2	3	5	...	4	3	2	...	19
10.—DISEASES OF BONES AND JOINTS.															
Caries, Necrosis	1	2	2	2	1	...	1	...	2	1	2	...	2	...	8
Arthritis, Ostitis, Periostitis .. .. .	...	3	1	3	...	1	2	1	...	3	...	2	...	...	8
Other Diseases of Bones and Joints	3	10	2	2	3	1	2	2	2	4	1	5	3	2	21
11.—DISEASES OF INTEGUMENTARY SYSTEM.															
Carbuncle, Phlegmon	2	1	2	4	6	6	3	2	2	5	3	1	4	1	21
Other Diseases of Integumentary System	15	9	7	4	6	7	4	3	5	8	12	7	5	4	48
VII.—Deaths from Violence.															
1.—ACCIDENT OR NEGLIGENCE.															
Fractures and Contusions	1	5	9	14	18	29	5	18	3	32	5	7	4	2	76
Gunshot Wounds .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab .. .. .	...	...	1	3	3	1	1	...	1	2	...	4	...	...	8
Burn, Scald	4	28	11	1	2	4	6	4	8	11	5	7	6	3	50
Poison .. .. .	...	...	2	2	...	...	...	...	2	...	1	...	...	1	4
Drowning .. .. .	...	2	14	4	4	...	2	2	3	8	2	6	1	...	24
Suffocation	13	6	...	1	...	1	15	12	14	21	28	22	27	3	142
Otherwise	2	1	1	3	4	...	1	2	...	4	1	3	...	...	11
2.—HOMICIDE.															
Manslaughter .. .. .	...	...	1	2	...	...	...	...	...	1	...	1	1	...	3
Murder	3	1	...	1	...	...	1	...	1	2	...	1	...	...	5
3.—SUICIDE.															
Gunshot Wounds .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab .. .. .	...	...	...	5	5	1	...	1	3	5	...	2	...	...	11
Poison .. .. .	...	...	...	1	1	...	...	...	1	...	1	...	...	...	2
Drowning .. .. .	...	...	1	2	...	...	...	1	...	...	2	...	...	...	3
Hanging .. .. .	...	...	1	4	5	1	...	...	4	1	...	2	3	1	11
Otherwise .. .. .	...	...	...	1	1	...	...	...	...	1	...	1	...	...	2
4.—EXECUTION.															
Hanging .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—Deaths from Ill-Defined and not Specified Causes.															
Dropsy	3	4	7	5	2	14	3	4	3	7	5	7	6	...	35
Debility, Atrophy, Inanition	602	99	4	1	4	5	96	62	84	95	102	115	150	11	715
Mortification .. .. .	...	...	...	1	17	...	...	1	2	1	7	2	5	...	18
Tumour .. .. .	...	...	...	1	3	3	...	1	...	3	1	...	1	1	7
Abscess	5	3	1	4	1	5	4	1	...	3	6	2	3	...	19
Hæmorrhage .. .. .	...	...	...	2	1	...	1	...	1	1	...	...	...	...	3
Sudden Death (cause not ascertained) .. .. .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Causes not Specified or Ill-defined	10	3	2	3	1	6	2	2	...	4	14	1	2	...	25

METEOROLOGY.

Meteorology.
Temperature.

January.
February.

March.

April.
May.
June.
July.

August.

During 1883 the average temperature was $48^{\circ}3$, or only $0^{\circ}1$ above the average of twenty years. In 1882 the mean temperature was $48^{\circ}8$; thus the difference in the mean temperature of the two years only amounted to $0^{\circ}5$. Though the yearly temperature is almost identical with the average, it must not be supposed the temperature of each month was about the average, as exactly the reverse was the case last year, most of the Winter months being above, and the greater part of the Summer months being below the average. It is remarkable how very near the average the temperature of each year comes out. The warmest year since 1860 was 1868, which had a mean temperature of $50^{\circ}3$, or only $2^{\circ}1$ above the average, and the coldest year since 1860 was 1879, with a temperature of $45^{\circ}1$, or $3^{\circ}1$ below the average. The reason that the mean yearly temperatures differ so little is that deviations from the monthly averages have been to a considerable extent adjusted in the same year. We have now had two mild winters in succession. We must not, however, suppose that old-fashioned winters are things of the past, as to find another year so excessively cold as 1879 we have to go back as far as 1816, and the three weeks frost of January, 1881, was the most severe on record. If we take the months of 1883 in order we find that January and February, as in 1882, were very warm months, few frosts and hardly any snow being experienced. But here the similarity of the two years ends, for whilst March in 1882 was as much as $5^{\circ}0$ above the average, being the largest deviation from the average of any month in 1882, this month in 1883 was $5^{\circ}5$ below the mean, which is also the largest deviation from the average during 1883. It was $5^{\circ}0$ colder than January, and $7^{\circ}3$ colder than February, and was by several degrees the coldest month of the winter, the absolute coldest temperature of the whole year being registered in this month, namely, on the 9th, when no less than $14^{\circ}5$ of frost were registered. It seldom happens that March furnishes the coldest month of the winter, as to find another instance of this we have to go back as far as the winter of 1876-1877. In March, 1837, and 1845, the frost was intense, canal traffic being suspended for several weeks. April and May were both colder than the average, though not to any appreciable extent. June and July were both very cold months, the absolute highest temperature recorded in July—the warmest month of the year—being 78° , compared with 76° in 1882, and 88° in 1881. Like the last few years very little hot summer weather was observed. It is now thirteen years since the last hot dry summer occurred, viz., in 1870. The seasons have, during the last few years, been entirely out of order, the winter months being often very dry and warm, and the summer cold, wet, windy, and sunless. August was, however, a very decided improvement on the four preceding months, being exceedingly dry, the fine weather arriving just when the crops were most urgently needing it. All the four remaining months were above the mean, hardly any frosts and only one slight sprinkling of snow were observed. 1883 must

be added to the already large list of recent wet years, though it affords an agreeable contrast with 1882, when 43·59 inches of rain were recorded. The total quantity of rain measured in 1883 was 33·79 inches, or 1·86 inches above the average. Since 1874 the rainfall, with two exceptions, has been above the average every year. Last year, March, April, August, and December, were remarkably dry, whilst January, February, September, and November were wet. The largest daily fall during the year occurred on the 10th of September, when 1·73 inches fell. More rain fell on this day than during the whole of April and August. One of the peculiarities of the last quarter of 1883 was that there was only one slight sprinkling of snow, hardly sufficient to cover the surface of the ground, during the whole of the three months. Thunderstorms were of comparatively rare occurrence during the year, those observed mostly happening in the spring. During a thunderstorm which occurred about 6·30 o'clock in the evening of the 29th of June, hailstones of a remarkable size fell on the north-east side of Birmingham, the majority of them measuring over an inch in length. Fortunately, this abnormal visitation was limited to a very small area—only about a square mile in extent—otherwise the damage would have been enormous. Many disastrous gales were experienced, the most violent of them occurring on January 2nd, March 6th, and December 3rd and 9th. As many as 416 miles of wind passed over in the course of twenty-four hours on March 6th, and 490 miles on December 3rd. Fogs, like snows, were happily conspicuous by their absence, the result of this pleasant immunity being strikingly shown in the statistics of mortality from chest and lung affections during the fourth quarter of 1883.

Meteorology
(continued).

Rainfall.

Thunderstorms.

Hailstorm.

Gales.

MONTHS.	TEMPERATURE.			RAINFALL.			Monthly temperature and rainfall.
	Mean Temperature.	Average for 20 years, 1861-1880 inclusive.	Above or below the average.	Rainfall for Month.	Average for 10 years, 1867-1876 inclusive.	Above or below the average.	
January	40°·1	36°·6	+ 3°·5	4·21	2·92	+ 1·29	
February	42°·4	39°·1	+ 3°·3	3·53	2·26	+ 1·27	
March	35°·1	40°·6	— 5°·5	1·44	2·47	— 1·03	
April	47°·1	47°·2	— 0°·1	0·98	2·01	— 1·03	
May	51°·5	51°·9	— 0°·4	1·38	2·27	— 0·89	
June	57°·0	58°·4	— 1°·4	3·63	2·28	+ 1·35	
July	58°·4	61°·6	— 3°·2	3·95	2·88	+ 1·07	
August	60°·6	60°·5	+ 0°·1	0·64	2·54	— 1·90	
September	55°·8	55°·4	+ 0°·4	6·01	3·67	+ 2·34	
October	49°·2	48°·2	+ 1°·0	2·53	3·33	— 0·80	
November	42°·0	40°·3	+ 1°·7	4·47	2·09	+ 2·38	
December	40°·4	37°·9	+ 2°·5	1·02	3·21	— 2·19	
Year	48°·3	48°·2	+ 0°·1	33·79	31·93	+ 1·86	

A statement, setting forth side by side certain weekly particulars of atmospheric conditions, and detailed numbers of deaths from the seven principal Zymotics, and from diseases of the respiratory organs, all of which are more or less affected by the weather, will be found on the next page.

METEOROLOGY, BIRTHS, DEATHS, AND MORTALITY FROM CERTAIN
PREVALENT DISEASES FOR EACH WEEK OF 1883.

Week.		Temperature of the Air.			Air Pressure.	Deaths at the Ages.			Deaths from													
Number.	Date of Ending.	Highest during week.	Lowest during week.	Mean Temperature.	Extreme Range of Barometric Changes.	Horizontal Movement of Air in Miles.	Mean Humidity, complete Saturation = 100.	Rainfall in inches.	Births.	All Ages.	Under 1 year.	1 to 5 years.	Over 60.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.
1883.																						
1	Jan. 6	54.0	36.5	44.0	.815	1254	94	1.05	346	158	36	32	29	...	2	7	...	8	2	4	15	3
2	" 13	44.5	30.5	36.6	1.203	1256	100	0.23	307	174	47	23	41	...	...	3	1	6	...	1	14	47
3	" 20	49.5	41.5	43.2	1.098	989	95	0.61	300	163	34	23	41	...	3	7	...	8	...	4	14	28
4	" 27	49.0	32.0	38.1	1.461	1409	93	0.99	289	179	54	25	35	...	1	8	2	3	3	4	16	39
5	Feb. 3	53.0	26.0	38.8	1.159	1463	92	1.94	318	195	49	38	48	...	6	9	2	8	1	1	16	52
6	" 10	52.5	35.5	41.7	.663	1143	94	0.77	316	188	48	36	31	...	2	6	...	8	1	4	18	56
7	" 17	50.5	35.5	47.5	1.089	1216	88	1.97	272	184	40	24	35	3	...	5	...	6	4	1	17	36
8	" 24	54.0	33.5	43.8	.858	1375	89	0.18	334	182	38	42	41	...	4	1	1	6	...	...	17	52
9	Mar. 3	57.0	34.0	44.1	.235	1008	86	0.07	332	176	33	21	45	1	1	4	1	4	1	4	17	46
10	" 10	51.0	17.5	34.2	.847	1591	94	0.27	275	188	34	37	38	1	...	7	1	6	3	3	19	44
11	" 17	41.5	25.0	33.2	.541	1061	98	0.56	288	203	45	35	42	2	2	5	1	14	1	...	16	57
12	" 24	43.0	21.5	32.1	.565	1323	95	0.29	295	184	43	29	33	...	3	4	1	9	1	1	15	56
13	" 31	53.5	26.5	37.8	.817	1375	82	0.25	298	269	67	39	69	...	...	10	3	7	2	3	21	67
14	April 7	64.5	30.5	48.7	.560	726	74	0.0	326	192	51	29	51	...	2	2	...	3	1	2	14	63
15	" 14	60.5	30.5	47.1	.690	715	74	0.0	316	185	43	29	43	...	1	4	2	3	2	1	19	64
16	" 21	61.0	36.5	47.5	.860	1081	77	0.30	312	165	47	21	33	...	1	1	2	6	4	1	20	30
17	" 28	58.0	32.5	44.6	.843	1293	81	0.35	285	186	42	31	37	2	1	6	...	3	3	2	21	43
18	May 5	61.0	29.5	45.0	.477	1085	79	0.40	281	168	41	31	31	2	1	8	...	6	1	3	20	45
19	" 12	57.0	34.0	44.1	.408	1269	84	0.83	279	173	41	26	37	1	...	7	1	4	1	2	17	38
20	" 19	70.0	45.0	55.6	.551	891	74	0.11	273	162	38	27	39	...	1	4	2	2	1	3	24	42
21	" 26	74.5	47.0	58.2	.536	697	73	0.34	332	164	47	31	31	2	2	7	1	2	2	1	18	36
22	June 2	68.0	43.0	56.0	.277	800	83	0.03	299	132	27	18	31	...	1	4	...	3	1	4	17	28
23	" 9	70.0	43.0	56.1	.436	807	77	0.05	266	141	30	26	28	...	3	4	3	1	...	2	15	21
24	" 16	72.0	43.5	56.9	.574	728	79	2.11	252	130	29	27	30	...	1	8	1	3	1	2	15	28
25	" 23	60.5	42.5	52.9	.172	850	78	0.30	293	159	44	25	29	...	2	7	...	3	1	3	14	35
26	" 30	77.0	47.5	62.0	.299	752	81	1.17	300	172	45	34	39	2	4	3	1	3	2	5	17	31
27	July 7	78.0	51.5	63.6	.298	600	70	1.45	265	153	45	28	23	3	5	2	...	4	1	11	20	32
28	" 14	74.0	50.5	61.3	.398	807	76	0.17	259	155	43	36	20	...	5	10	1	3	1	14	14	21
29	" 21	61.5	44.5	54.1	.650	771	79	1.45	254	156	41	28	26	3	1	11	2	...	...	14	18	18
30	" 28	63.5	46.5	54.7	.414	811	75	0.66	279	148	48	17	26	2	4	11	1	2	...	10	6	17
31	Aug. 4	69.0	48.0	59.5	.648	500	73	0.22	277	160	54	31	20	1	7	14	...	2	1	10	22	16
32	" 11	71.0	48.5	57.5	.566	906	84	0.36	246	145	35	32	27	2	6	8	1	1	1	22	8	24
33	" 18	77.0	47.0	60.5	.590	903	69	0.25	284	142	50	23	20	3	3	8	1	1	2	24	12	11
34	" 25	76.0	48.0	62.5	.187	352	69	0.00	276	171	57	33	25	6	4	15	1	3	3	22	15	22
35	Sept. 1	77.0	49.0	61.2	.395	595	76	0.15	257	167	64	26	28	2	1	8	...	2	...	29	12	16
36	" 8	62.0	45.0	54.5	.850	1190	82	1.71	271	207	87	23	29	12	1	11	1	1	2	44	9	21
37	" 15	68.5	43.0	56.5	.427	762	88	1.76	259	169	65	30	20	9	2	12	...	...	1	28	14	15
38	" 22	76.0	45.0	58.9	.480	364	92	0.47	268	172	60	29	19	7	3	9	1	4	4	20	17	21
39	" 29	66.0	41.0	55.9	.829	1014	90	1.13	265	153	55	29	19	4	1	12	...	1	...	26	14	22
40	Oct. 6	54.5	37.5	46.2	.772	1548	89	1.27	277	163	48	29	32	6	2	4	1	...	1	15	11	36
41	" 13	60.0	41.5	52.0	.649	485	91	0.06	265	139	37	26	26	2	2	3	...	...	1	13	8	24
42	" 20	60.0	38.0	49.8	.613	1338	88	1.61	261	152	41	15	27	4	...	2	1	...	2	11	12	30
43	" 27	61.5	36.0	49.1	.411	1101	90	0.35	251	123	47	22	22	3	3	2	2	1	2	8	7	26
44	Nov. 3	61.0	37.0	46.6	.687	384	97	0.08	321	134	38	25	22	2	1	10	...	1	2	2	4	24
45	" 10	50.5	35.0	42.9	.631	1005	89	1.47	261	154	39	21	40	1	2	3	...	2	1	4	15	35
46	" 17	46.5	26.0	37.6	.667	667	93	0.47	263	158	39	32	32	3	6	6	...	...	3	7	16	38
47	" 24	48.0	35.5	41.3	.542	1295	89	1.81	287	162	34	32	30	...	6	3	2	1	...	5	10	40
48	Dec. 1	56.0	37.0	45.3	1.401	915	90	0.66	248	184	50	27	42	5	10	6	1	3	1	2	12	45
49	" 8	53.0	27.0	37.4	.817	1667	92	0.13	269	173	50	30	30	4	9	6	1	4	3	1	7	43
50	" 15	54.0	24.0	43.9	.688	1638	82	0.69	277	184	44	39	47	2	12	2	1	1	3	2	13	47
51	" 22	50.0	29.5	40.0	.608	1310	88	0.14	272	181	48	28	37	4	7	3	2	2	4	4	12	47
52	" 29	54.0	32.0	40.3	.348	516	94	0.06	200	137	26	30	28	4	8	3	...	2	3	3	9	34

II.—SANITATION.

i. *Influences affecting or threatening to affect injuriously the Public Health.* A further demolition of old, delapidated, and generally insanitary property has been effected by the alterations necessary for the construction of the line connecting Granville Street and New Street Stations. The removal of such property, and the creation instead of more open spaces, must exert a beneficial influence on the Public Health. It cannot be doubted that much of the old property removed, which was damp, dilapidated, dark and confined, affected the public health injuriously to a considerable extent.

The conversion of the midden privies yet in existence in the town is still in progress; in all cases of disease needing my investigation, if I find such ashpit privies so circumstanced as to be a probable cause of injury to health, I give a notice for their reconstruction. Midden privies

Filthy surfaces in streets and courts are not only very objectionable to the sense of smell and sight, but cannot fail to have a decidedly deleterious influence on the general health of the community, but particularly of those persons who are compelled to breathe the atmosphere of neighbourhoods where the ground is strewn with animal, vegetable, and encremen- Surface filth. titious matters. The majority of the poorer class of people do not, however, realise the danger, although repeated warnings have been published, and the Police have received instructions to do what they can to deter them from the practice. Thirty persons were summoned at different times between April and the end of the year for throwing refuse on the streets, and twelve of those summoned were mulcted in fines and costs, the whole of which amounted to £3 9s. I consider that there is some improvement during the last year in the matter, but there is still room for much more.

The question of the disposal of the mud and filth scraped from the streets is one of considerable difficulty, and much importance as affecting public health, not so much in its immediate effects, as in the action the impure material is likely to exert on the occupants of houses to be built upon these impure foundations at some future time. Such mud containing a large quantity of organic animal and vegetable matter cannot fail to evolve putrefactive gases and vapours, and will continue to do so until the organic matter has undergone complete destruction. These gases will be drawn up into the houses by virtue of their position and higher temperature, unless very expensive and special precautions be taken before building them. I feel justified in pointing out the danger in view of the fact that accumulations of the kind, one of them on a gigantic scale, are being made in different parts of the town at the present time.

A complaint was received in the Summer of the injury to health found to be produced by the condition of the private slaughter houses in Gloucester Street, and I was specially requested by Mr. Alderman Cook, the Chairman of the Health Committee, to inspect and report upon their sanitary condition; the following is a copy of the report which I subsequently made.

Health Department,
The Council House,

Dear Mr. Cook,

July 20th, 1883.

In accordance with your request I have visited the slaughter houses in Gloucester Street, and I beg to hand you my report upon them.

I find that a many sanitary precautions are neglected, and that the Bye-laws for the regulation of slaughter houses are many of them distinctly violated.

The arrangements for disposing of blood and filth are extremely bad, much going into the sewers that should be intercepted; there is no water supply in the slaughter-houses, but it is furnished by a pump outside, and the floors of the slaughter houses are irregular, badly paved and dilapidated, allowing the filth to soak into the ground beneath.

In many cases there are stables in the slaughter houses; besides which there are tubs and cisterns containing the most offensive pig-wash.

Bye-law No. 2 provides that, besides blood, garbage and filth, the manure should be put into "tubs, buckets, or vessels with tight and close-fitting covers thereto," for the purpose of receiving and conveying away all manure, "at least every fourteen days, or oftener if required," whereas there are large pits inside the slaughter houses which are not emptied for more than a month. They are very offensive, particularly on being emptied, and must exert a bad effect on the meat. Such an arrangement is also a violation of Bye-law No. 5, which stipulates that "no occupier of any slaughter house shall build or permit any access or opening to any privy or middenstead from such slaughter house to be made, or if now made to remain."

The slaughter houses are further improperly used as pig styes; it was never intended that pigs should be kept a longer time than is sufficient for fasting, which is probably twenty-four hours, whereas, it was admitted by the man on the premises that the same pigs were kept there in one case seven weeks, and in another three months. Such a practice as this is a gross violation of Bye-law No. 5, which contains a provision to the following effect:—"nor shall any such occupier permit or suffer any pigs or other animals to be kept in such slaughter house except for the purpose of being fasted before killing."

When, in addition to these insanitary and illegal practices, the altogether insufficient space in many instances, and the bad ventilation are taken into consideration, it is impossible to come to any other conclusion than that the buildings, besides being a nuisance to the neighbourhood, are insanitary in a high degree, and totally unfit for the purposes to which they are applied.

I am more than ever convinced, if possible, of the pressing necessity of the establishment of a public abattoir in which every adequate provision would be made for space, light, water supply, ventilation, the proper disposal of blood, garbage, manure and filth, the healthy lairage of animals, the effective supervision of meat, and all such other conditions as a due regard to health requires, and can only be found in a well-constructed public abattoir.

There is said to be some difficulty about the frequent removal of manure, but it would surely be easy to provide the means of such removal, even daily if necessary. In any case the difficulty would be much diminished by abolishing the stables, and by the strict application of the Bye-laws as to the keeping of pigs.

I remain, dear Mr. Cook,

Yours faithfully,

ALFRED HILL, M.D.,

Medical Officer of Health.

The keeping of animals in or near to houses, or in confined situations, particularly in close courts, is another influence seriously affecting the public health, but one which is not sufficiently appreciated, hence it is allowed to continue without any proper effort being made to put a stop to it. It is thought that the practice, because it is not attended with well-marked and immediate ill effects, is harmless, but there cannot be a doubt in the minds of properly informed persons that it is in its aggregate influence very seriously prejudicial to health. It may be accepted that all putrescible filth is hurtful, and the excremental filth of animals cannot therefore be regarded as otherwise.

Improper
keeping of
animals.

The number of manufacturers reported for the emission of dense smoke has been larger than in the previous year, viz:—256, against 173 in 1882. It has also been found necessary to take out a considerable number of summonses, so many as 123, in contrast with 76 in the preceding year. Though the number of reported offences of this nature have increased, the records of the Smoke Inspectors show that the number of gross cases of neglect in firing, that is, where the emission of dense black smoke was allowed to continue for as long as half an hour or so without intermission, has been reduced very considerably.

Smoke

The Consolidation Act provides that the maximum penalty for negligently firing furnaces shall be £5, instead of forty shillings as heretofore.

Of the 8,714 deaths returned to me by the local Registrars last year, 753 were registered on a certificate from the Coroner or his deputy, stating that an enquiry had been held into the cause of death; while 98 deaths were recorded on the information of the nearest relative without any medical certificate or previous investigation by a Coroner's Jury.

CERTIFICATION OF THE CAUSES OF DEATH IN 1883.

Registration Sub-Districts.	Total Deaths.	Certified by		Not Certified.	Proportion per cent. of Deaths.		
		Registered Medical Practitioners.	Coroner.		Certified by		Not Certified.
					Registered Medical Practitioners.	Coroner.	
Borough of Birmingham	8,714	7,863	753	98	90·2	8·7	1·1
Ladywood	1,004	896	90	18	89·2	9·0	1·8
St. Thomas	828	716	103	9	86·5	12·4	1·1
St. Martin	812	720	83	9	88·7	10·2	1·1
St. George	1,548	1,351	184	13	87·3	11·9	0·8
All Saints'	1,682	1,576	90	16	93·7	5·4	0·9
Deritend	1,408	1,290	103	15	91·6	7·3	1·1
Duddeston	1,186	1,085	87	14	91·5	7·3	1·2
Edgbaston	246	229	13	5	93·1	5·3	1·6

Uncertified
Deaths.

The proportion of deaths on which the Coroner considered it necessary to hold an enquiry remains exactly the same as that for the preceding year, while the ratio of uncertified Deaths has, I am pleased to report, diminished from 1.4 in 1882 to 1.1 last year.

Importance
of early
information as
to Infectious
Diseases.

It is remarkable that the smallest percentage of non-certified Deaths is to be found in the Registration Sub-District of Saint George, which includes some of the portions of the town most occupied by the poorer classes, and those, consequently, who can least afford to pay for medical advice. The fact largely receives its explanation, doubtless, in the circumstance that the residents of this district have recourse, when medical aid is required, to the charities of the town, and particularly to the General Hospital, which is situated in its midst.

I have on former occasions offered some remarks on the importance of obtaining early—the earliest possible—information of Infectious diseases. This importance has been rendered very apparent during the last year, but I regret to say that, while some medical men are laudably active in sending in notifications of cases, the majority of them do not assist us at all in this matter. The number of medical men who have at any time during the year so notified to me is about 120, or only two-fifths of the medical profession in the town—a very small proportion—while there is no proof that even these report the whole of their cases; on the contrary, there is good reason to know that some of them do not. The charges for the notifications of Small-pox and Scarlet Fever cases during the year amount to £596.

Notification of
Infectious
Diseases.

In the absence of any powers in the Birmingham Consolidation Act to insist on Notification, it was hoped that Mr. Hastings' Bill for the whole country would have passed last year, but it was blocked through the efforts of two well-known anti-vaccinationists.

As long as the Notification of Infectious Diseases is only partial or voluntary, which comes to the same thing, only very scant advantage in the way of disease prevention can be reasonably expected, and the benefits of Hospital accommodation must be reduced to the minimum, while the expenses of it are as certainly raised to the maximum. These results are evident when it is considered that the advantage of hospital accommodation is to isolate *first* cases of disease, and so prevent its becoming epidemic. An institution sufficient for this purpose might very likely be small and comparatively inexpensive, but in the event of first cases not being isolated the disease spreads rapidly far and wide; and to deal with all cases during the height of an epidemic in a large town like Birmingham, then willing to be treated in hospital, becomes a colossal and enormously expensive undertaking. Experience

clearly proves that such complete and early notifications as are necessary to promote isolation of first cases will never be obtained under the present voluntary system.

Notification of
Infectious
Diseases
(continued).

ii. *The Causes, Origin, and Distribution of Disease.*

Causes, origin,
and distribution
of Disease.

—Owing to the prevalence during the year of both Scarlet Fever and Small-pox, a great deal of time and labour have been devoted to the prosecution of enquiries into the origin and prevention of diseases of an infectious nature, those, which being of a preventable kind, most strongly demand investigation. Whenever information has been sent to this Department of the occurrence of such cases immediate enquiry has been made as to the history of the case, and the condition of the premises on which it has occurred, particularly of the water supply, drainage, and closet construction; and when any defective sanitary arrangements have been found, steps have been taken with the view to their prompt correction. Where Small-pox or Scarlet Fever has been reported, the first action has been directed to prevent, as far as possible, the further spread of the disease by isolating the patient; and this has generally been efficiently secured only by removal to the Borough Hospital, as the majority of small houses do not possess the necessary accommodation. Care has also been taken to secure the disinfection of the house in which infectious disease has occurred, and of the clothing and the persons who may have come in contact with the patient. Cautions have been given to neighbours who needlessly gossip at an infected house, for there is no doubt this habit of visiting is accountable for much mischief. Notices have been sent to the schools and factories, where there have been in attendance members of infected families; and in cases of certain trades, which are specially liable to convey infection, such as milk-selling, pawnbroking, laundry work, mangling, tailoring, and the like. Wherever there has been reason for fearing that infection might be spread by such trades, orders have been given for their immediate suspension, till all danger of infection being scattered broadcast by these means was past, and other precautionary measures have been taken. The prevalence of Small-pox and Scarlet Fever is the result of a continuance and extension of the epidemics of last year.

Schools and
Infectious
Diseases.

Trades and
Infectious
Diseases.

There is good reason for the belief that infectious diseases are spread by the careless management of the funerals of those who have died of infectious diseases, and, with a view to diminish this source of danger, the following Bill was issued, and is being issued :—

NOTICE TO UNDERTAKERS.
INFECTIOUS DISEASES.

Funeral Undertakers are hereby informed that the bodies of persons who have died of Small-pox, Scarlet Fever, Cholera, or other infectious disease, must be conveyed DIRECTLY from the places where they lie to the Cemetery or other burial ground, and on no account be deposited, however temporarily, at any intermediate place.

ALFRED HILL, M.D.,
Medical Officer of Health.

By Order of the Health Committee.
The Council House, September 17, 1883.

Trades and
Infectious
Diseases
(continued).

Another means by which infection may be spread came under notice last year, as is strikingly exemplified by the case of which the following is the report:—William Lloyd, bailiff, 162, Charles Henry Street, was summoned at the instance of Mr. Dale, inspector of nuisances, for removing to Watson's auction rooms, Carr's Lane, for the purpose of sale, certain bedding, clothing, two beds, one pair of palliasses, one pillow, a quantity of loose linen, and one stuffed chair, "which had then lately before been exposed to an infectious disease called scarlet fever." Defendant went to the house of Mrs. Goldingay, 9, Malthouse Lane, Saltley, to execute a distress warrant on the 24th of May, in company with two other bailiffs. Before removing the goods a neighbour named Mrs. Day told the defendant not to remove the bedding because of there having been scarlet fever in the house. No notice was taken of the warning, however, and the goods were conveyed to the auction rooms. Information was given to Mr. Dale, who immediately went to Mr. Watson's rooms, and ordered the goods to be disinfected. Mr. Dale explained that had the goods been removed from the rooms there would have been great danger of scarlet fever being spread, as the articles would have been sold in lots. —A fine of £5 and costs was imposed, amounting altogether to £6 4s., or in default one month's imprisonment.

Advice to the
Sanitary
Authority.

iii. *Advice to the Sanitary Authority on Matters Affecting the Public Health.*—The principal matter of importance on which my advice has been required during the year was the construction of a Hospital for the treatment of Scarlet Fever. Previously both Small-pox and Scarlet Fever had been treated on the same site in the Western Road, which, however, became insufficient as the two epidemics extended; but, besides this insufficiency of space, it was felt to be highly desirable to treat the two diseases in separate hospitals, so as to diminish the risk of the one disease being conveyed to patients suffering from the other.

After negotiations with the Lunatic Asylum Committee, and interviews with the Lunacy Commissioners and the Local Government Board, a piece of surplus land $4\frac{1}{2}$ acres in extent was purchased from the Lunatic Asylums Committee for £4,500. The piece of land is situated between the Lodge Road and the Birmingham and Wolverhampton Canal, at the end of the Asylum grounds.

At the request of your Committee I indicated a number of towns with hospitals which it seemed desirable to visit, with the object of acquiring information respecting the best mode of hospital construction, and after visiting them I made the following report and recommendations.

" HEALTH DEPARTMENT,

" THE COUNCIL HOUSE,

July 14th, 1883.

Report upon
Hospitals for
Infectious
Diseases.

" TO THE HEALTH SUB-COMMITTEE.

" MR. CHAIRMAN AND GENTLEMEN,

" I beg to report that your deputation to inspect and obtain information upon Hospitals for Infectious Diseases, has visited Berkhamstead, Tonbridge, Folkestone, Cheltenham, Salford (Wilton), Manchester (Monsall and Pendlebury), Bradford, and Warrington. The hospitals of the first three places were visited by myself alone, the last five Hospitals in company of Mr. Alderman Cook, Mr. Councillor Downing, and Councillor Dr. Barratt.

" The last five named hospitals represent most nearly the requirements of Birmingham. They are all permanent structures built of brick and stone, except three of the pavilions at the Monsall Hospital, which are of wood. The experience of the Resident Medical Officer, however, is altogether in favour of permanent buildings, which, besides being more durable, comfortable and convenient, are in the end really the cheaper, as they cost only one-third more, while the fittings and the furniture cost the same. Without going into minute detail, I may state what are to be regarded as the principal points in connection with the construction of the Hospital.

" As regards space of ground, at Manchester (Monsall) there are 217 beds on $9\frac{1}{2}$ acres, which is at the rate of 23 beds per acre. At Pendlebury, the site of which is about five acres, there are to be 168 beds, which allows 34 beds per acre; at present there are only 140 beds, which is equal to 28 per acre.

" In contrast with these, the present Borough Hospital has 70 beds per acre, the largest number, I believe, to be found in any Hospital of the kind, whether in regard to the acreage of the site, or the space in the Wards.

" In the proposed Scarlet Fever Hospital, I advise that the number of beds be certainly not allowed to exceed 35 or 40 to the acre. As the site has an area of $4\frac{1}{2}$ acres, the former figure would give a total of 158, the latter a total of 180 beds.

" The Hospital at Pendlebury is the best arranged of all those visited, and there is no better model to be found in England. It is on the one storey or pavilion system.

"The Wards or pavilions are each 99 feet long, 26 broad, and 17 high. They contain 26 beds each. Each bed has 98 feet of floor space and 1,650 cubic feet, or a floor space for each bed 7 feet 7 inches wide by 13 feet long. I am of opinion, however, that these proportions may be somewhat improved upon by increasing the width, and lowering the height of the space allowed, by which not only more superficial, but more cubic space also would be given, say 9 feet by 13, giving a floor space of 117 square feet instead of 98, and 16 feet from floor to ceiling instead of 17 feet, giving a cubic space of 1,872 instead of 1,650 cubic feet per bed.

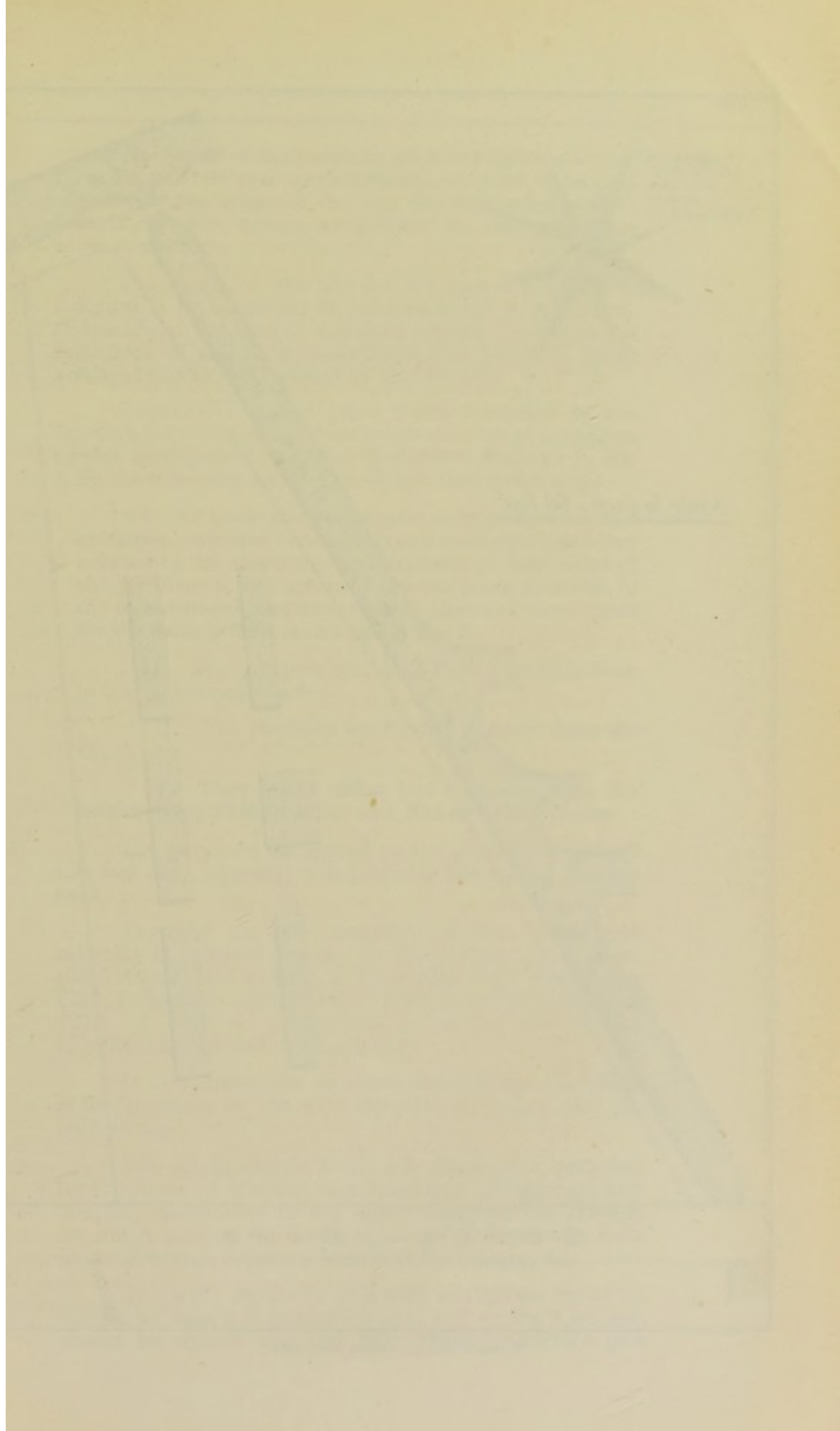
"This arrangement for 24 beds would make each Ward 108 feet long, 26 feet broad, and 16 feet high.

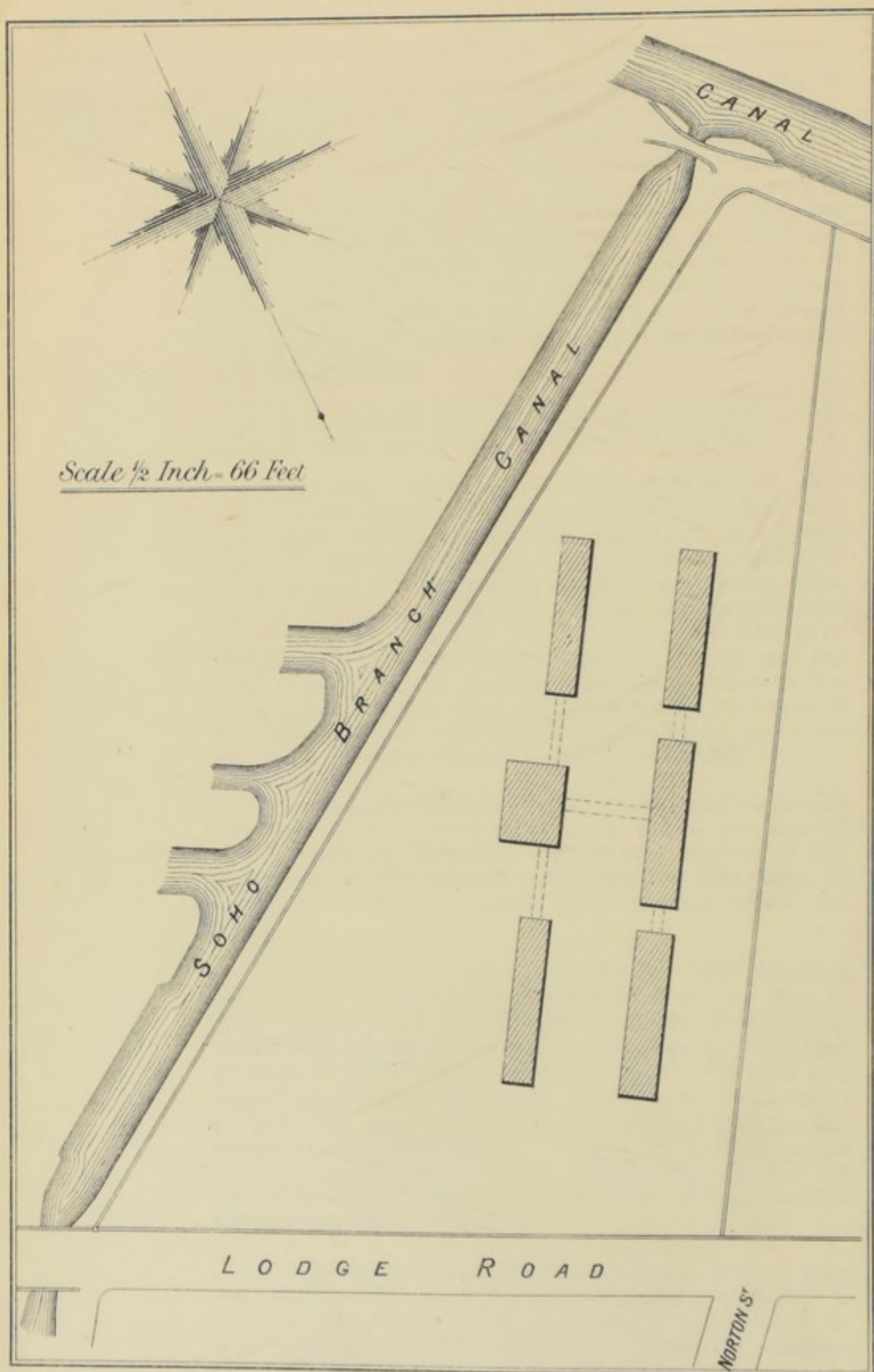
"A window should be placed on each side of each bed, and the window surface should be about half that obtaining at Pendlebury, where it bears a ratio of 1 square foot to 35 cubic feet, whereas, 1 in 70 is amply sufficient. The amount of window surface at Pendlebury is excessive, and has rendered it difficult to maintain a sufficiently high temperature in the Wards in the cold parts of the year. In order to secure this, and to assist in ventilation at the same time, pure air, heated by being propelled over hot water pipes, has been driven into the Wards by means of a fan, at a cost of £800 per annum, a method which, on account of its great expense, is being abandoned.

"For warming, I recommend two stacks with double fire-places in each pavilion, as in the Wards last erected at the Small-pox Hospital, and that, on account of the larger size of the proposed pavilions, the fire-places be supplemented by hot water pipes running round the rooms.

"In order to secure with sufficient light adequate ventilation, I suggest opposite windows on the plan of those at the Small-pox Hospital, namely, double hung sashes with a supplementary flap above, opening inwards; openings in the wall just above the floor under each bed, capable of being closed at will according to the direction of the wind, also openings in the stacks above the fire grates, to admit pure warmed air from without, with other openings in the stacks above, near the ceilings, for the exit of impure and hot air, and ventilating double tubes through the ceiling and roof.

"A further provision for admitting and diffusing pure air, may be made by furnishing each lower sash with a rail of double depth, so that on raising it a few inches, air will be admitted at the meeting rails without the windows being actually opened.





"The aspect of the pavilions, as at Pendlebury, should be south-easterly and north-westerly, in order to be duly exposed to the action of the sun on both sides, and to present as little surface as possible to the north and north-east winds.

Report upon
Hospitals for
Infectious
Diseases
(continued).

"The shape of the site for the new Scarlet Fever Hospital is by no means convenient, being long, narrow, and nearly of the form of a scalene triangle; owing to the exigencies of aspect, it necessitates the pavilions being arranged end to end, instead of side by side.

"Herewith I submit plans kindly furnished by the Borough Surveyor, giving three rough sketches of variations on this arrangement; of these I prefer that shewn in No. 1, for the following reasons (see sketch facing this page):—

"I. It gives the best aspect as regards wind and insolation, exposure to northerly and easterly winds being reduced to the minimum, and exposure of both sides of the pavilions to the action of the sun being obtained to the fullest possible extent, while it allows of more space for the drive or approach than in No. 2.

"II. The prospect would be more agreeable than in No. 3, besides which—

"III. The pavilions are further removed from the canal.

"IV. They would suffer less by noise from the neighbouring Rolling Mills, and Nut and Bolt Works.

"The pavilions are figured on the plans on a scale of 120 feet long, but they will probably not exceed 108 feet each.

"The cost per bed, exclusive of site, varies considerably in different towns; at Cheltenham (when complete) it amounted to £224, at Tonbridge £116, Warrington £234, Folkestone £200, Sheffield £309, and Berkhamstead £270. I have no information as to the cost of the Hospitals at Monsall or Pendlebury.

"It is a matter for consideration whether the whole of the pavilions of the new Hospital, or only a part, be built at once.

"The administrative block will afford accommodation for the Resident Medical Superintendent and Matron, and sleeping apartments in the upper storey for the Nurses, for which purpose the building may be conveniently built in three stories, besides a basement for kitchen, &c.

"The walls should be built with an internal cavity, to economise heat and ensure dryness, and on the ward face should be smooth and free from projections which give

lodgment to dust. Parian cement offers a beautifully smooth surface, but in time it becomes discoloured and unsightly, requiring to be either coloured or painted, so that its additional cost can hardly be justified. Either ordinary plaster or Silicate plaster covered with coloured wash, common paint, or Silicate paint is to be recommended, with or without the use of glazed bricks for the lower portions of the walls.

"The best floors are of oak boards tongued and grooved so as to be close at the joints, and kept polished by rubbing with bees' wax and turpentine.

"Covered ways are best open at the sides, but furnished with a partition running down the middle to afford protection from wind.

"Provision for Isolation Wards, to receive doubtful, violent or special cases, Mortuary, Post-mortem room, Engine room, Laundry, etc., can be made in the various angles of the site.

"The foregoing report is necessarily only of a general character, matters of greater detail will receive future consideration.

"I remain,

"Mr. Chairman and Gentlemen,

"Your obedient Servant,

"ALFRED HILL, M.D.,

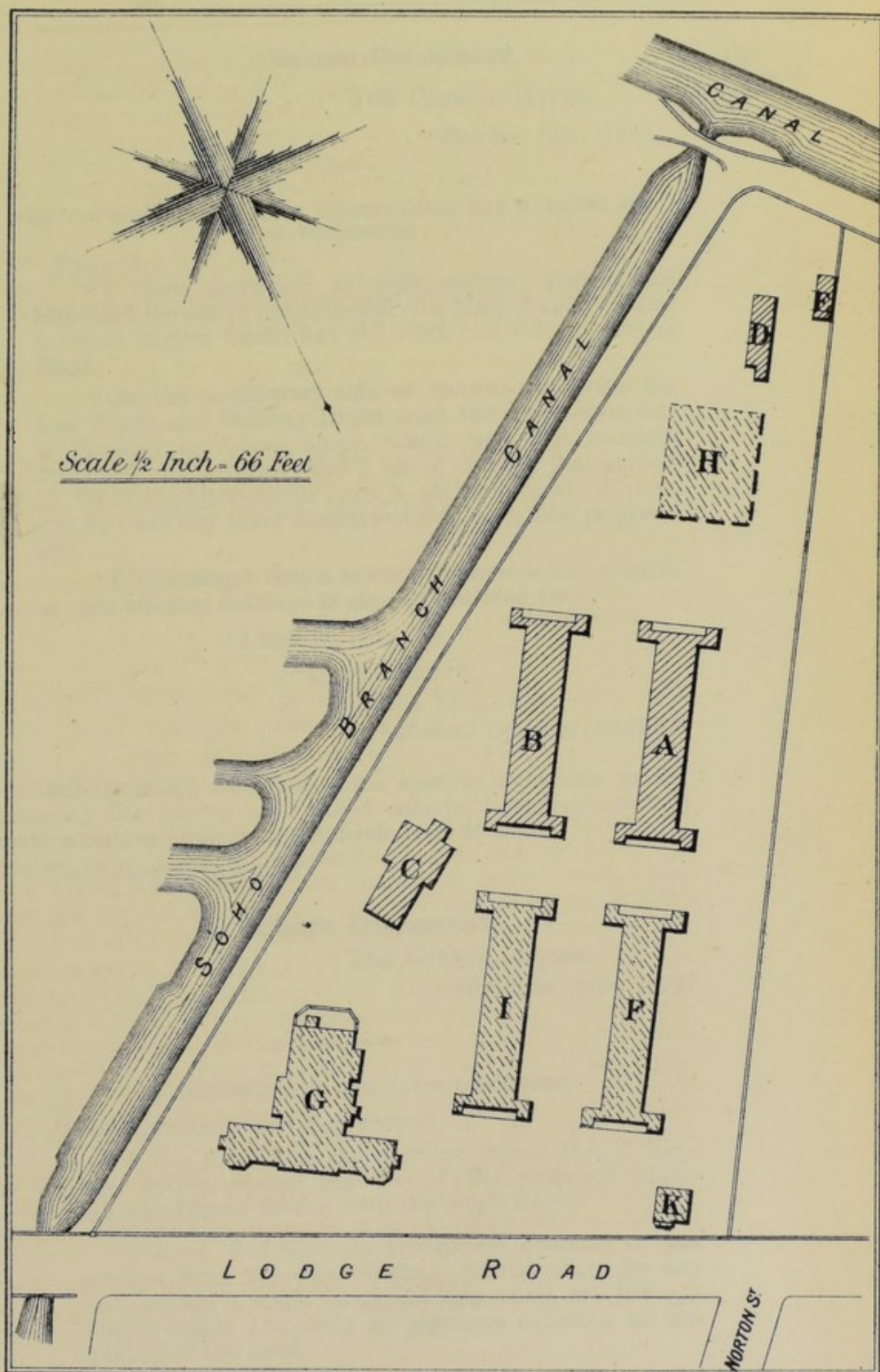
"*Medical Officer of Health.*"

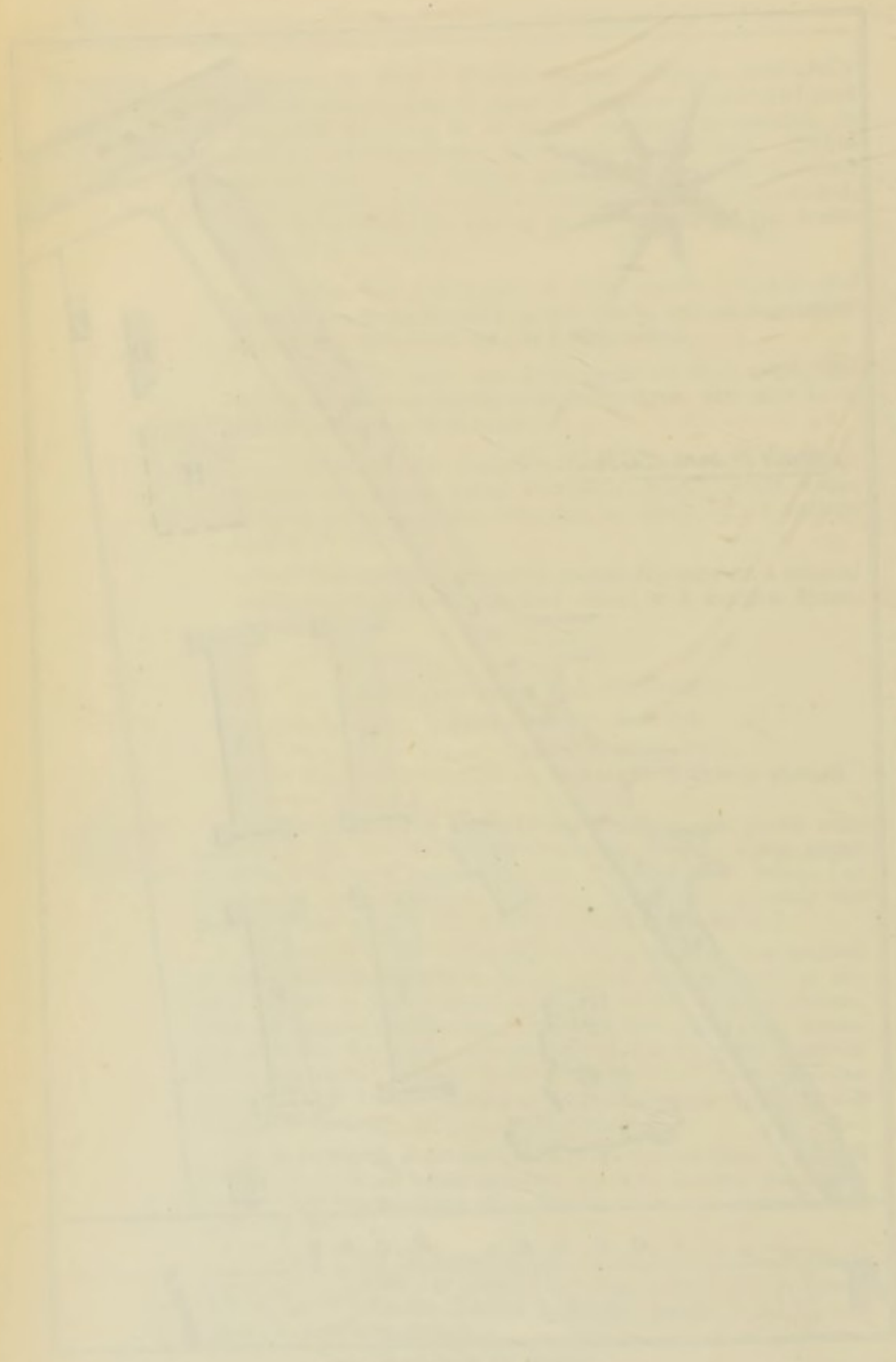
Before proceeding to build the Hospital the plans were submitted to the Local Government Board, when slight modifications were suggested, the principal one being the division of each pavilion into two Wards, by placing the Nurses' room, etc., in the middle instead of at the end.

On coming to the laying out of the ground, it was decided to place the administrative block in the eastern angle of the site, instead of the position indicated in the original sketch. This new arrangement is seen in the plan facing this page, where also is shown the whole arrangement of the proposed Hospital buildings, those already erected being the two pavilions marked A and B, the temporary administrative block C, the temporary Laundry D, and the Mortuary E.

It is proposed to proceed soon with the erection of a third pavilion F, and the administrative block G, leaving the fourth pavilion for construction at a future time, as circumstances may require.

Having been requested by the Chairman of the Markets and Fairs Committee to inspect and report upon the proposed site of the new Cattle Market in Rupert Street, I did so, and made the following report.





"HEALTH DEPARTMENT,

"THE COUNCIL HOUSE,

"October 12th, 1883.

Report on
proposed site of
New Cattle
Market.

"MR. COUNCILLOR M. J. HART, CHAIRMAN OF THE MARKETS AND
"FAIRS COMMITTEE.

"DEAR SIR,

"I have, according to your request, visited and inspected the site of the proposed new Market and Abattoir between Rupert Street and the north-east side of Avenue Road.

"On the south-west side of Avenue Road are the Gas Works and Railway Dépôt, near the north-west side is Hockley or Aston Brook, which has been recently deepened and inverted, and I am of opinion that neither of these is objectionable from a sanitary point of view, nor do I see any other sanitary objections to the proposed site.

"I understand that a sewer runs across the ground, so that efficient drainage is already provided for.

"I remain, dear Sir,

"Yours faithfully,

"ALFRED HILL, M.D.,

"*Medical Officer of Health.*"

Subsequently, owing to some specific objections to the proposed site having been raised outside, I was requested to make a further report in special reference to these.

The following is a copy.

"HEALTH DEPARTMENT,

"THE COUNCIL HOUSE,

"November 29th, 1883.

"TO THE MARKETS AND FAIRS COMMITTEE.

"MR. CHAIRMAN AND GENTLEMEN,

"I beg to add to my previous report that I have again, to-day, visited the site of the proposed Cattle Market in Rupert Street, with the result that—

"I. I find that no perceptible quantity of gas escapes from the Gas Works. Should there be any such escape it would be exceedingly small, and from its nature would not exert an injurious influence on the quality of the meat.

Report on
proposed site of
New Cattle
Market
(continued).

"II. That the night-soil department of the Aston Authority is too far away to be a nuisance or injurious, and that, as a fact, there is no storing of night-soil there.

"III. That the sewer running across the site is a well-constructed covered sewer of the same character as those in other parts of the town, and that no nuisance whatever is produced by either it or the brook which is still further away.

"I remain,

"Mr. Chairman and Gentlemen,

"Your obedient Servant,

"ALFRED HILL, M.D.,

"*Medical Officer of Health.*"

Outbreaks of
Infectious
Diseases.

iv. *Outbreaks of Infectious, Contagious, or Epidemic Diseases.*—There has been no new outbreak of any of these diseases, but Scarlet Fever has been more prevalent than in 1882, and there has been a great extension of the Small-pox epidemic of the previous year.

Unwholesome
Food.

v. *Examination of, and Action in regard to Suspected, Diseased, or Unwholesome Food.*—The traffic in bad meat appears to be most decidedly on the decrease, though the amount of it which has been seized this year is rather more than last. In 1881 no less than 415 seizures of unwholesome meat were made, in 1882 only 286, while in 1883 the number was 352. The result is probably due to a series of successful prosecutions resulting in heavy fine and imprisonment, which have practically demonstrated to this class of dealers that their special and nefarious calling does not in any sense pay, and they have consequently abandoned it.

Detailed particulars of the branch of Sanitary work are given on page 70.

The explanation of the fact that the number of seizures in 1883 is greater than in 1882—which fact would seem to disprove the statement that there is a diminution in the bad meat trade, is that the majority of the seizures in 1883 were made upon information willingly given by the salesmen and dealers respecting bad meat which had come into their possession in the ordinary course of legitimate business, whereas the seizures made prior to 1883 were of bad meat not reported but detected, and doubtless intended to be sold as human food. The salesmen are in the habit now of voluntarily reporting and giving up meat which formerly they would have defended as good; the consequence is that they receive a certificate from Mr. Birkley, the Market Inspector, of the unfit quality of the meat, for which they are not then responsible, and which is afterwards safely disposed of.

Owing to losses which the butchers have sustained on former occasions, they refuse now to buy the barrels of offal imported from Ireland, if their contents exhibit any signs of decomposition.

Unwholesome
Food
(continued).

It was not uncommon formerly to employ means to deceive the Inspector as to the condition of carcasses. These practices have become much more rare, and the assistance of the Jury of Butchers has not been required on the application of the owner of meat more than four times during the past year. Several butchers who formerly dealt in meat of questionable quality, and were anxious to escape the scrutiny of the Inspector, have given up trading in such meat, and now invite free inspection of their stock.

Legal proceedings were taken in such cases in only eight instances, and these in the first four months of the year.

Diseased Meat
Cases.

In February, an old offender, Robert Larter, pork butcher, of Summer Lane, was prosecuted by Mr. Birkley, Market Superintendent, for having exposed for sale 216 pieces of pork which were from the carcase or carcasses of diseased animals.—Inspector Latham deposed that he called defendant's attention to the meat, telling him that he considered the animal had died from contagious disease, and that he should seize it. Defendant said, "For God's sake, don't, for it will ruin me;" his wife also begged that the meat might not be seized. The meat was ordered to be destroyed by the Justice to whom it was shown, and Mr. Parker, the veterinary inspector, who examined it the same afternoon, stated in evidence that the pig had undoubtedly died from swine fever, and would have been highly dangerous as food.—The Bench sentenced defendant to two months' imprisonment, without the option of a fine, and ordered him to pay the costs.—Mr. Gem, his solicitor, pleaded for a fine in lieu of imprisonment, saying that the sentence would be ruinous to his client.—The Chairman said the Bench considered the case far too serious for that; no less than 216 families might have been endangered had the meat not been seized.

Another very bad case, of exposing for sale diseased pork and horseflesh, came on for hearing on the 13th April. The person so charged was Henry Bryan, butcher and potted meat manufacturer, 215, Great Lister Street.—Inspector Ball said that when passing the shop he saw the defendant take something out of the window and fling it under the counter. On searching the shop he found 24 pork chops and 57 pieces of horseflesh under the counter; on the side stall there were a large piece of horseflesh and half a pig's head, and among other pieces of meat there were in the back premises 60 pieces of horseflesh and a hind quarter and breast of pork; the pork was manifestly diseased, and the horseflesh appeared to be that of an animal that had died. The pig had suffered from swine fever. The flesh was examined by Dr. Hill and Mr. Parker, and shown to Mr. Lowe, who ordered it to be destroyed.—Mr. Parker said he had examined the flesh; part of it was the

Diseased Meat
Cases
(continued).

carcase of a pig that had been suffering from swine fever, and would have been most dangerous to eat; and the rest was part of a horse that had evidently been diseased when killed, or when it died. It was stated that the defendant, who did not appear to the summons, had immediately after the seizure closed his shop, and, it was thought, decamped.—The Stipendiary said the case was as bad as could possibly be imagined; therefore he would not give the defendant the option of a fine, but would commit him at once to prison for three calendar months.

On the same day, George Hawkes, butcher, 30A, Hospital Street, was charged with exposing for sale potted meat in a state of decomposition. He was fined £5 and costs, but being unable to pay he was sent to prison.

The trade in potted meat appears to have received a great check. It has diminished very much, and, indeed, seems almost to have ceased. The late prosecutions, resulting in imprisonment, have had the effect of inducing its members to throw it up as too hazardous.

In the wholesale Fish Trade very little trouble has been given, as the salesmen of the town refuse to receive from the Railway Companies fish which is not fresh and fit for sale. Such unsound fish is handed over by the Railway Companies to the Sanitary Authority, on receiving a certificate to enable them to claim the cost of carriage from the consignors. In only a few instances has it been necessary to interfere with the retail fish trade of a few small shopkeepers.

Common
Lodging Houses

vi. *Duties under Sanitary Bye-Laws and Regulations.*—These have reference to Common Lodging Houses, Houses let in Lodgings, Slaughter-houses, Milk Shops, Dairies, and Cow Sheds. There were at the close of last year 107 Common Lodging Houses, registered to accommodate 2,370 lodgers. 8,395 visits were made to them by day, and 3,168 by night.

Houses let in
Lodgings.

The number of Houses let in Lodgings, and registered under the provisions of the Public Health Act, 1875, is 211. The number of lodgers allowed is 1,064, giving an average of five lodgers to each house. No night visits are made to these houses. It is a curious coincidence that the number both of Common Lodging Houses and Houses let in Lodgings was at the end of the year exactly the same as that twelve months before; and this remark also applies to the number of

SLAUGHTER-HOUSES,

Slaughter
Houses.

which I regret to say have undergone no further diminution the number still standing at 270, of which 138 are licensed and 132 registered.

DAIRIES, COW SHEDS, AND MILK SHOPS.

Dairies, Cow
Sheds, and Milk
Shops.

The returns furnished me by Mr. Birckley show that during last year 1,190 visits were paid to the Milk Shops in the Borough, for the purpose of seeing that the accommodation for storing milk was suitable.

The Cow Sheds have received 450 visits, but in all cases they were found in a satisfactory condition.

The inspection of the Milk Shops was transferred in May last from the Markets and Fairs Committee to your Committee, and the Assistant Health Inspectors were deputed to carry out this additional duty.

CANAL BOATS ACT, 1877.

Canal Boats Act

Thirty-six boats were registered during 1883 under the regulations of this Act. Nine persons were summoned during the year for offences against the Act, and a conviction was obtained in each case.

vii. *Offensive Trades.* No fresh licenses have been granted during the past year for the carrying on of noxious or offensive manufactures, so that the number of such trades remains about the same. At the latter end of the year I reported on an offal boiling business at Smithfield, which had become a great nuisance. It is an old-established business, and I indicated a better mode of conducting it. This recommendation has been carried into effect.

Offensive
Trades.

At the same time I inspected and reported upon a "rope" making business—that is, one in which sausage skins are prepared—and upon a place for the storing and sale of blood collected from the Slaughter-houses in the neighbourhood.

viii. *Fortnightly Reports of the Medical Officer of Health to the Health Committee.*—I have reported to your Committee, at each of its meetings, on various subjects, including the following :—

Fortnightly
Reports of
Medical Officer
of Health.

1. The general health of the Borough, including the total death-rate, Zymotic death-rate, and average age at death.
2. The occurrence of Infectious disease, and the results of the investigation of certain of the most dangerous cases.
3. The Waters supplied from shallow wells and by the Corporation.
4. Articles of Food, Drink, and Drugs obtained for analysis.
5. Diseased and unwholesome Food.
6. Reports on special questions in pursuance of resolutions, instructions, and otherwise.

BOROUGH HOSPITAL.

Borough
Hospital.

Into this Institution there were taken during the year the very large number of 1,728 persons—1,090 suffering with Small-pox, and 638 with Scarlet Fever. In the previous year the numbers were respectively 105 and 627. The number of cases admitted last year is 136 per cent. larger than in any previous year; indeed, the number in the third quarter alone was only seven per cent. lower than the highest number in any previous year since the Borough Hospital was established.

In July last your Committee, in view of the fact that Small-pox was raging in the Black Country, and that it would not unlikely become prevalent in our own town, decided upon making provision for the treatment of Scarlet Fever Cases in another building, so that the whole of the Wards in Western Road might be reserved exclusively for the reception of Small-pox cases. The adoption of such a course derived additional weight from the danger of one infectious disease being conveyed by various means to patients suffering from the other. A suitable site, $4\frac{1}{2}$ acres in extent, was accordingly obtained, with the consent of the Lunatic Asylums Committee, in the Lodge Road, and a wood pavilion for the accommodation of 34 patients was erected and made ready by the 12th of September. Every bed and cot were quickly occupied; in fact, so great was the number of persons seeking admission during the latter part of the year that it often happened, even after the erection of this new Ward, that the accommodation at both establishments was taxed to the utmost.

However unsatisfactory it may be to find that it was necessary to provide increased Hospital accommodation for Infectious diseases, it is gratifying to know that it has proved of immense service during the epidemics which last year so heavily visited the Borough, and more than ever proved the wisdom of its foundation and subsequent extension.

A second pavilion in brick was commenced towards the end of the year, and at the present time is near completion. The superficial floor space of both structures is the same, but the height of the ceiling in the one last erected is two feet less than in the first. Its measurements for each Ward are 60 feet long, 26 feet wide, and 14 feet high, giving a total Ward area of 1,560 feet, and a total Ward cubic space of 21,840 feet. The superficial area recommended by the Local Government Board for each bed is 144 feet, and the cubic space 2,000 feet. If this space were allowed each Ward would accommodate eleven beds, or each pavilion twenty-two beds. As, however, the great majority of patients admitted are young children, it might be considered sufficient to give each bed three-fourths of this space, or 1,500 cubic feet, by which arrangement there would be room for twenty-nine beds in each pavilion. Bearing in mind, however, the great vital activity of young children, and the intense infectiveness of the Scarlet Fever poison, I am strongly of opinion that nothing less than 1,500 cubic feet is admissible in the case.

The following table gives the number of cases admitted into the Borough Hospital each quarter since 1874. Cases admitted each Year.

DATE.				Small-pox.	Scarlatina.	Total Cases.	
1874.							
4th Quarter	...	...	...	194	...	...	194
(2nd Nov. to the end of the year)							
1875.							
1st Quarter	...	...	...	186	...	...	186
2nd "	...	...	...	169	...	...	169
3rd "	...	...	...	53	...	...	66
4th "	...	...	...	12	...	...	19
Totals	...	...	..	420	...	...	440
1876.							
1st Quarter	...	...	...	2	...	...	3
2nd "	...	...	...	2	...	...	6
3rd "	...	...	...	2	...	...	7
4th "	...	...	..	5	...	...	33
Totals	...	...	...	11	...	...	49
1877.							
1st Quarter	...	...	...	4	...	...	24
2nd "	...	...	...	19	...	...	26
3rd "	...	...	...	15	..	...	28
4th "	...	...	...	—	...	...	3
Totals	...	...	...	38	...	...	81
1878.							
1st Quarter	...	...	...	3	...	...	16
2nd "	...	...	...	4	...	...	38
3rd "	...	...	...	6	...	...	145
4th "	...	...	...	7	...	...	245
Totals	...	...	...	20	...	...	444
1879.							
1st Quarter	...	...	...	1	...	...	61
2nd "	...	..	...	—	...	...	37
3rd "	...	...	...	3	...	...	43
4th "	...	...	...	—	...	...	47
Totals	...	...	...	4	...	...	188
1880.							
1st Quarter	...	...	...	2	...	...	47
2nd "	...	...	...	3	...	...	30
3rd "	...	...	...	8	...	...	44
4th "	...	...	...	3	...	...	65
Totals	...	...	...	16	...	...	186
1881.							
1st Quarter	...	...	...	8	...	...	44
2nd "	...	...	...	8	...	...	87
3rd "	...	...	...	1	...	...	92
4th "	...	...	...	—	...	...	127
Totals	...	...	...	17	...	...	350

Cases admitted each year (continued).	DATE. 1882.				Small-pox.	Scarlatina.	Total Cases.
	1st Quarter	...	...	...	—	90	90
	2nd "	...	...	...	54	120	174
	3rd "	...	...	...	38	197	235
	4th "	...	...	...	13	220	233
	Totals	...	...	...	105	627	732
	1883.						
	1st Quarter	...	...	...	46	120	166
	2nd "	...	...	...	160	157	317
	3rd "	...	...	...	481	198	679
	4th "	...	...	...	403	163	566
	Totals	...	...	...	1,090	638	1,728

DISINFECTING STATION.

Disinfecting
Station.

Owing to the epidemics of Scarlet Fever and Small-pox, the possession of suitable means of destroying any germs of contagion that may cling to articles of clothing has been turned to greater practical account than ever, no fewer than 34,867 articles of clothing having been subjected to a temperature ranging between 230° and 250° Fahrenheit. The number of different articles taken to the Station during the last eight years is as follows:—

ARTICLES DISINFECTED.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.
Beds ...	56	115	466	221	128	181	452	2,165
Mattresses ...	113	126	290	339	229	358	517	1,109
Sheets ...	48	346	424	192	73	164	557	1,024
Blankets ...	92	103	353	241	113	290	556	1,833
Counterpanes ...	37	68	262	154	70	121	264	893
Pillows and Bolsters..	185	315	899	586	317	481	940	3,397
Other Articles ...	141	330	4,282	2,645	1,632	1,940	4,920	24,446
Totals ...	672	1,403	6,976	4,378	2,562	3,535	8,206	34,867

The work of the Disinfecting Station is thus seen to have increased to an enormous extent.

Cost of Station.

The cost of the Station last year is estimated as under:—

	£	s.	d.
Wages ...	137	16	0
Horse-keep, Shoeing, &c. ...	98	16	0
Gas for Heating and Lighting...	26	7	5
Coal ...	6	2	9
Water ...	2	0	0
	£271	2	2

MORTUARIES.

Considerably greater use than ever has also been made of these repositories for the dead, so many as 168 bodies having been conveyed to them during last year. As the deaths of most of these persons were either of a sudden or a suspicious character, inquests were necessary in the majority of cases. The great convenience of having these Institutions, which are well lighted, kept in a cleanly and decent state, and as far as possible altogether free from smell and danger of spreading infection, must be apparent to all, and more especially to the Coroner and those of the jurymen whose unpleasant duty it has been in the past to view bodies under far less advantageous conditions.

The number of bodies taken to the five Mortuaries now in existence during the last eight years is given below :—

	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.
Moor Street ...	3	32	32	28	15	13	30	76
Duke Street ...	1	12	10	11	12	9	17	10
Kenion Street ...	—	8	10	14	10	25	22	46
Ladywood Road..	—	13	5	12	7	17	17	10
Moseley Street...	—	—	—	6	8	8	25	26
Totals ...	4	65	57	71	52	72	111	168

WATER SUPPLY.

All descriptions of drinking water still receive the attention which their hygienic importance necessitates. I have continued to make each month, as hitherto, analyses of the water delivered by the Corporation, and have the pleasure of being in a position to report that the quality of the supply still exhibits a steady improvement as to the quantity of organic matter, which is the most important constituent of a water used for drinking purposes in a raw state; it has also been distributed in a much improved condition as regards its appearance, there having been a general absence of turbidity, always a most objectionable feature, and a marked freedom from colour. I have scarcely heard a complaint from the public during the year of the appearance or quality of the supply.

The work of covering in the Hagley Road Reservoir has been proceeding during the year, and, when finished, will be

the second thus protected from the impurities contained in the air, and from those developed by the action of light.

Shallow Wells.

I have also examined the supply from 235 shallow wells. The great majority of the samples were, as in former years, seriously contaminated, and as a rule, after an interview between your Sub-Committee and the owners, the wells furnishing polluted water were closed without the necessity for instituting proceedings before the Magistrates. The results of the chemical analysis of the various waters submitted to me may be found in Table IX., a glance at which will suffice to bring under notice the fact that the examination of a large number of these waters was rendered very desirable, if not absolutely demanded, by the presence amongst those who used them of some form or other of contagious or infectious disease.

Miscellaneous Sanitary Analyses.

I have also made 70 analyses of miscellaneous substances other than water, and articles brought to me under the provisions of the "Food and Drugs Bill."

PUBLIC BATHS.

Public Baths.

Two additional Bathing establishments have been opened during the year, one at Monument Road on the 1st of March, and the other at Small Heath on the 9th of July. A very large number of persons have availed themselves of the facilities afforded by the erection of the Monument Road Baths, but, for some unaccountable reason there have been very few bathers at the Small Heath Baths. It is much to be desired that the additional opportunities for bathing thus wisely afforded to our large urban population may be increasingly appreciated and taken advantage of.

The number of those making use of the other Baths has somewhat diminished, but the erection of additional accommodation might reasonably be expected to lessen to some extent the number of bathers at the older Baths, and this probably accounts partly for the smaller numbers who have patronised the Baths already in existence. When we bear in mind that the past summer was a very cool one, I think that the total bathing statistics for the last year are more satisfactory than any I have previously had occasion to comment upon.

RETURN OF THE NUMBER OF BATHERS AT EACH OF THE CORPORATION BATHS DURING THE LAST
TEN YEARS.

	KENT STREET.			WOODCOCK STREET.			NORTHWOOD STREET.			MONUMENT ROAD.			SMALL HEATH.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
1874	77138	4796	81934	47317	1889	49206	80801	2899	83700	—	—	—	—	—	—
1875	105162	4931	110093	73341	2055	75396	100858	2827	103685	—	—	—	—	—	—
1876	107647	4880	112527	76781	2451	79232	99941	2832	102773	—	—	—	—	—	—
1877	95428	4397	99825	58432	2012	60444	83844	2153	85997	—	—	—	—	—	—
1878	106820	6016	112836	64680	2171	66851	101059	2129	103188	—	—	—	—	—	—
1879	105395	7274	112669	48794	1501	50295	82408	2027	84435	—	—	—	—	—	—
1880	108253	8468	116721	71843	2051	73894	115446	3166	118612	—	—	—	—	—	—
1881	115260	8768	124028	64014	1762	65776	106550	2704	109254	—	—	—	—	—	—
1882	112141	8509	120650	66272	2015	70287	113036	4049	117085	—	—	—	—	—	—
1883	101503	8025	109528	72852	2025	74877	96115	3093	99208	88073	5245	93318	8258	282	8540

Sewerage
Works.

SEWERAGE WORKS.

During the year under notice $2\frac{1}{2}$ miles of Sewers were constructed by the authority of the Town Council, whilst 1,300 yards of Sewers hitherto belonging to the Corporation were taken up or abandoned, owing to the extension of New Street Railway Station, and the reconstruction of the Sewers in New Town Row, and part of Kyrwick's Lane. Sewers were also laid in several new roads which were formed during the year.

Total length of
Sewers.

The total length of Sewers at present under the control of the Corporation is about 184 miles.

STREETS AND ROADS.

Streets and
Roads.

At the end of last year there were $197\frac{3}{4}$ miles of Streets and Roads in the Borough, after allowing for several Streets absorbed by the extension of New Street Railway Station, of which $185\frac{1}{2}$ miles were maintained by the Corporation. There are, in addition, about $6\frac{1}{4}$ miles of Street completed and under the charge of the Borough Authorities, which are not yet declared public Highways, and there still remain about 6 miles of Highways in an unfinished state.

NIGHTSOIL AND REFUSE DISPOSAL.

Night Soil and
Refuse
Disposal.

The abolition of the midden privies, and the substitution of pan privies, still continues.

The number of pans in the Borough at the end of 1883, was 37,278. Their removal was rendered necessary in 1,847,061 instances. From the ashtubs 72,404 loads of ashes, and from the midden privies 56,562 loads of nightsoil were also collected during the year.

It is estimated that there are between nine and ten thousand water-closets in the Borough.

The

SANITARY WORK

Sanitary Work

of the Borough has involved the serving during the year of more than ten thousand notices for the abatement of nuisances.

Among other work done, I may mention that 2,407 houses have been cleansed after infectious disease, 2,319 drains have been cleared from obstruction, 1,814 ashpits and privies have been repaired, 1,614 accumulations of manure, wash, and other offensive matter removed, 1,460 filthy houses have been white-washed, 1,434 drains have been trapped, 696 yards have been paved, 656 sink drains disconnected from the yard drain, and that 19 houses which were unfit for human habitation have been closed.

Full particulars of the work of the Inspection Department are set forth in Table V., on pages 70 and 71.

In conclusion, I have to thank your Committee, my colleagues and the staff of officers generally for much kindness and help in the performance of my onerous, manifold, and increasing duties, and especially to acknowledge the very able and kindly assistance of my principal clerk, Mr. Woolley, whose work in the calculation of the new Table of Mortality at the different periods of life, and in the Statistical Department generally has been of the greatest possible value.

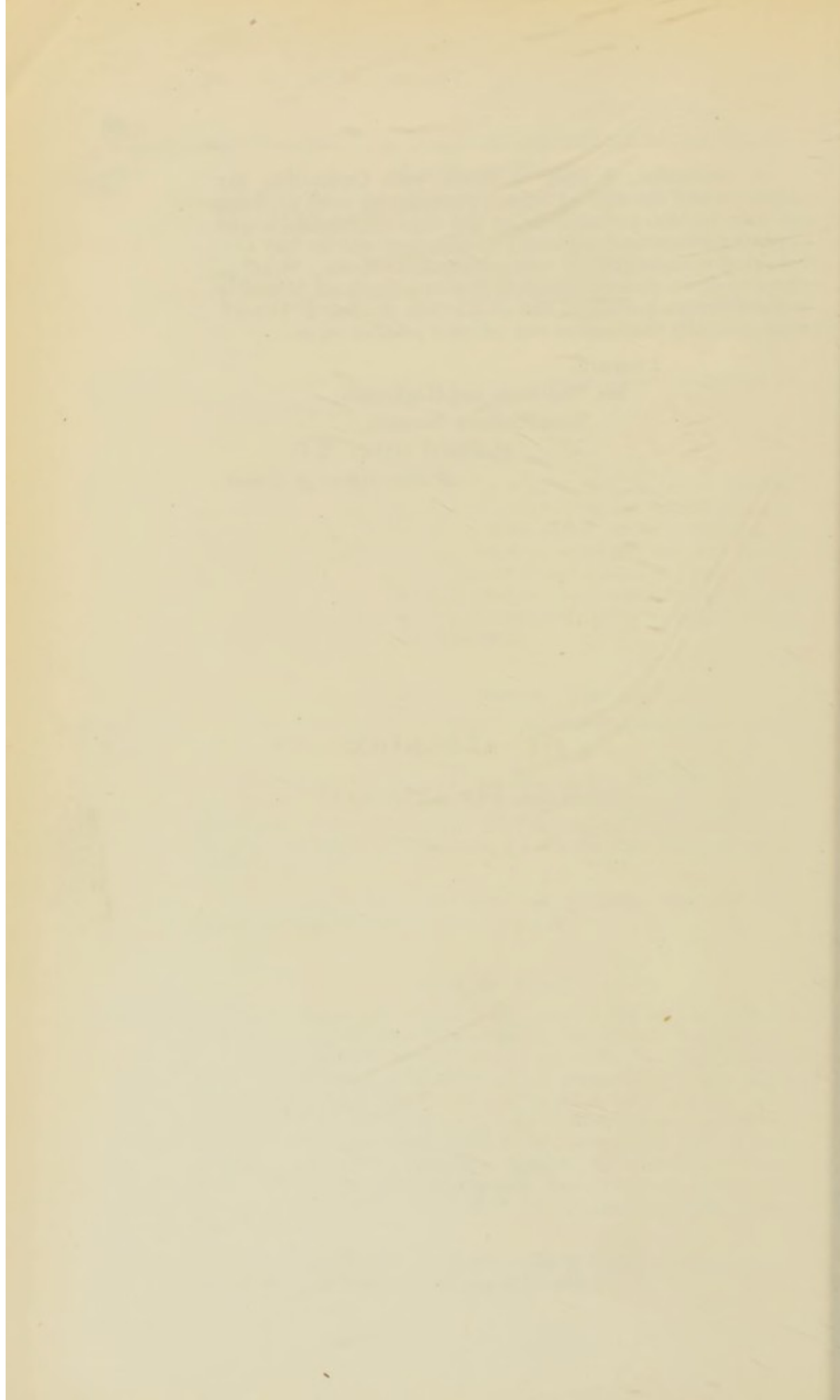
I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D.,

Medical Officer of Health.



III. APPENDIX.

(TABLES, MAP, AND] CHART.)

TABLE I.
BIRTHS AND DEATHS (GROSS NUMBERS).

DATE.	BIRTHS.	DEATHS.
1883.	14,701	8,714
1882	14,866	8,425
1881	14,869	7,938
1880	15,111	8,088
1879	15,846	8,650
1878	15,964	9,662
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
Average of Ten years } 1873-1882	15,272	8,845

NOTES.

- 1.—Population at Census, 1881, 400,774.
- 2.—Population, estimated to the middle of the Year 1883, 414,846.
- 3.—Area in Acres, 8,400.
- 4.—Number of Inhabited Houses in Borough at Census 1881, 78,301.
- 5.—Average number of Persons in each House at Census, 1881, 5.1.

TABLE II.

ANNUAL RATE OF MORTALITY, DEATH-RATE 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 to total Deaths.
1883	21.0	26.8	15.9	43.8	15.7
1882	20.6	29.1	16.5	47.2	15.4
1881	19.7	27.7	15.0	47.1	15.3
1880	20.5	32.1	17.8	49.9	12.4
1879	21.8	27.5	15.0	49.7	14.1
1878	25.2	28.6	17.0	53.1	11.8
1877	23.9	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
Average of 10 years 1873-1882.	23.2	29.2	16.9	48.9	12.8

TABLE III.

Mortality from certain classes of Diseases, and proportions to population and to 1,000 deaths in 1883.

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	1,306	3·1	150
2—Pulmonary (other than Phthisis)	1,841	4·4	211
3—Tubercular 	968	2·3	111
4—Wasting Diseases of Infants ...	786	1·9	90
5—Convulsive Diseases of Infants...	527	1·3	60

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, and Premature Birth.
- 5.—Includes Hydrocephalus, Infantile Meningitis, Convulsions, and Teething.

TABLE IV.
SHOWING THE NUMBER OF DEATHS IN THE TEN YEARS, 1873 TO 1882, FROM THE SEVEN PRINCIPAL ZYMOTIC
DISEASES, AND THE NUMBER IN 1883.

	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	Annual Average of 10 years, 1873-1882.	Proportion of deaths to 1,000 years, 1873-1882.	1883.	Proportion of deaths to 1,000 years, 1873-1882.
Small-pox ...	125	637	174	0	8	5	0	2	6	17	97	10.9	110	12.6
Measles ...	123	139	141	87	309	54	169	63	132	150	137	15.5	155	17.8
Scarlet Fever	587	737	265	204	237	995	306	123	164	256	387	43.8	326	37.4
Diphtheria ...	107	74	55	58	52	83	71	51	57	49	66	7.5	46	5.3
Whooping Cough ...	169	242	438	189	369	455	384	217	362	319	314	35.5	176	20.2
Fever ...	203	201	204	147	144	147	87	84	66	87	137	15.5	81	9.3
Diarrhæa ...	728	622	868	651	457	682	234	784	341	535	590	66.7	412	47.3
TOTAL ...	2,042	2,652	2,145	1,336	1,576	2,421	1,251	1,324	1,128	1,413	1,728	195.4	1,303	149.9
London ...	11,385	11,230	13,411	12,565	10,292	14,734	12,216	13,661	13,811	13,553	12,686	157.9	10,801	134.0

TABLE V.

SUMMARY OF NUISANCES AND OTHER MATTERS REPORTED AND WORK ACCOMPLISHED BY THE OFFICERS AND MEN EMPLOYED DURING THE YEAR ENDED DECEMBER 31ST, 1883.

	Nuisances Reported.	Nuisances Abated.
Nuisances remaining on the Books, Dec. 31st, 1882 ...	2,705	—
Defective Drains requiring opening and clearing from obstruction	2,848	2,319
„ Spout Drains	394	418
„ Drains not efficiently trapped	1,166	1,434
„ Sink Drains requiring disconnection from the Sewer	558	656
Nuisances arising from the want of drains	99	81
„ „ „ the want of an efficient supply of wholesome water	57	56
„ „ „ the keeping of fowls	534	569
„ „ „ an accumulation of water in cellars	159	184
„ „ „ the filthy condition of privies	138	200
„ „ „ foul and defective urinals	547	462
„ „ „ the overcrowding of houses	50	47
„ „ „ the want of efficient ventilation	29	23
Swine and Swine Styes so kept as to be a nuisance ...	154	144
Houses reported unfit for human habitation	22	19
Houses disinfected, cleansed, and purified, where Zymotic disease has occurred	2,408	2,407
Filthy and unwholesome Houses requiring cleansing and whitewashing	1,658	1,460
Accumulations of wash, deposits of offensive matter, manure, &c.	1,675	1,640
Foul Ashpits and Privies requiring repairs	1,883	1,814
Houses where the privies and ashpits belonging thereto are so foul and defective as to require reconstruction	345	228
Back Yards requiring paving	687	696
Number of Privies limewashed by our own men	1,743	1,743
„ Courts or Back Yards „ „	350	350
„ Dangerous Premises reported to the Borough Surveyor's Department	655	534
„ Defective Water Taps and Standpipes reported to the Water Department	732	736
No. of Cases still on the Books under notice		3,376
Totals	21,596	21,596
Number of Notices issued for the abatement of Nuisances during the Year ended December 31st, 1883 ...	10,515	
Number of Cases Summoned	365	
„ „ Convicted	337	
„ „ Withdrawn	28	
Amount of Costs	£62	5 5
„ Penalties	36	0 2
Total	£98	5 7

TABLE V—*Continued.*

WELL WATERS.

Well Waters submitted by the Inspector for Analysis	...	...	227
No. of Wells closed	...	...	238
„ Premises supplied with Tap Water	...	...	241
„ Persons dealt with by the Magistrates	...	...	50
Amount of Costs	...	...	£5 6 0

COMMON LODGING HOUSES.

No. of Houses Registered	...	...	107
„ Lodgers allowed in the Houses	...	...	2,370
„ Visits by Day	...	...	8,395
„ Visits by Night	...	...	3,168

HOUSES LET IN LODGINGS.

Houses Registered under the Public Health Act, 1875	...	...	211
Number of Lodgers allowed	...	...	1,064

SMOKE NUISANCES.

No. of Registered Proprietors of Furnaces or Fireplaces used for manufacturing purposes	...	...	1,280
„ Chimneys	...	...	1,671
„ Observations of Chimneys made by the Inspectors	...	...	6,443
„ Manufacturers Reported for the emission of dense smoke	...	...	256
Manufacturers Cautioned	...	...	122
„ Summoned	...	...	123
„ Convicted	...	...	120
Amount of Penalties	...	...	£89 0 0
„ Costs	...	...	52 19 0
Total	...	...	£141 19 0

SLAUGHTER HOUSES.

(Return made by MR. BIRCKLEY, Superintendent of the Markets).

No. of Slaughter Houses	...	...	270
„ Visits	...	...	12,606
Seizures of Bad Meat	...	...	352
Weight Destroyed	...	...	149,787 lbs.
Seizures of Fish, &c.	...	...	101

CONTAGIOUS DISEASES (ANIMALS) ACT.

(Return made by MR. BIRCKLEY, Superintendent of the Markets).

No. of Visits to Milk Shops	...	...	1,190
„ Visits to Railway Stations	...	...	1,708
„ Visits to Cow Houses	...	...	450

TABLE VI.

METEOROLOGICAL CONDITION OF THE AIR, AND AMOUNT OF RAINFALL
FOR THE YEAR ENDING DECEMBER 31st, 1883.

Observed at 9-0 a.m. at The Hollies, Winson Green, by myself and my son, Mr. H. GROSVENOR HILL.

The cistern of the Barometer is 476 feet above the mean level of the sea.

The other Instruments are about 473 feet above the mean level of the sea.

1884. Months.	Pressure of Air.	TEMPERATURE OF THE AIR.					RAINFALL. Gauge 1 foot diameter. Receiving surface 3ft. 8in. above the ground.		
	Barometer	Reading of Thermometer.					Depth of Rain depo- sited upon a square foot of surface, in inches and parts.	Measure- ment converted into weight per Acre.	Number of Days on which Rain fell, when 5/100ths of an inch or more was measured.
	Mean Weekly Reading (corrected and reduced to 32 degrees Fahrenheit)	Highest in Shade.	Lowest in Shade.	Range of Tempe- rature in the Month.	Mean Tempe- rature in the Month.				
	In. Parts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	In. Parts.	Tons.		
January ...	29.369	54.0	26.0	28.0	40.3	4.21	425	14	
February ...	29.511	57.0	26.5	30.5	42.4	3.53	357	13	
March ...	29.457	53.5	17.5	36.0	35.1	1.44	145	9	
April ...	29.517	64.5	30.5	34.0	47.1	0.98	99	6	
May ..	29.458	74.5	29.5	45.0	51.5	1.38	139	9	
June ...	29.475	77.0	42.5	34.5	57.0	3.63	367	9	
July ...	29.338	78.0	44.5	33.5	58.4	3.95	399	11	
August ...	29.511	77.0	47.0	30.0	60.5	0.64	65	5	
September ...	29.385	76.0	41.0	35.0	55.9	5.89	595	15	
October ...	29.461	61.5	36.0	25.5	49.2	2.64	267	12	
November ...	29.261	56.0	26.0	30.0	41.9	4.47	452	15	
December ...	29.649	54.0	27.0	27.0	40.4	1.02	103	5	

PRICES OF COAL, FLOUR, POTATOES, AND BUTCHERS' MEAT,
AND THE NUMBER OF PAUPERS RELIEVED IN THE PARISH OF BIRMINGHAM
DURING THE YEAR ENDED MICHAELMAS, 1883.

Years.	Average Prices of Food and Fuel.				PAUPERISM. Weekly Average of Paupers relieved during the Year.	
	Coal per ton.	Flour per 224lbs.	Potatoes per ton.	Butchers' Meat per lb.	In-door.	Out-door.
1883	10/5	25/2	101/8	-7 $\frac{3}{4}$	2,388	4 861
1882	9/9	29/10	75/-	Beef -/5 $\frac{3}{4}$ Mut'n -/8 $\frac{1}{4}$	2,355	4,886
1881	9/4	26/10	71/-	Beef -/5 $\frac{3}{4}$ Mut'n -/8	2,596	4,767
1880	10/-	27/-	75/-	-/6 $\frac{5}{8}$	2,415	4,825

TABLE VII.

RAINFALL AND TEMPERATURE IN EACH MONTH AND YEAR FROM 1873 TO 1883.

MONTH.	1873.		1874.		1875.		1876.		1877.		1878.		1879.		1880.		1881.		1882.		Average for 10 years 1873—1882.		1883.													
	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	No. of days on which 2 inches of an inch or more was measured.	No. of days on which 2 inches of an inch or more was measured.												
January	4.48	19	41.4	31.2	16	44.4	1.75	6	36.1	4.47	18	42.8	1.96	11	43.2	2.01	10	32.4	0.69	3	33.7	0.96	4	28.4	2.41	7	40.5	2.37	10	38.4	4.21	14	40.3			
February	1.76	11	35.1	1.68	10	36.0	2.55	14	39.6	2.43	12	44.5	1.11	8	40.1	3.68	18	38.5	3.12	16	41.0	3.43	13	36.3	2.15	5	41.9	2.46	12	39.1	3.53	13	42.4			
March	2.66	14	39.9	0.81	5	40.7	3.16	22	40.8	2.72	15	40.3	1.17	9	43.6	0.95	9	40.7	0.53	3	41.7	2.37	11	41.0	2.57	6	45.6	1.87	11	41.9	1.44	9	35.1			
April	0.77	7	46.6	1.45	5	50.5	1.98	13	47.5	2.82	12	45.0	2.17	11	48.3	3.29	16	43.6	2.35	7	46.0	0.78	3	44.3	4.18	17	47.0	2.10	10	46.6	0.98	6	47.1			
May	2.54	12	50.6	3.24	7	50.5	2.10	12	54.1	1.00	5	48.1	2.27	9	48.2	4.26	13	50.1	1.62	6	50.6	1.48	7	53.9	3.19	11	52.9	2.70	10	51.4	1.38	9	51.5			
June	1.25	9	58.2	1.13	5	58.5	3.21	15	58.0	2.23	8	58.0	3.37	14	60.8	6.16	19	56.0	2.55	17	56.2	1.74	15	57.9	4.00	15	55.7	2.97	13	57.8	3.63	9	57.0			
July	5.16	11	62.3	1.26	8	64.0	8.14	13	58.9	1.42	6	63.7	5.03	12	59.8	0.98	7	63.7	3.97	18	59.0	4.80	20	59.8	1.66	9	62.5	3.83	14	60.0	3.62	12	61.4	3.95	11	58.4
August	3.44	18	61.1	1.99	14	60.1	1.80	7	62.0	1.22	5	62.7	2.29	10	61.6	6.44	18	62.0	5.72	13	60.1	0.80	4	60.9	5.18	16	57.4	2.48	12	59.2	3.14	11	60.7	0.61	5	60.5
September	2.13	8	53.4	4.54	19	56.4	3.89	14	59.3	5.83	21	55.7	4.53	13	54.9	3.15	13	56.9	3.59	12	55.6	4.63	10	58.7	1.65	9	54.4	3.03	9	53.7	3.70	13	55.9	5.89	15	55.9
October	1.86	9	47.8	2.71	12	51.2	7.21	16	47.4	2.26	9	53.0	1.91	12	49.1	3.66	16	52.2	2.06	9	49.6	6.38	11	44.0	3.17	11	45.2	6.61	15	48.9	3.78	12	48.8	2.64	12	49.2
November	1.83	10	43.0	1.45	10	41.6	3.31	10	41.9	2.94	8	43.4	2.87	15	47.4	3.15	11	39.4	1.98	12	40.9	2.30	9	40.1	3.13	16	47.3	4.56	18	42.0	2.75	12	42.7	4.47	15	41.9
December	0.97	5	41.3	4.38	16	33.9	1.45	10	39.1	5.08	19	42.9	2.40	11	41.3	2.44	11	31.2	1.07	5	35.3	3.48	13	41.7	3.40	9	37.9	4.59	18	37.8	2.99	11	38.2	1.02	5	40.4
Year	29.25	133	48.6	28.41	131	49.0	32.02	136	49.4	36.75	149	49.1	34.93	150	49.6	38.84	154	46.8	33.25	119	48.0	28.95	123	47.2	43.60	147	48.8	34.45	137	48.5	33.78	123	48.3			

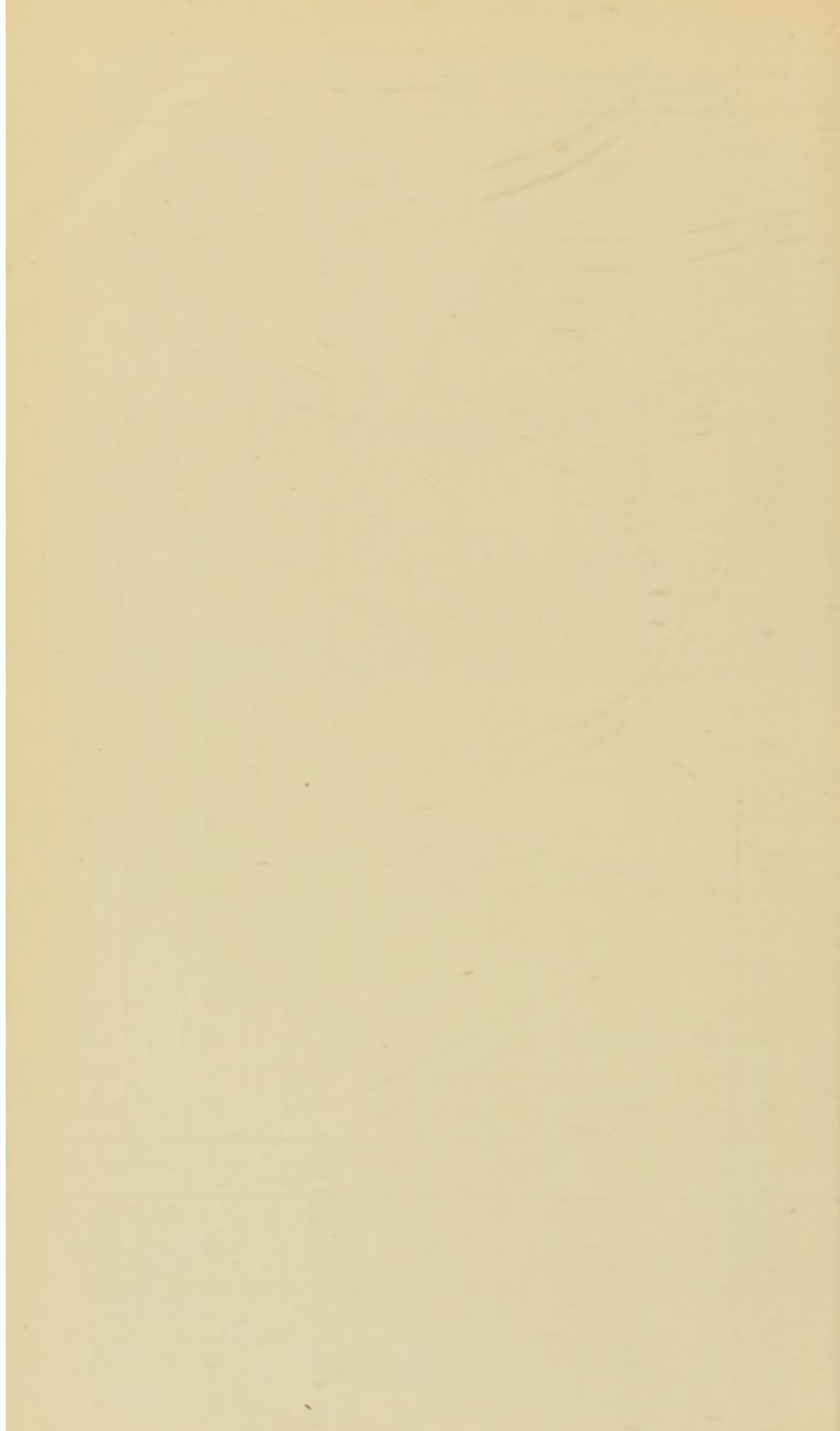


TABLE VIII

NEW CASES OF DISEASE COMING UNDER TREATMENT DURING THE YEAR ENDING
DEC. 30TH, 1883, 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	19	9	...	...	17	82	1,090	1,217
Measles	107	48	15	23	51	120	...	364
Scarlet Fever.....	95	69	1	139	7	88	638	1,037
Diphtheria	4	5	4	3	...	...	...	16
Whooping Cough ...	30	44	8	500	23	97	...	702
Croup	23	1	...	22	...	5	...	51
Diarrhoea	2,406	143	1,001	871	111	373	...	4,905
Dysentery	4	2	2	...	...	2	...	10
Asiatic Cholera .....	...	...	...	...	...	1	...	1
Erysipelas	84	27	69	18	26	33	...	257
Continued Fever ...	...	2	...	2	...	...	...	4
Typhus .....	...	...	...	...	...	...	...	...
Enteric or Typhd.	50	54	21	26	11	4	...	166
Relapsing .....	...	...	...	...	...	...	...	...
Febricula	75	49	47	168	...	494	...	833
Ague	5	...	2	...	...	...	...	7
Rheumatic Fever ...	77	153	81	79	...	11	...	401
Puerperal Fever ...	...	16	...	...	...	1	...	17
Bronchitis & Catarrh	695	794	827	1,589	658	2,185	...	6,748
Influenza .....	...	82	...	...	...	...	...	82
Pleurisy & Pneumonia	208	95	115	122	67	45	...	652
Phthisis	300	609	402	101	253	172	...	1,837
Constl. Syphilis.....	234	235	272	151	339	62	...	1,293
All other diseases ...	15,086	17,058	10,082	9,393	3,737	4,415	...	59,771
Accidents	12,762	218	8,582	164	168	70	...	21,964
Totals.....	32,264	19,713	21,531	13,371	5,468	8,260	1,728	102,335

The above returns are made by (I.)—Bertram C. A. Windle, Esq., M.A., M.D.; (II.)—S. Sunderland, M.D., and T. Nelson, M.B., G. P. Best, M.B., and D. Holmes, M.B., Esqs.; (III.)—Charles Sanders, Esq., M.B.; (IV.)—Allman Powell, Esq., M.B.; (V.)—Walter Bowen, Esq., Clerk to the Guardians; (VI.)—A. B. Simpson, Esq., L.R.C.S., Surgeon to the Workhouse; (VII.)—W. H. Line, Esq., M.D., Surgeon to the Borough Hospital.

TABLE IX.—WATER: RESULTS OF ANALYSES

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity	Organic Carbon.	Organic Nitrogen.
1883. CORPORATION SUPPLY.					
Jan. 8th	3 Court, Vauxhall Road.....	7°·3	31·54	·172	·007
Feb. 6th	13, King Edward's Place... ..	7°·8	26·48	·189	·050
Mar. 1st	Back 221, Icknield Port Road	8°·3	30·30	·079	·028
April 3rd	8 Court, Barford Street	7°·2	30·38	·123	·007
May 7th	20, Whittall Street	11°·1	24·54	·185	·045
June 5th	Victoria Terrace, Rawlins Street ...	15°·3	25·22	·102	·032
July 4th	5 Court, Floodgate Street	18°·9	30·26	·089	·009
Aug. 1st	204, Icknield Street	15°·5	23·00	·146	·023
Sept. 5th	4 Court, Parker Street	14°·4	24·24	·210	·029
Oct. 2nd	9 Court, Newtown Row	11°·7	23·74	·211	·033
Nov. 7th	17 Court, Great Colmore Street ...	12°·2	29·10	·168	·029
Dec. 3rd	Cellent Grove, Heath Street South	7°·7	28·02	·104	·028
	Average Results ... 1883...	11°·4	27·23	·148	·027
	" " ... 1882...	7°·6	29·15	·171	·028
	" " ... 1881...	10°·8	26·98	·185	·029
	" " ... 1880...	10°·3	26·02	·205	·036
	" " ... 1879...	8°·2	25·34	·215	·040
WELL WATERS.					
Jan. 2nd	37 and 38, Tillingham Street .....	...	124·00	...	very large
" "	98, Ladypool Lane .....	...	138·80	...	large
" 5th	Lorne Terrace, Argyle Street .....	...	120·80	...	...
" "	Adjoining 151, Argyle Street (Typhoid)	...	72·40	...	excessive
" 8th	126, Pershore Road .....	...	124·60	...	...
" "	25 and 26, Wright Street .....	...	116·40	...	very large
" 15th	Victoria Place, Bell Barn Road ...	...	169·80	...	...
" "	Victoria Terrace, Bell Barn Road...	...	149·80	...	...
" "	25 Court, Darwin Street .....	...	208·40	...	very large
" 18th	57—61, Salop Street (Scarlet Fever)	...	156·40	...	large
" "	103—105, Bradford Street.....	...	157·80	...	"
" 22nd	5 Court, Saint James' Place (Scarlet Fever)...	...	94·40	...	"
" "	3, Calthorpe Road (2nd time) .....	...	87·60	...	moderate
" 29th	2 and 3, Station Avenue, Hagley Rd. (Typhoid)	...	32·80	...	"
" "	6 and 7, Station Avenue, Hagley Rd.	...	69·40	...	large
" "	91 and 93, Summer Road .....	...	97·40	...	"
" 30th	44 and 46, Great Tindal St. (Scarlet Fever)	...	75·00	...	moderate
" 31st	21 and 22, Glover's Road .....	...	93·60	...	large
Feb. 1st	Back 334, Icknield Port Rd. (Scarlet Fever)	...	107·40	...	...
" 5th	35, Priestley Road, and 103, Kyrwick's Lane (Typhoid) .....	...	112·40	...	large
" 6th	Melbourne Terrace, Friston St. (Scarlet Fever)	...	43·40	...	moderate
" 8th	30 Court, Irving Street (Scarlet Fever) .....	...	166·40	...	"
" "	Wycombe Villa, Anderton Road, and 1, Cartland Road.....	...	103·60	...	rather large
" 13th	214 and 216, Stratford Road.....	...	75·80	...	very large
" "	67 and 68, Talbot Street (Diarrhoea)...	...	170·40	...	...
" 15th	Lee Bank Square, Lee Bank Road, (top pump) (2nd time) .....	...	65·40	...	moderate

EXPRESSED IN PARTS PER 100,000.

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contami- nation. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·003	·198	·207	1,680	1·4	9°·5	10°·9	20°·4	Very slightly turbid; greenish.
·002	·220	·271	1,890	2·0	3°·9	10°·7	14°·6	Clear; greenish
·003	·286	·316	2,560	1·7	12°·7	9°·1	21°·8	Very slightly turbid; greenish.
·001	·231	·239	1,990	1·5	11°·4	7°·9	19°·3	Slightly turbid; greenish tint.
·001	·319	·365	2,880	1·9	6°·9	8°·1	15°·0	Very slightly turbid; greenish
·002	·242	·275	2,100	1·6	3°·2	11°·0	14°·2	Very slightly turbid; greenish
·002	·198	·208	1,670	1·7	9°·8	11°·2	21°·0	
·003	·231	·256	2,010	2·2	4°·3	8°·3	12°·6	Very slightly turbid; greenish
·004	·220	·252	1,910	2·0	2°·8	10°·4	13°·2	Slightly turbid; greenish
·004	·231	·267	2,020	1·6	10°·0	7°·1	17°·1	Clear; greenish yellow
·001	·286	·316	2,550	2·1	7°·0	9°·6	16°·6	Clear; very slightly greenish
·001	·341	·370	3,100	1·4	8°·7	7°·4	16°·1	Clear; slightly greenish
·002	·250	·278	2,190	1·8	7°·5	9°·3	16°·8	
·003	·227	·266	1,870	1·7	6°·8	9°·2	16°·0	
·003	·252	·283	2,220	1·7	7°·6	7°·8	15°·4	
·003	·279	·317	2,470	1·7	7°·7	7°·0	14°·7	
·004	·236	·279	2,070	1·8	8°·9	6°·7	15°·6	
·004	2·64	2·643	26,110	6·1	...	...	...	Clear
·003	3·96	3·962	39,300	10·1	...	...	...	Clear
·090	3·85	3·924	38,920	7·4	...	...	...	Clear
·005	2·64	2·644	26,120	4·0	...	...	...	Clear
·280	3·08	3·310	32,780	7·5	...	...	...	Clear
·005	4·40	4·404	43,720	7·2	...	...	...	Clear
·400	7·92	8·25	82,180	13·7	...	...	...	Clear
·200	7·26	7·424	73,920	12·8	...	...	...	Clear
·005	5·94	5·944	59,120	15·7	...	...	...	Clear
·003	3·52	3·522	34,900	9·6	...	...	...	Clear
·004	5·50	5·503	54,710	14·9	...	...	...	Clear
·005	5·06	5·064	50,320	13·3	...	...	...	Clear
·005	1·98	1·984	19,520	6·4	...	...	...	Clear
·003	·66	·662	6,300	2·1	...	...	...	Clear
·004	·88	·883	8,510	6·5	...	...	...	Clear
·001	3·08	3·081	30,490	3·3	...	...	...	Clear
·002	1·54	1·541	15,090	6·2	...	...	...	Clear
·004	2·75	2·753	27,210	5·1	...	...	...	Clear
·020	5·17	5·187	51,550	8·8	...	...	...	Clear
·003	4·73	4·732	47,000	7·5	...	...	...	Clear
·003	·99	·992	9,600	5·6	...	...	...	Clear
·003	7·70	7·702	76,700	17·5	...	...	...	Clear
·001	2·20	2·201	21,690	6·7	...	...	...	Clear
·003	1·65	1·652	16,200	3·6	...	...	...	Slightly turbid
·280	10·23	10·460	104,280	20·1	...	...	...	Clear
·003	1·98	1·982	19,5	·6	...	...	...	Clear

TABLE IX.—

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity.	Organic Carbon.	Organic Nitrogen.
1883.	WELL WATERS—(continued).				
Feb. 15th	Cottage, Hay Mill Brook Farm (2nd time)	...	64.40	...	very large
" 19th	Lee Bank Square, Lee Bank Road (1st pump) .....	...	108.40	...	...
" 20th	Welcome Place, Graham Street ...	...	167.60	...	moderate
" 22nd	45 and 46, Tenby Street North.....	...	174.80	...	...
" "	Robinson's Buildings, Northumberland Street .....	...	143.40	..	large
" 26th	64 and 65, Varna Road .....	...	86.40	...	...
" "	Lane's Premises, Coventry Road...	...	77.60	...	very large
" "	14 & 15, Mount Pleasant, Coventry Road .....	...	51.40	...	rather small
" "	33, Wright Street .....	...	135.80	...	...
Mar. 1st	Back 58, Burbury Street .....	...	234.80	...	...
" "	38—44, Pershore Street (Whooping Cough) ...	...	26.40	...	rather small
" 5th	48—52, Pershore Street.....	...	69.40	...	...
" "	39, Sun Street (Whooping Cough) ...	...	167.00	...	...
" 7th	27—30, Winson Green Road (Scarlet Fever) ...	...	67.80	...	moderate
" "	1—8, Heath Street (Scarlet Fever) ...	...	24.40	...	rather large
" 14th	203 and 205, Park Road .....	...	98.40	...	large
" "	211 and 213, Park Road .....	...	114.60	...	moderate
" "	3 Court, Pershore Street .....	...	44.40	...	"
" 15th	4 and 5, Great King Street .....	...	86.80	...	...
" 19th	75, Green Lane .....	...	87.80	...	...
" "	2 and 3, Grange Road .....	...	123.40	...	...
" 21st	107, Yardley Road (Diphtheria) ...	...	125.40	...	moderate
" "	166 & 167, Heath Street (Measles) ...	...	161.00	...	...
April 2nd	8 and 9 Courts, Conybere Street ...	...	118.60	...	large
" "	217 and 218, Cheapside (Typhoid Fever).....	...	334.40	...	very large
" "	Cromwell Place, Moseley Road ...	...	117.80	...	"
" 4th	23 and 25, Victoria Street.....	...	64.40	...	large
" "	48—50, Victoria Street.....	...	72.40	...	"
" 9th	6 Court, Lower Hurst Street.....	...	268.80	...	...
" 10th	Cumberland Terrace, Saint Luke's Road .....	...	82.40	...	large
" 12th	40—44, Sun Street West .....	...	90.40	...	...
" "	168 and 169, Lee Bank Road .....	...	158.00	...	moderate
" "	170 and 171, Lee Bank Road .....	...	120.80	...	"
" 16th	158 and 160, Saint Luke's Road ...	...	121.80	...	excessive
" "	162 and 164, Saint Luke's Road ...	...	126.40	...	...
" 18th	58 and 59, Leopold Street.....	...	47.40	...	large
" "	94 and 95, Benacre Street.....	...	309.40	...	very large
" 21st	6 Court, Lee Bank Road .....	...	63.40	...	moderate
" "	Houses occupied by Parker and Green, Metchley Lane (Diphtheria) ...	...	28.80	...	"
" 26th	67 and 68, Wynn Street.....	...	68.40	...	large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contami- nation. (Estimated.)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·005	1·76	1·764	17,320	1·9	...	...	...	Turbid
·035	4·84	4·869	48,370	9·0	...	...	...	Clear
·005	7·04	7·044	70,120	17·2	...	...	...	Clear
·090	9·90	9·974	99,420	15·5	...	...	...	Slightly turbid ; greenish
·004	5·28	5·283	52,510	10·7	...	...	...	Clear
2·500	·44	2·499	24,670	7·0	...	...	...	Turbid ; contains many floating fibrous particles and some living specimens of Daphnia and Cyclops
·005	·11	·114	820	3·0	...	...	...	Clear
·002	1·54	1·541	15,090	4·2	...	...	...	Clear
·075	3·74	3·802	37,700	14·5	...	...	...	Clear
1·200	10·56	11·547	115,150	24·1	...	...	...	Clear
·006	1·10	1·105	10,730	3·5	...	...	...	Clear
·140	·77	·885	8,530	6·1	...	...	...	Clear
·260	5·94	6·154	61,220	8·9	...	...	...	Clear
·011	2·75	2·759	27,270	7·6	...	...	...	Clear
·003	·88	·882	8,500	2·6	...	...	...	Clear
·003	4·29	4·292	42,600	7·5	...	...	...	Clear
·002	3·74	3·741	37,090	9·7	...	...	...	Clear
·003	·99	·992	9,600	4·8	...	...	...	Clear
·040	2·53	2·563	25,310	9·0	...	...	...	Clear ; residue brown
·120	3·85	3·949	39,170	4·9	...	...	...	Clear
·015	7·48	7·492	74,600	11·2	...	...	...	Clear
·003	1·76	1·762	17,300	11·3	...	...	...	Clear
·290	2·31	2·539	25,070	55·0	...	...	...	Clear
·003	2·09	2·092	20,600	8·8	...	...	...	Clear
·004	10·89	10·893	108,610	66·5	...	...	...	Clear
·002	3·08	3·081	30,490	3·7	...	...	...	Clear
·003	2·64	2·642	26,100	4·8	...	...	...	Clear
·004	2·09	2·093	20,610	2·7	...	...	...	Clear
1·650	7·48	8·858	88,260	33·0	...	...	...	Clear
·005	trace	trace	0	15·4	...	...	...	Clear
·210	2·09	2·263	22,310	5·5	...	...	...	Clear
·004	·77	·773	7,410	41·2	...	...	...	Clear
·003	1·98	1·982	19,500	30·4	...	...	...	Clear
·003	3·74	3·742	37,100	5·7	...	...	...	Clear
·110	3·08	3·170	31,380	7·7	...	...	...	Clear
·004	1·43	1·434	14,020	12·6	...	...	...	Clear
·001	14·30	14·301	142,690	34·8	...	...	...	Clear
·002	·77	·771	7,390	6·1	...	...	...	Clear
·001	0·0	0·0	0	1·9	...	...	...	Clear
·004	2·09	2·093	20,610	8·8	...	...	...	Clear

TABLE IX.—

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity	Organic Carbon.	Organic Nitrogen.
1883 .	WELL WATERS—(continued).				
April 26th	5 and 6 Courts, Nelson Street South (second time) .....	...	112.20	...	very large
" 30th	31 and 32, Arsenal Street, and 134 and 135, Cattell Road .....	...	128.40	...	...
" "	114—116, Green Lane .....	...	101.40	...	...
May 3rd	176 and 177, Great Russell Street .....	...	107.40	...	large
" "	169 and 171, Devonshire St. (Scarlet Fever) .....	...	164.40	...	"
" 7th	85 and 86, Coventry Road .....	...	107.40	...	moderate
" "	176 and 177, Cattell Road (Diphtheria) .....	...	106.40	...	large
" 9th	201 and 203, Bristol Street .....	...	234.40	...	very large
" "	64 and 66, Belgrave Road .....	...	114.40	...	large
" "	273 and 274, Heath Street (Small Pox) .....	...	59.40	...	...
" 16th	Waterloo Yard, Moor Street .....	...	187.20	...	large
" 16th	237, Pershore Road (Scarlet Fever) .....	...	71.80	...	"
" 21st	151 and 152, Coventry Road .....	...	186.60	...	...
" "	22, Little Green Lane .....	...	145.80	...	very large
" 23rd	61 and 62, Wynn Street .....	...	101.20	...	large
" "	Back 3, Moat Row .....	...	115.60	...	very large
" 28th	8, Erskine Street .....	...	144.80	...	moderate
" "	Back 55½, Edgbaston Street .....	...	69.20	...	...
" 30th	7, Farm Road .....	...	87.80	...	...
" "	28 Court, Darwin Street .....	...	229.20	...	large
June 5th	40 and 43, Ormond Street (Scarlet Fever) .....	...	168.20	...	very large
" "	20 and 22, Guildford Street .....	...	113.60	...	rather large
" 12th	22 and 22½, Norton Street (Scarlet Fever) .....	...	100.40	...	...
" "	100, Dollman Street .....	...	122.20	...	large
" 15th	29 Court, Darwin Street .....	...	229.40	...	very large
" "	1—3, Duddleston Row .....	...	141.20	...	...
" 19th	98 and 100, Sherlock Street (Scarlet Fever) .....	...	178.80	...	very large
" "	4 and 5, Arsenal Street .....	...	162.80	...	"
" 22nd	Heath Terrace, Heath Street .....	...	133.20	...	large
" "	Back 14, Norman Street .....	...	112.60	...	...
" 25th	45 and 46, Lee Crescent .....	...	65.80	...	very large
" "	15—39, Beechfield Road .....	...	86.80	...	large
" 28th	4 and 5, Gladstone Road .....	...	102.20	...	...
" "	10 Court, White Road .....	...	67.60	...	large
July 3rd	3 Court, Leopold Street (Small-pox) .....	...	198.80	...	very large
" "	172 & 173, Heath Street (Small-pox) .....	...	111.80	...	...
" 9th	10 Court, Vere Street (Small-pox) .....	...	130.60	...	very large
" "	10, Grange Road .....	...	94.60	...	"
" 11th	4 and 5, Nechells Park Road (Scarlet Fever) .....	...	197.20	...	...
" "	12 and 13, Highgate Place .....	...	145.50	...	large
" "	Bright Cottage, Norton Street (Small-pox) .....	...	48.80	...	moderate
" 16th	124 and 125, Monument Rd (Dysentery) .....	...	68.80	...	"
" 18th	65 and 66, Cheapside (Small-pox) .....	...	377.60	...	"
" 19th	6 & 7, Garrison Lane (Scarlet Fever) .....	...	140.60	...	...
" 23rd	54 and 55, Wright Street .....	...	104.80	...	...

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous, Sewage or Animal Contami- nation. (Estimated.)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·002	2·20	2·201	21,690	9·0	...	...	...	Clear
·030	6·60	6·624	65,920	14·9	...	...	...	Clear
·150	2·86	2·983	29,510	5·5	...	...	...	Clear
·001	1·43	1·431	13,990	6·4	...	...	...	Clear
·008	4·73	4·736	47,040	17·0	...	...	...	Clear
·001	2·42	2·421	23,890	6·1	...	...	...	Clear
·005	4·40	4·404	43,720	10·5	...	...	...	Clear
·006	9·46	9·465	94,330	21·6	...	...	...	Clear
·004	2·64	2·643	26,110	12·0	...	...	...	Clear
·175	1·32	1·464	14,320	6·0	...	...	...	Clear
·002	5·94	5·941	59,090	19·3	...	...	...	Clear
·003	·22	·222	1,900	2·9	...	...	...	Clear
·450	5·50	5·871	58,390	18·2	...	...	...	Clear
·004	4·84	4·843	48,110	6·5	...	...	...	Clear
·002	4·40	4·401	43,690	10·7	...	...	...	Clear
·003	2·64	2·642	26,100	8·8	...	...	...	Clear
·002	6·60	6·601	65,690	10·9	...	...	...	Clear
·130	1·32	1·427	13,950	4·1	...	...	...	Clear
·065	1·65	1·703	16,710	8·9	...	...	...	Clear
·001	6·60	6·601	65,690	22·1	...	...	...	Clear
·002	2·42	2·422	23,990	19·0	...	...	...	Clear
·001	3·30	3·301	32,690	11·2	...	...	...	Clear
·050	4·07	4·111	40,790	14·3	...	...	...	Clear
·005	2·20	2·204	21,720	5·5	...	...	...	Clear
·006	6·93	6·935	69,030	18·5	...	...	...	Clear
·240	4·40	4·597	45,650	9·5	...	...	...	Clear; residue brown
·006	1·87	1·875	18,430	27·5	...	...	...	Clear
·004	9·02	9·023	89,910	16·5	...	...	...	Clear
·012	1·76	1·770	17,380	22·0	...	...	...	Clear
·220	6·60	6·781	67,490	11·5	...	...	...	Clear
·007	2·20	2·206	21,740	5·5	...	...	...	Clear
·003	3·30	3·302	32,700	5·8	...	...	...	Clear; goes brown when heated.
1·200	1·10	2·087	20,550	7·1	...	...	...	Clear
·008	1·54	1·547	15,150	3·6	...	...	...	Clear
·004	4·40	4·403	43,710	17·2	...	...	...	Clear
·120	2·64	2·739	27,070	26·0	...	...	...	Clear
·006	3·52	3·525	34,930	9·8	...	...	...	Clear
·003	3·30	3·302	32,700	6·0	...	...	...	Clear
2·600	7·59	9·724	96,920	20·1	...	...	...	Clear
·008	4·62	4·626	45,940	16·0	...	...	...	Clear
·006	·77	·775	7,430	4·3	...	...	...	Clear
·006	2·64	2·645	26,130	5·1	...	...	...	Clear
·004	11·22	11·223	111,910	30·8	...	...	...	Clear
·003	2·86	2·862	28,300	9·5	...	...	...	Slightly turbid; greenish
·003	1·10	1·102	10,700	3·0	...	...	...

TABLE IX.—

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity	Organic Carbon.	Organic Nitrogen.
1883.	WELL WATERS—(continued).				
July 23rd	97, Hawkes Street, & 56, Muntz St.	...	124.80	...	...
" "	58—62, Muntz Street.....	...	101.60	...	...
" "	192 & 194, Green Lane (Diphtheria)	...	100.60	...	...
" 25th	14, Gloucester Street .....	...	218.80	...	...
" "	37, Smithfield Passage, and 37—41, Pershore Street .....	...	98.80	...	rather large
" "	3 and 4 Courts, Kent Street North	...	67.60	...	rather small
" "	27, Kent Street North (Small-pox)	...	112.60	...	"
" 28th	2 Court, Belmont Passage.....	...	121.80	...	very large
" "	249 and 250, Garrison Lane .....	...	173.80	...	...
" "	Back 13 and 14 in 15 Court, Great Barr Street .....	...	278.60	...	...
" "	Houses occupied by Hunter, Baskerville, and Sharpe, in 15 Court, Great Barr Street (Scarlet Fever)	...	285.60	...	...
Aug. 2nd	225—233, Lodge Road .....	...	116.40	...	large
" "	Vesta Glass Works, Lodge Rd (Small-pox)	...	121.20	...	"
" 8th	4—6, Blews Street West (Small-pox)	...	134.80	...	...
" "	161, Prescott Street, and 45, Clissold Street (Small-pox) .....	...	53.80	...	moderate
" "	26 Court, Ford Street (Small-pox)	...	157.60	...	large
" "	82—88, Hingeston Street (Scarlet Fever)	...	51.40	...	small
" 10th	35 Court, Bell Barn Road .....	...	150.40	...	moderate
" "	7 Court, Lee Bank Road .....	...	87.40	...	"
" "	57, Lee Bank Road.....	...	64.80	...	large
" "	67 and 68, Lee Bank Road .....	...	58.20	...	"
" 20th	37 Court, Newtown Row .....	...	121.80	...	very large
" "	Blews Cottage, corner of Elkington Street, New John Street West...	...	99.80	...	...
" "	72, Moseley Street .....	...	204.60	...	...
" "	72 & 73, Warwick Street (Diarrhoea)	...	201.20	...	large
" "	125—129, Irving Street (Scarlet Fever)	...	113.20	...	moderate
" "	30 Court, Irving St. [2nd time] (Scarlet Fever)	...	150.80	...	"
" 27th	40 & 41, Princess Road (Diarrhoea)	...	92.80	...	very large
" 28th	82 and 83, Charles Henry Street, and 5 Court, Vaughton St. (English Cholera)	...	137.80	...	...
" "	402, Moseley Road .....	...	151.60	...	large
" "	34—40, Sandy Lane (Small-pox) ...	...	142.40	...	excessive
" 30th	16 and 17, Mount Street, All Saints (Small-pox) .....	...	80.20	...	rather large
" "	Talbot Cottage, Talbot Street .....	...	140.20	...	...
Sept. 3rd	84 and 85, Grant Street.....	...	106.80	...	excessive
" "	Back 102, Spring Hill (Small-pox)	...	240.80	...	...
" 4th	Park Mill Cottages, Nechells Park Road .....	...	94.60	...	excessive
" "	218 & 219, Nechells Park Road (Small-pox)	...	127.20	...	...
" "	222 and 223, Nechells Park Road...	...	122.20	...	...

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contami- nation. (Estimated.)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·200	3·08	3·244	32,120	7·1	...	...	...
·007	1·76	1·765	17,330	6·6	...	...	...	Clear
·003	2·64	2·642	26,100	9·9	...	...	...	Clear
·480	2·64	3·035	30,030	53·5	...	...	...	Clear
·005	2·42	2·424	23,920	6·3	...	...	...	Clear
·003	·55	·552	5,200	7·4	...	...	...	Clear
·004	2·75	2·753	27,210	15·6	...	...	...	Clear
none	2·20	2·200	21,680	4·8	...	...	...	Clear
·075	3·52	3·582	35,500	11·7	...	...	...	Clear
·500	2·53	2·940	29,008	30·1	...	...	...	Slightly turbid ;greenish
·030	5·50	5·524	54,920	25·0	...	...	...	Clear
·009	3·30	3·307	32,650	10·9	...	...	...
·006	1·76	1·765	17,330	24·9	...	...	...	Clear
·380	1·65	1·963	19,310	24·8	...	...	...	Clear
·003	·77	·772	7,400	5·5	...	...	...	Clear
·002	5·83	5·831	57,990	18·1	...	...	...	Clear
·002	·44	·441	4,090	8·5	...	...	...	Clear
·001	5·72	5·721	56,890	14·0	...	...	...	Clear
·006	4·40	4·405	43,730	10·2	...	...	...	Clear
·005	2·31	2·314	22,820	6·3	...	...	...	Clear
·003	1·43	1·432	14,000	4·6	...	...	...	Clear
·005	3·63	3·634	36,020	14·2	...	...	...	Clear
·210	1·65	1·822	17,900	12·3	...	...	...	Clear
·090	4·62	4·694	46,620	21·2	...	...	...	Clear
·005	6·60	6·604	65,720	25·3	...	...	...	Clear
·003	1·98	1·982	19,500	21·5	...	...	...	Clear
·003	7·70	7·702	76,700	16·8	...	...	...	Clear
·007	·44	·446	4,140	5·0	...	...	...	Clear
·250	1·54	1·745	17,130	8·7	...	...	...	Clear
·001	3·08	3·081	30,490	9·0	...	...	...	Clear
·002	3·30	3·301	32,690	7·5	...	...	...	Clear
·001	1·98	1·981	19,490	7·0	...	...	...	Clear
·020	5·72	5·736	57,040	13·4	...	...	...	Clear
·007	4·84	4·845	48,130	9·9	...	...	...	Clear
·900	·88	1·622	15,900	63·1	...	...	...	Clear
·009	1·54	1·547	15,150	6·5	...	...	...	Clear
·480	1·98	2·375	23,430	9·7	...	...	...	Clear
1·000	7·04	7·863	78,310	11·8	...	...	...	Clear

TABLE IX.—

Date of Receipt of samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity.	Organic Carbon.	Organic Nitrogen.
1883.	WELL WATERS—(continued).				
Sept. 4th	408 and 409, Nechells Park Road ..	...	200·60	...	...
„ 13th	238 and 240, Stratford Road.....	...	132·80	...	excessive
„ „	299 and 301, Stratford Road.....	...	110·80	...	„
„ „	3 and 4, Anderton Road, and 280— 286, Stratford Road .....	...	79·60	...	very large
„ „	1 Court, Long Street (Typhoid) ...	...	74·40	...	rather large
„ 18th	83 and 84, Bacchus Road (Typhoid)	...	107·80	...	large
„ „	44 and 45, Lodge Road (Typhoid)...	...	142·80	...	moderate
„ 19th	42 and 44, St. Mary Street .....	...	80·60	...	...
„ „	46 and 48, St. Mary Street .....	...	57·20	...	moderate
„ „	50 and 52, St. Mary Street .....	...	63·20	...	...
„ 20th	Back 45, Brearley Street (Small Pox)	...	144·80	...	moderate
„ 26th	2 Court, St. Luke's Road (Diarrhoea)	...	180·80	...	very large
„ „	120 and 122, St. Luke's Road .....	...	135·80	...	...
„ „	29 & 30, Lower Dartmouth Street	...	117·60	...	moderate
„ „	97 & 98, Lower Dartmouth Street	...	245·20	...	...
„ 27th	15 and 16, Heath Mill Lane.....	...	262·20	...	excessive
„ „	3, Watery Lane .....	...	264·80	...	excessive
Oct. 4th	303, Coventry Road .....	...	102·80	...	...
„ „	36 and 37, Kelynge Street (Diarrhoea) ..	...	118·80	...	large
„ „	Cottage Row, Little Green Lane ...	...	107·60	...	...
„ „	20 and 22, Muntz Street .....	...	128·40	...	rather large
„ 9th	16 Court, Digbeth .....	...	123·80	...	...
„ „	Back 5, Bull Ring (Diarrhoea) .....	...	157·60	...	...
„ „	38 and 39, Princess Road .....	...	116·20	...	very large
„ „	75 and 7, Belgrave Road (Small-pox) ...	...	182·60	...	„
„ „	83 and 85, Belgrave Road .....	...	259·80	...	„
„ „	91 and 93, Belgrave Road ..	...	140·20	...	large
„ 18th	41 and 43, Sandy Lane .....	...	123·80	...	...
„ „	114 and 115, Longmore Street and 1, Highgate Street (Scarlet Fever)	...	78·60	...	small
„ „	Back 15, Church Road, Nechells (Scarlet Fever).....	...	116·20	...	moderate
„ „	67 and 69, Church Road, Nechells	...	102·60	...	very large
„ „	79 and 81, Church Road, Nechells	...	159·80	...	„
„ „	95 and 97, Church Road, Nechells	...	164·20	...	...
„ 29th	1 and 2, Osborne Buildings, Mount Street (Nechells).....	...	179·80	...	very large
„ „	3 and 4, Osborne Buildings, Mount Street (Nechells).....	...	134·60	...	„
„ „	7 and 8, Osborne Buildings, Mount Street (Nechells).....	...	148·20	...	„
„ „	9 and 10, Osborne Buildings, Mount Street, (Nechells) .....	...	116·60	...	„
„ „	11 & 12, Osborne Buildings, Mount Street (Nechells).....	...	105·80	...	„
„ „	5—8, Guest Street .....	...	143·20	...	large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contami- nation. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·090	7·92	7·994	79,620	35·7	...	...	...	Clear
·005	2·42	2·424	23,920	6·6	...	...	...	Clear
·002	2·31	2·311	22,790	6·0	...	...	...	Clear
·005	·22	·224	1,920	5·1	...	...	...	Clear
·003	·11	·112	800	4·7	...	...	...	Clear
·003	3·73	3·732	37,000	10·0	...	...	...	Clear
·002	5·72	5·721	56,890	12·6	...	...	...	Clear
·022	1·87	1·888	18,560	5·3	...	...	...	Clear
·004	·33	·333	3,010	3·6	...	...	...	Clear
·035	·33	·359	3,270	4·1	...	...	...	Clear
·005	6·38	6·384	63,530	18·3	...	...	...	Clear
·003	3·52	3·522	34,900	23·3	...	...	...	Clear
·300	2·42	2·667	26,350	8·4	...	...	...	Clear
·002	1·10	1·101	10,690	8·0	...	...	...	Clear
·250	4·18	4·385	43,530	22·3	...	...	...	Clear
·004	7·48	7·483	74,510	32·3	...	...	...	Clear
·001	6·38	6·381	63,490	35·6	...	...	...	Clear
·030	1·54	1·565	15,330	12·6	...	...	...	Clear
·005	1·98	1,984	19,520	7·8	...	...	...	Clear
·100	4·64	4,722	46,900	7·5	...	...	...	Clear
·001	4·40	4,401	43,690	9·6	...	...	...	Clear
·085	1·43	1·500	14,680	22·8	...	...	...	Clear
·065	3·52	3·573	35,410	24·3	...	...	...	Clear
·007	1·10	1·105	10,730	6·0	...	...	...	Clear
·004	2·31	2·313	22,810	10·8	...	...	...	Clear
·004	10·56	10·563	105,310	20·1	...	...	...	Clear
·003	2·20	2·202	21,700	4·8	...	...	...	Clear
·050	1·32	1·361	13,290	22·6	...	...	...	Clear
·002	5·06	5·061	50,290	6·9	...	...	...	Clear
·002	1·10	1·101	10,690	8·8	...	...	...	Clear
·002	3·30	3·301	32,690	3·6	...	...	...	Clear
·008	6·38	6·386	63,540	16·7	...	...	...	Clear
·040	7·04	7·073	70,410	10·8	...	...	...	Clear
·004	2·86	2·863	28,310	14·0	...	...	...	Clear
·003	2·42	2·422	23,900	7·2	...	...	...	Clear
·002	5·06	5·061	50,290	8·6	...	...	...	Clear
·005	4·62	4·624	45,920	8·5	...	...	...	Clear
·003	·66	·662	6,300	5·8	...	...	...	Clear
·002	1·32	1·321	12,890	14·1	...	...	...	Clear, residue brown

TABLE IX.—

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity.	Organic Carbon.	Organic Nitrogen.
1883.	WELL WATERS—(continued).				
Nov. 1st	51 and 53, Summer Road .....	...	59.80	...	...
" "	84 and 85, Grant Street .....	...	104.60	...	moderate
" 2nd	49 and 50, Coventry Road .....	...	113.20	...	...
" "	3 Court, Coventry Road .....	...	108.60	...	rather small
" 7th	121, Soho Road .....	...	28.80	...	small
" "	129, Soho Road and 62 and 63, Talbot Street (Small-pox) .....	...	106.20	...	...
" 8th	41 and 8 Court, Gooch Street .....	...	189.80	...	...
" "	9 and 10 Court, Gooch Street .....	...	206.60	...	very large
" "	Back 237, Gooch Street .....	...	168.20	...	...
" "	134½—136, Belgrave Road .....	...	184.60	...	...
" 12th	58 & 59, Leopold Street (2nd time) .....	...	147.80	...	large
" 14th	3 Court, Green Street .....	...	347.80	...	very large
" "	9 Court, Angelina Street .....	...	171.60	...	...
" "	40, Angelina Street .....	...	263.80	...	...
" "	10 Court, William Edward Street .....	...	160.60	...	...
" "	26 Court, Bellbarn Road (2nd time) .....	...	124.80	...	...
" 22nd	133—135, Nelson Street West .....	...	187.80	...	...
" "	92 and 93, Ladywood Road .....	...	117.60	...	large
" "	1 Court, Blucher Street .....	...	236.80	...	...
" "	45 and 47, Holloway Head .....	...	131.60	...	rather large
" "	Back 6, Great Colmore Street .....	...	126.80	...	very large
" 23rd	48 and 49, Great Hampton Street .....	...	92.20	...	large
" 26th	Premises occupied by Mr. Cheshire, Rotton Park Road (Small-pox) ...	...	8.80	...	large
" "	15 Court, Milton Street .....	...	181.60	...	moderate
" "	6 and 8, Guildford Street .....	...	171.80	...	large
" "	33 and 34, Milk Street .....	...	258.60	...	very large
" "	11 Court, Milk Street .....	...	213.80	...	"
" "	Back 67, Allison Street .....	...	97.20	...	...
Dec. 7th	137 and 138, Lee Bank Road (Diphtheria) .....	...	89.80	...	small
" "	210, Irving Street .....	...	114.60	...	rather small
" 8th	2 Court, Cregoe Street .....	...	139.80	...	moderate
" "	4 Court, Clissold Street (Small-pox) .....	...	81.60	...	small
" "	31, Lodge Road (Small-pox) .....	...	195.80	...	...
" "	15—18, Piddock Street (Small-pox) .....	...	76.20	...	...
" 18th	11, Digbeth .....	...	135.80	...	very small
" "	64 and 66, Kingston Road .....	...	98.60	...	...
" "	21, Kingston Road .....	...	173.60	...	rather small
" "	Back 50 and 51, Holborn Hill (Small-pox) .....	...	102.60	...	moderate
" "	1 and 2 Courts, Darwin Street (Scarlet Fever) .....	...	241.80	...	moderate
" 19th	84 and 85, New John Street West .....	...	262.20	...	...
" 21st	69, Balsall Heath Road (Diphtheria) .....	...	66.80	...	moderate
" "	299—301, Monument Road (Scarlet Fever) .....	...	44.60	...	very small
" 31st	41 and 42, Winson Green Road ...	...	62.80	...	very large
" "	Cedar Cottages, Harrison's Road .....	...	29.60	...	rather small
" "	27, Nelson Street South .....	...	227.80	...	very large
" "	10, Horse Fair .....	...	117.20	...	large

(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contami- nation. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempo- rary.	Perma- nent.	Total.	
·009	1·54	1·547	15,150	4·1	...	...	...	Clear
·002	1·98	1·981	19,490	9·5	...	...	...	Clear
·025	1·32	1·340	13,080	7·9	...	...	...	Clear
·004	·66	·663	6,310	7·6	...	...	...	Clear
·002	·22	·221	1,890	4·3	...	...	...	Clear
·900	3·08	3·82	37,900	7·6	...	...	...	Clear
·030	5·94	5·965	59,330	22·0	...	...	...	Clear
·004	3·30	3·303	32,710	24·5	...	...	...	Clear
·030	3·08	3·105	30,730	22·5	...	...	...	Clear
·200	3·96	4·125	40,930	14·5	...	...	...	Clear
·003	·55	·552	5,200	14·2	...	...	...	Clear
·004	11·00	11·003	109,710	48·0	...	...	...	Clear
·140	5·28	5·395	53,630	12·2	...	...	...	Clear
·090	3·08	3·154	31,220	10·5	...	...	...	Clear
·180	2·42	2·568	25,360	12·9	...	...	...	Clear
·045	6·05	6·087	60,550	10·8	...	...	...	Clear ; residue brown
1·050	8·14	9·004	89,720	19·5	...	...	...	Clear
·004	2·42	2·423	23,910	10·3	...	...	...	Clear
·085	10·45	19·520	104,980	26·5	...	...	...	Clear
·003	2·75	2·752	27,200	28·1	...	...	...	Clear
·004	4·40	4·403	43,719	17·5	...	...	...	Clear
·004	1·98	1·983	19,510	5·4	...	...	...	Clear
·002	0·0	0·0	0	4·2	...	...	...	Clear
·003	2·31	2·312	22,800	11·2	...	...	...	Clear
·001	3·30	3·301	32,690	19·1	...	...	...	Clear
·004	5·50	5·503	54,710	34·9	...	...	...	Clear
·001	5·50	5·501	54,690	29·2	...	...	...	Clear
·075	1·54	1·602	15,700	15·8	...	...	...	Clear
·003	2·64	2·642	26,100	10·9	...	...	...	Clear
·002	3·96	3·961	39,290	11·4	...	...	...	Clear
·002	3·63	3·631	35,900	18·5	...	...	...	Clear
·002	2·64	2·641	26,090	9·3	...	...	...	Clear
·045	10·78	10·817	107,850	24·4	...	...	...	Clear
·020	2·20	2·216	21,840	5·8	...	...	...	Clear
·000	5·50	5·500	54,680	22·0	...	...	...	Clear
·065	2·53	2·583	25,510	7·8	...	...	...	Clear
·001	4·73	4·731	46,690	14·0	...	...	...	Clear
·001	4·84	4·841	48,090	11·6	...	...	...	Clear
·002	6·05	6·051	60,190	29·0	...	...	...	Clear
·280	11·66	11·890	118,580	28·1	...	...	...	Clear
·003	1·10	1·102	10,700	2·9	...	...	...	Clear
·002	·77	·771	7,390	3·5	...	...	...	Clear
·006	2·20	2·205	21,730	5·9	...	...	...	Clear
·002	·33	·331	2,990	2·3	...	...	...	Clear
·004	8·80	8·803	87,710	19·1	...	...	...	Clear
·005	5·50	5·504	54,720	21·5	...	...	...	Clear

TABLE X.

RETURN FOR THE PERIOD 1ST JULY, 1882, TO 30TH JUNE, 1883, RESPECTING THE VACCINATION OF CHILDREN WHOSE BIRTHS WERE REGISTERED IN THE BOROUGH DURING THE SAID PERIOD.

PARISH.	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns 10, 11, and 13 of the "Vaccination Register" (Birth List Sheets), viz. :				Number of these Births which remained unentered in the "Vaccination Register" of on account (as shown by Report Book) of				Number of these Births remaining neither duly entered in the "Vaccination Register" (cols. 3, 4, 5, and 6 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. 10.	Col. 11.		Col. 13.	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly appraised.	Removal to places unknown or which cannot be reached; and Cases not having been found.		
		"Successfully Vaccinated."	"Insusceptible of Vaccination."	"Had Small-pox."	"Dead, Unvaccinated."					
1		3	4	5	6	8	9	10	11	
Birmingham ...	8,836	7,693	13	2	898	65	22	120	23	
Aston (within the Boro')	5,496	4,526	5	—	523	62	25	287	68	
Edgbaston (")	447	407	1	—	30	3	2	4	—	

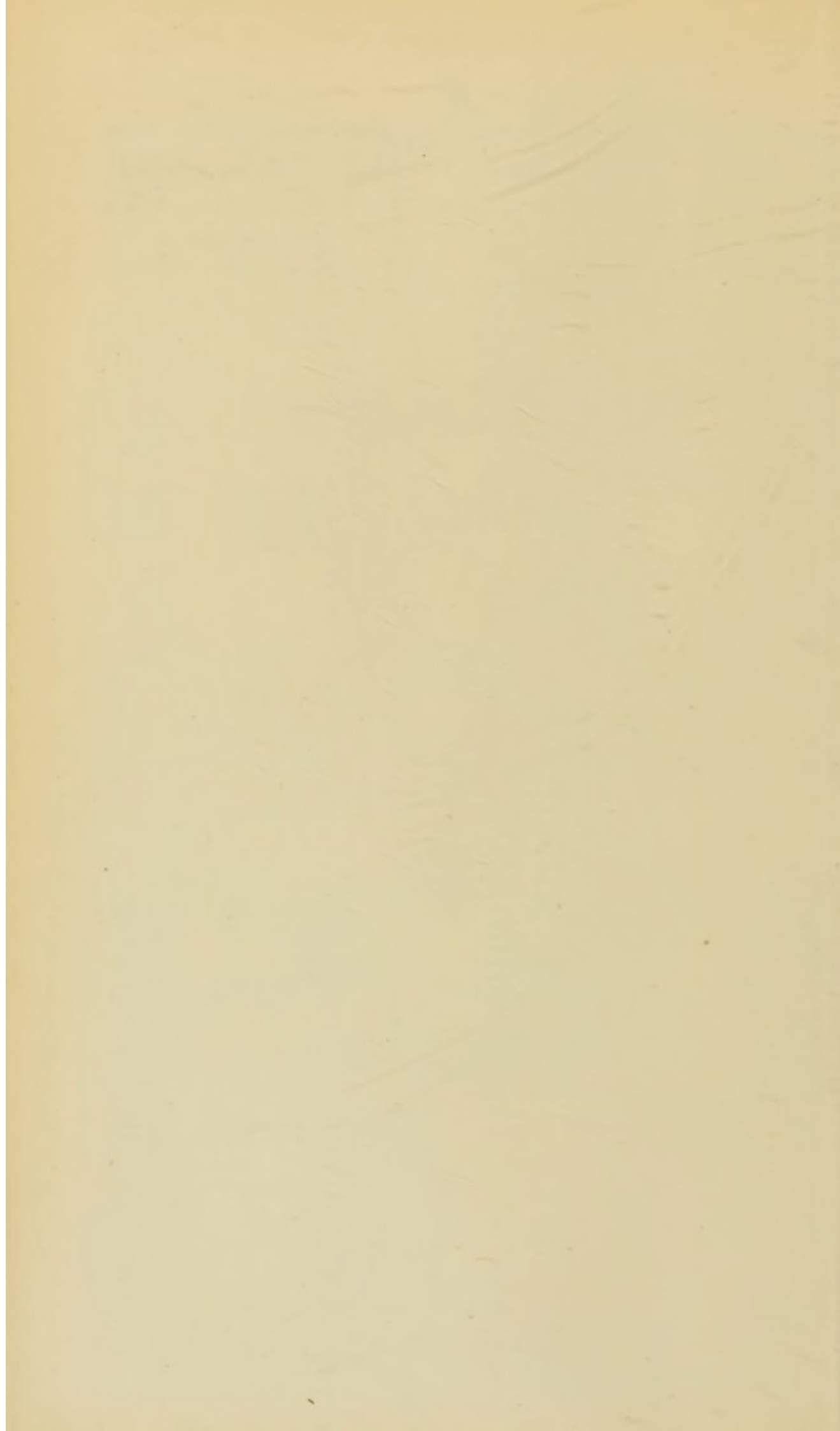
Table of the Number of Deaths occurring in each Street in the Borough of
Birmingham during the Year, 1883.

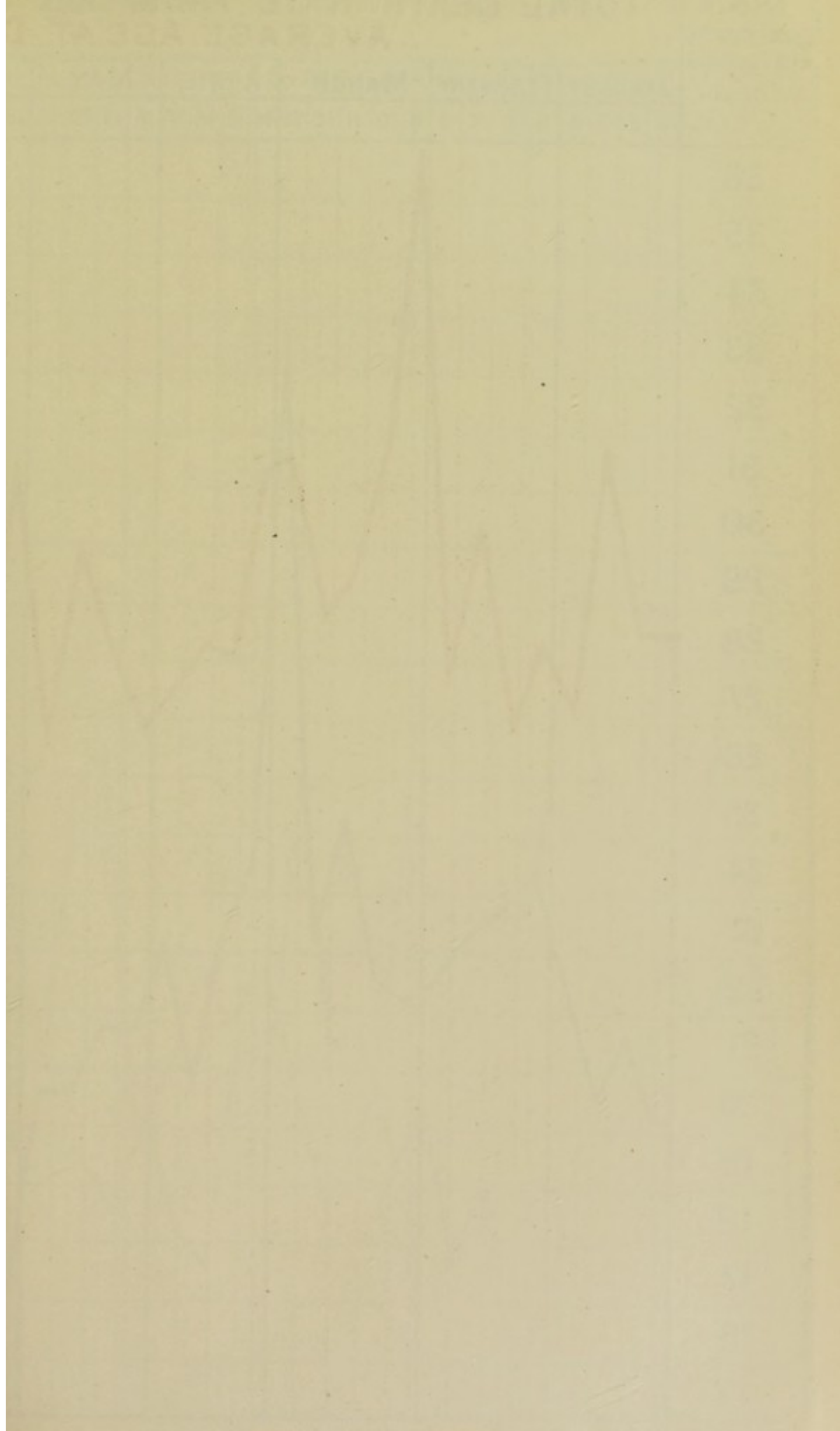
STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
A			Bath Street ...	6		Burbury Street ...	2	19
Abberley Street ...		3	Beachfield Road ...	2		Burlington Passage ...		
Abbey Street ...	3	4	Beach Street ...	6		Butler Street ...		3
Aberdeen Street ...	4	10	Beak Street ...	3		Butler Street South ...		3
A. B. Row ...		1	Bear Lane ...			Butlin Street ...		1
Adam Street ...	7	20	Beatrice Crescent ...					
Adderley Street ...	4	10	Beaufort Road ...	1		C		
Adelaide Street, Deritend ...		6	Bedford Road ...	4		Calthorpe Road ...		4
Adelaide St., Duddleston ...			Beechfield Road ...			Cambridge Crescent ...		
Albany Road ...			Belgrave Road ...	6		Cambridge Street ...		3
Albert Street, Deritend ...	3	1	Bell Barn Road ...	35		Camden Drive ...		
Albert Street, All Saints ...			Bellis Street ...	4		Camden Grove ...		
Albert St., St. Martin's ...			Bell Street ...			Camden Street ...	11	36
Albion Street ...	1	3	Belmont Passage ...			Camp Hill ...	2	17
Alcester Street ...	2	10	Belmont Row ...	3	13	Camp Street ...	1	1
Alexandra Road ...		3	Benacre Street ...	3	17	Canal Street ...	1	1
Alexandra Street ...	1	7	Bennett's Hill ...	3	2	Cannon Street ...		1
Alfred Street ...	1	3	Berkley Street ...	1	3	Cape Lane ...		1
Allcock Street ...	2	7	Berners Street ...	1	4	Cape Street ...		2
Allen's Road ...	1		Beswick Street ...			Cardigan Street ...	4	14
Allesley Street ...		3	Betholom Row ...		3	Carlisle Road ...		1
Allison Street ...	8	31	Birchall Street ...	4	9	Carlisle Street ...	2	4
All Saints' Road ...		2	Bird Lane ...		1	Carnarvon Road ...		
All Saints' Street ...			Bishopgate Street ...	1	20	Caroline Street ...		4
Alma Crescent ...		6	Bishop St., St. Martin's ...	1	11	Carpenter Road ...		2
Alma Street ...			Bishop Street, St. Mary's ...	1		Carr's Lane ...		2
Alston Street ...		5	Bishop Street South ...		5	Cartland Road ...		1
Ampton Road ...		4	Bissell Street ...	4	17	Carver Street ...	3	22
Anderton Road ...		5	Blake Lane ...			Castle Street, St. Martin's ...		3
Anderton Street ...	1	7	Blews Street ...	2	6	Castle Street, Deritend ...		
Andover Street ...			Blews Street West ...		5	Cathcart Street ...	2	2
Angelina Street ...	2	20	Bloomsbury ...	2	5	Cato Street ...		11
Ann Street ...			Bloomsbury Street ...	1	20	Cato Street North ...	1	6
Argyle Street ...	3	7	Blucher Street ...		5	Cattell Road ...	2	13
Armoury Road ...			Bolton Road ...		16	Cattell Grove ...		3
Arsenal Street ...		2	Bolton Street ...	2	2	Cecil Street ...	2	19
Arthur Road ...			Bond Street ...			Centre Row ...		1
Arthur Street ...	7	25	Bordesley Green ...	2	5	Chad Road ...		
Ashford Street ...			Bordesley Green Road ...	1		Chandos Road ...		2
Ashford Row ...	2	18	Bordesley Park Road ...	3	23	Chapel House Street ...		1
Aston Brook Street ...		1	Bordesley Street ...	7	31	Chapel Street ...		2
Aston Road ...	5	35	Bow Street ...		9	Chapman Road ...		1
Aston Street ...	2	5	Bowyer Street ...			Charles Arthur Street ...	2	12
Asylum Road ...	1	1	Bracebridge Street ...	4	12	Charles Henry Street ...	4	34
Atlas Road ...			Bradford Street ...	1	12	Charles Road ...		
Athole Street ...		2	Braithwaite Road ...		5	Charlotte Road ...		2
Auckland Road ...		3	Branston Street ...		5	Charlotte Street ...	1	5
Augusta Street ...		1	Brasshouse Passage ...			Chattaway Street ...	1	3
Augustus Road ...		3	Brass Street ...		5	Cheapside ...	7	34
Austin Street ...		2	Bread Lane ...		2	Cheatham Street ...		3
Avenue Road ...		1	Bread Street, St. Paul's ...		9	Chequers Walk ...		2
B			Bread St., St. Martin's ...			Cherry Street ...		1
Bacchus Road ...	2	3	Brearley Street ...	6	21	Cherry Wood Road ...	1	3
Bagot Street ...	2	11	Brearley Street West ...	2	26	Chester St., Ladywood ...	5	17
Bailey Street ...	1	1	Brewery St., Deritend ...			Chester St., Duddleston ...		1
Baker Street ...		7	Brewery St., St. Mary's ...		1	Cheston Road ...		
Balloon Street ...			Brewery St., Duddleston ...			Christ Church Passage ...		
Balsall Heath Road ...	1	3	Brickkiln Street ...		1	Church Road, Duddleston ...	1	5
Balsall Street ...			Bridge Road ...			Church Road, Edgbaston ...		2
Banbury Street ...	1	8	Bridge Street, Nechells ...		1	Church Street ...		4
Barford Road ...		6	Bridge Street Duddleston ...		1	Clarendon Road ...		1
Barford Street ...	3	17	Bridge Street St. Thomas ...		1	Clark Street ...	6	20
Barford Street South ...	3	9	Bridge Street West ...	5	26	Claverdon Street ...	2	10
Barker Street ...		1	Bristol Road ...		10	Claybrook Street ...		2
Barlow's Road ...		1	Bristol Street ...	4	17	Clement Street ...		8
Barn Street ...	4	9	Broad Street ...	1	22	Cleve Terrace ...		2
Barrack Street ...	1		Bromsgrove Street ...	1	19	Clissold Street ...		7
Barr Street ...	3	18	Brookfield Road ...			Cliveland Street ...	1	5
Barr Street West ...		6	Brook Road ...			Coach Yard ...		2
Bartholomew Row ...		5	Brook Street ...			Cook Street ...	3	6
Bartholomew Street ...	2	13	Broom Street ...		4	Cooksey Road ...	2	14
Barwell Road ...	2	2	Brueton's Walk ...			Coleman Street ...	6	14
Barwick Street ...		1	Buckingham Street ...	1	7	Coleshill Street ...	2	6
Baskerville Passage ...		1	Buck Street ...	1		College Street ...		4
Baskerville Place ...		1	Bullock Road ...			Colmore Row ...		3
Bath Passage ...		2	Bullock Street ...	1	2	Commercial Street ...		
Bath Row ...		15	Bull Ring ...			Communication Row ...	1	10
			Bull Street ...	1	6	Congreve Street ...		1

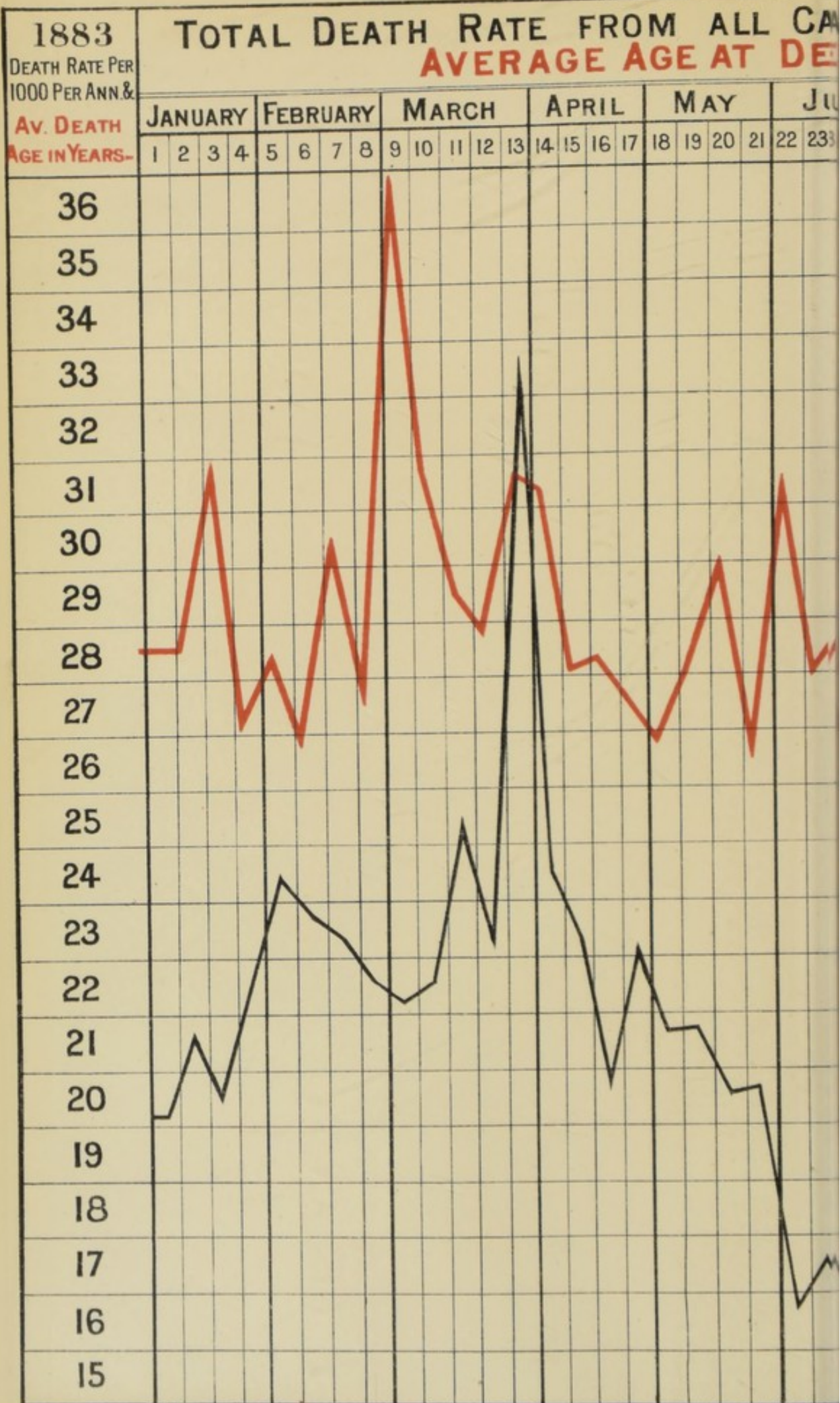
STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
Constance Road ...			Farm Road ...			Green Street, All Saints'	2	6
Constitution Hill ...	1	10	Farm Street ...	5	46	Green's Village ...		4
Conybere Street ...	3	20	Farquhar Road ...		1	Greenway Street ...	1	19
Cope Street ...	2	2	Fawdry Street ...		1	Grindstone Road ...		
Coplow Street ...	1	6	Fazeley Street ...	1	4	Grosvenor Row ...		
Coralie Street ...		4	Fisher Street ...	1	9	Grosvenor Street ...		3
Corporation Street ...		3	Fleet Street ...	2	13	Grosvenor Street West ...	7	15
Cotton Row ...			Floodgate Street ...		11	Guest Street ...	1	5
Cotton Street ...		7	Florence Street ...	2	11	Guildford Street ...		4
Coventry Road ...	6	27	Fordrough Lane ...			Gullet, St. Mary's ...		
Coventry Street ...		8	Fordrough Street ...	3	15	Gullet, Deritend ...		
Cowper Street ...	3	6	Ford Street ...	2	23	Gullet, St. Thomas's ...		
Cox Street ...	3	4	Forge Street ...		2			
Coxwell Road ...		4	Foster Street ...			H		
Crabtree Road ...	2	10	Foundry Road ...	2	1	Hagley Road ...		8
Cranemore Street ...			Fowler Street ...			Halberton Street ...		3
Cregoe Street ...	3	14	Fox Street ...		3	Hall Hill Road ...		
Crescent ...		16	Francis Road ...		4	Hall Street ...		6
Crescent Wharf ...			Francis Street ...	10	22	Hampton Street ...	4	13
Cromwell Street ...	4	43	Frankfort Street ...	2	13	Hampton Row ...		
Crooked Lane ...			Franklin Street ...			Handsworth New Road ...		
Cross Street ...			Frank Street ...		2	Hanley Street ...		6
Cuckoo Road ...	3	6	Frederick Road ...		3	Hanover Street ...		5
Cumberland Street ...		2	Frederick Street ...	1	3	Harborne Road ...		2
Curzon Street ...	1	4	Freeman Road ...	1	3	Harding St. St. George's ...	2	8
Cuthbert Road ...	1	3	Freeman Street ...			Harding St., All Saints' ...		1
			Freeth Street ...	1	12	Harford Street ...		2
D			Friston Street ...		6	Harrison's Road ...		
Dale End ...		6				Hatchett Street ...	2	19
Dartmouth Street ...	6	27	G			Hawkes Street ...	4	2
Dart Street ...	2	10	Galton Street ...		1	Heath Mill Lane ...	3	11
Darwin Street ...	3	25	Garbett Street ...		18	Heath Street ...	1	22
Dawson Street ...		2	Garrison Lane ...	6	26	Heath Street South ...		4
Dean Street ...		5	Garrison Street ...	3	3	Heaton Street ...		9
Dearman Road ...		1	Gas Street ...		2	Helena Street ...		
Derby Street ...	1	1	Geach Street ...	5	6	Heneage Street ...	11	43
Devon Street ...	3	16	Gee Street ...		6	Henley Street ...	1	5
Devonshire Street ...	1	11	Gem Street ...	1	2	Henn Street ...		
Digbeth ...		13	George Road ...		3	Henn's Walk ...		3
Digby Street ...		4	George Street, St. Paul's ...		2	Henrietta Street ...		2
Doe Street ...	1	5	George Street, Nechells ...	1	4	Henry Street ...	4	29
Dolman Street ...	2	5	George Street West ...	4	12	Herbert Road ...	5	17
Dolobran Road ...	1	6	Gibb Street ...		2	Hickman Road ...		2
Drury Lane ...			Gillott's Road ...			Hick Square ...		2
Duchess Road ...			Gladstone Road ...		1	Hick Street ...	1	9
Duddeston Mill Road ...	3	10	Glebe Passage ...			Highfield Road ...		2
Duddeston Row ...		12	Glebe Street ...		6	Highgate Lane ...		7
Dudley Road ...	2	21	Gloucester Street ...			Highgate Place ...		1
Dudley Street ...		1	Glover's Road ...		1	Highgate Street ...	2	15
Dugdale Street ...		3	Glover's Street ...	4	10	High Park Street ...		9
Duke Street ...		8	Godwin Street ...	4	13	High Street ...	1	3
Dymoke Street ...	4	24	Golden Hillock Road ...		7	High Street, Deritend ...	8	30
			Gooch Street ...	1	27	Hill Street ...	1	10
E			Goode Street ...	1	5	Hinckley Street ...		1
Eastern Road ...			Good Knave's End ...			Hingeston Street ...	1	19
Easy Row ...		1	Goodrick Street ...		6	Hob Moor Road ...		2
Eden Place ...			Gopsall Street ...		8	Hockley Hill ...		7
Edgbaston Road ...			Gosta Green ...		1	Hockley Pool Road ...		
Edgbaston Street ...	1		Gough Road ...	1	2	Hockley Street ...	4	7
Edmund Street ...		4	Gough Street ...		8	Holborn Hill ...	3	2
Edward Road ...			Grace Road ...	2	3	Holland Street ...		1
Edward Street ...		15	Grafton Road ...			Holliday Street ...	3	12
Elkington Street ...			Graham Street ...	2	6	Hollier Street ...		6
Ellen Street ...	4	10	Grange Road ...	1	3	Holloway Head ...	4	16
Ellis Street ...	1	3	Grantham Road ...		2	Holly Road ...		
Elvetham Road ...		3	Grant Street ...	1	6	Holt Street ...	6	11
Emily Street ...	3	19	Granville Street ...		9	Hooper Street ...		1
Emmeline Street ...			Great Barr Street ...	4	28	Hope St. (St. Martin's) ...	4	17
Enfield Road ...	1		Great Brook Street ...	3	30	Hope St., (All Saints') ...		
Engine Street ...		2	Great Charles Street ...		9	Horse Fair ...		
Erasmus Road ...	1	9	Great Colmore Street ...	6	30	Hospital Street ...	9	25
Ernest Street ...			Great Francis Street ...	2	29	Howard Place ...		
Erskine Street ...	3	2	Great Hampton Row ...	3	23	Howard Street ...	3	6
Essex Street ...	1	9	Great Hampton Street ...	1	12	Howe Street ...	3	16
Essington Street ...		7	Great King Street ...	1	26	Hubert Road ...		
Exeter Row ...			Great Lister Street ...	4	23	Hubert Street ...		
Eyre Street ...		4	Great Queen Street ...	1	7	Humpage Road ...		1
			Great Russell Street ...	7	19	Hunter's Lane ...		
F			Great Tindal Street ...	2	6	Hunter's Vale ...		
Factory Road ...		3	Greenfield Crescent ...	1		Hurst Street ...	4	11
Falconer Road ...			Green Lane ...	3	18	Hutton Street ...	2	3
			Green's Court ...			Hyde Road ...	1	4
			Green Street, Deritend ...		5	Hylton Street ...		1

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
I			Lennox Street ...	1	18	Milk Street ...	3	16
Icknield Port Road ...	9	60	Leopold Street ...	15		Miller Street ...	2	9
Icknield Square ...	3	15	Lichfield Street ...			Mill Lane ...		1
Icknield Street ...	4	29	Lilly Green ...	1	3	Mill Street, Duddeston ...	1	
Inge Street ...		9	Lingard Street ...	2	8	Milton Street ...		
Ingleby Street ...	4	11	Lionel Street ...	2	4	Milward Street ...	2	12
Inkerman Street ...	3	10	Lister Street ...		5	Minories ...		7
Irving Street ...	5	35	Little Ann Street ...	1	5	Moat Lane ...		
Islington ...			Little Barr Street ...	2	4	Moat Row ...		1
Islington Row ...		5	Little Bow Street ...		1	Moillett Street ...		1
Ivy Lane ...		3	Little Broom Street ...			Moland Street ...		4
J			Little Cannon Street ...			Mole Street ...	3	10
Jamaica Row ...	3	3	Little Cherry Street ...			Mona Road ...	2	5
James Street ...		1	Little Edward Street ...	1	5	Monmouth Street ...		
James Turner Street ...		5	Little Francis Street ...		1	Montague Road ...		
Jenkins Street ...		5	Little Green Lane ...	4	10	Montague Street ...		1
Jennens Row ...		3	Little Hill Street ...		3	Montgomery Street ...	1	8
John Bright Street ...		4	Little King Street ...			Montpellier Street ...		1
Johnson Street ...	1	4	Little Shadwell Street ...		1	Monument Road ...		3
Johnstone Street ...	1	4	Liverpool Street ...		7	Moore's Row ...	7	32
John Street ...			Livery Street ...		1	Moorson Street ...		5
K			Lloyd Street ...		1	Moor Street ...		2
Keeley Street ...		1	Lodge Road ...	3	13	Moreton Street ...		12
Kelynge Street ...	4	12	Lombard Street ...	4	10	Morville Street ...		3
Kendal Road ...		1	London Prentice Street ...	8	25	Moseley Road ...	1	18
Kent Street ...	1	7	Long Acre ...			Moseley Street ...	3	19
Kent Street North ...	3	8	Longmore Street ...		1	Mott Street ...	2	35
Kenion Street ...	1	8	Long Street ...	3	8	Mountfield Road ...		
Key Hill ...	2	13	Lord Street ...	4	5	Mount Pleasant ...		
King Alfred's Place ...		2	Louisa Street ...	1	2	Mount Street, Deritend ...		3
King Edward's Place ...		5	Loveday Street ...	4	8	Mount St., Winson Green ...	2	3
King Edward's Road ...	1	13	Love Lane ...	2	3	Mount Street, Nechells ...	1	4
Kingscote Road ...	3	1	Lower Camden Street ...			Musgrave Road ...	1	6
Kingston Road ...	2	4	Lower Dartmouth Street ...	5	3	Muntz Street ...		7
King Street ...		4	Lower Darwin Street ...		1		2	5
Kyott's Lake Road ...		3	Lower Dean Street ...		1	N		
Kyrwick's Lane ...	1	13	Lower Essex Street ...	3	17	Navigation Street ...	1	8
L			Lower Fazeley Street ...		2	Nechells Park Road ...	5	18
Ladypool Lane ...		5	Lower Henry Street ...			Nechells Place ...	2	2
Ladywell Passage ...			Lower Hospital Street ...		6	Needham Street ...		
Ladywell Walk ...			Lower Hurst Street ...		7	Needless Alley ...		2
Ladywood Road ...	5	27	Lower Hurst Street East ...	1	6	Nelson Street ...		2
Ladywood Grove ...			Lower King Edward's Rd ...	1		Nelson Street South ...	2	12
Lancaster Street ...	1	23	Lower Lawley Street ...		3	Nelson Street West ...	3	11
Lander Street ...			Lower Loveday Street ...		1	New Bartholomew St. ...		3
Langley Road ...	1	2	Lower Pershore Street ...		1	New Bond Street ...		2
Lansdowne Street ...	1	1	Lower Priory ...		1	New Bridge Street ...		1
Larches Street ...	1	7	Lower Russell Street ...		1	New Canal Street ...	7	18
Latimer Street ...		7	Lowe Street ...			New Church Street ...		
Latimer Street South ...	6	27	Lower Temple Street ...	4	16	Newdegate Street ...	1	4
Lawden Road ...	1	9	Lower Tower Street ...			New Edmund Street ...		1
Lawley Street ...	6	25	Lower Trinity Street ...		7	New England ...		
Lawrence Street ...	1	24	Lower Windsor Street ...			New Hall Hill ...	1	8
Lease Lane ...		1	Loxton Street ...	1	5	New Hall Street ...		15
Ledsam Street ...	2	25	Ludgate Hill ...		5	New Inkleys ...		4
Lee Bank Road ...		19	Ludgate Hill Passage ...	2	25	New John Street ...	3	17
Lee Crescent ...		2	Lupin Street ...			New John Street West ...	15	75
Lee Mount ...		1	M			New Market Street ...	1	1
Leek Street ...		3	Macdonald St., St. Mrtn's ...		2	New Meeting Street ...		1
Lees Street ...		2	Main Street ...		2	New Spring Street ...	5	15
Legge Lane ...		1	Malvern Hill Road ...	1	1	New Street ...		3
Legge Street ...	2	11	Manchester Street ...		4	New Summer Street ...	4	22
Lench Street ...	2	14	Manor Road ...			Newton Street ...		3
			Market Street ...		3	Newtown Row ...	5	23
			Mark Lane ...			Nile Street ...		
			Marroway Street ...		2	Nineveh Road ...		1
			Marshall Street ...	1	1	Noel Road ...		2
			Marshall Street South ...	2		Norfolk Road ...		2
			Mary Ann Street ...		3	Norfolk Street ...		8
			Mary Street ...			Norman Street ...	1	9
			Masshouse Lane, St. Mtns ...		3	Northampton Street ...		4
			Masshouse Lane, Edgbsn ...			Northbrook Street ...	2	4
			Meeting House Yard ...			Northumberland Street ...	2	5
			Meriden Street ...	2	7	North Warwick Street ...		
			Metchley Lane ...		2	Northwood Street ...	4	15
			Metchley Park Road ...			North Street ...		
			Miles Street ...	6	15	Norton Street ...		4
						Nova Scotia Street ...	2	5
						Nursery Road ...		

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
O			R			Shadwell Street ... 6		
Oakley Road ... 2			Radnor Street... 1			Shakespeare Road ... 1 16		
Old Cross Street ... 1 6			Raglan Road ... 1			Sheepcote Lane ... 2 14		
Old Inkleys ... 1			Railway Ter., Duddleston ... 7			Sheepcote Street ... 4 9		
Old Meeting Street ... 1 10			Railway Ter., Nechells ... 13			Sherborne Street ... 1 23		
Old Square ... 1			Rann Street ... 1 8			Sherlock Street ... 1 19		
Oliver Road ... 1			Ratcliff Place ... 1			Shutt Lane ...		
Oliver Street ... 1 10			Ratcliff Street ... 1 14			Sidney Road ...		
Oozells Street ... 5			Ravenhurst Street ... 2 1			Silver Street ...		
Oozells Street North ... 2			Rawlins Street ... 2 10			Sir Harry's Road ... 2 6		
Ormond Street ... 4 7			Rea Street ... 4			Skinner Lane ... 1		
Osler Street ... 2 14			Rea Street South ... 5			Skinner Street ... 5		
Oughton Place ... 1 9			Regent Parade ... 1 2			Slough Lane ... 7		
Outlet Road ...			Regent Park Road ... 1 2			Smallbrook Street ...		
Owen Street ... 1 6			Regent Place ... 2			Smithfield Passage ...		
Oxford Street ... 6			Regent Row ... 1			Smithfield Street ...		
Oxygen Street... 2 2			Regent Street ... 1			Smith Street, St. George's ... 5 16		
P			Reservoir Retreat ... 2			Smith Street, Duddleston ...		
Paddington Street ... 1 10			Reservoir Road ... 4 10			Snape Street ... 1 8		
Pakenham Road ... 3 10			Richard St., Nechells ... 3			Snow Hill ... 1 8		
Palmer Street ... 7			Richard St., St. Paul's ... 2			Soho Road ... 1		
Parade ... 1			Richmond Hill Road ... 2			Somerset Road ... 1		
Paradise Street ... 5 5			River Street ... 2			Somerset Street ... 7		
Parker Street ... 3			Robert Road ... 6 8			South Road ... 4		
Park Lane ... 10 38			Rocky Lane ... 3			Spark Street ... 2		
Park Road, All Saints' ... 1			Rodway Street ... 2			Speaking Stile Walk ... 2		
Park Road, Edgbaston ... 3 5			Rope Walk ... 1			Speedwell Road ... 3		
Park Street ... 3 2			Rosalie Street ... 1 3			Spencer Street ...		
Parliament Street ... 3 3			Rotton Park Road ... 3 16			Spiceal Street ...		
Paxton Road ... 4 12			Rotton Park Street ... 2 9			Spon Terrace ... 3		
Pebble Mill Road ... 1 5			Rowland Street ... 2 9			Spooner Street ... 1 10		
Peel Street ... 4 12			Rupert Street ... 4 7			Springfield Street ... 1 18		
Penn Street, Deritend ... 4			Ruston Street ... 4 16			Spring Hill ... 5		
Penn Street, Duddleston ... 1 9			Ruston Street North ... 2			Spring Hill Passage ... 2		
Pershore Road ... 14			Rutland Road ... 1 12			Spring Road ... 2		
Pershore Street ...			Ryland Road ... 10			Spring Street ... 2		
Phillips St., Market Hall ... 6			Ryland Street, Deritend ...			Spring Vale ... 1 6		
Phillips St., St. George's ... 1			Ryland St., Ladywood ...			Stafford Street ... 1 1		
Pickford Street ... 2 8			Ryland Street North ...			Station Road ... 4 4		
Piddock Street ... 2			S			Stella Street ... 2 10		
Pigott Street ... 2 8			Salop Street ... 2			Stanhope Street ... 4 18		
Pinfold Street ... 2			Saltley Road ... 3 15			Staniforth Street ... 2		
Pitney Street ... 2			Saltley Street ... 2			Stanmore Road ...		
Pitsford Street ... 2			Sampson Road ... 6			Stanley Road ... 2 9		
Plough & Harrow Road ... 3 14			Sampson Road North ... 2			Steelhouse Lane ... 1		
Pope Street ... 3 14			Sandon Road ... 3			Stephenson Place ... 1		
Poplar Avenue ...			Sand Pits ... 2			Stephenson Street ... 2 11		
Porchester Street ...			Sand Street ... 3 11			Stirling Road ..		
Port Hope Road ... 1 4			Sandy Lane ... 1 17			Stoke Street ... 5		
Portland Road ... 1			St. Andrew's Road ... 2			Stone Yard ... 2		
Potter Street ... 3			St. Clement's Road ... 1			Stoney Lane ... 14		
Poultry ...			St. George's Crescent ... 4 18			Stour Street ... 10		
Powell Street ... 5 9			St. George's Place ... 3 2			Stratford Place ... 5		
Prescott Street ... 5 15			St. George's Street ... 1 5			Stratford Road ... 2		
Price Street ... 3			St. George's Terrace ... 1 2			Stratford Street ... 2		
Priestley Road ... 2 8			St. James' Place ... 1 20			Stuart Street ... 2 19		
Primrose Hill ...			St. James' Road ... 1 1			Suffolk Street ... 3		
Princes Row ...			St. James' Street ... 1 1			Summerfield Crescent ... 6		
Princes Street... 2 2			St. Luke's Road ... 2 17			Summer Hill ... 1 6		
Princess Road... 1 1			St. Mark's Street ... 10			Summer Hill Road ... 1 1		
Princip Street... 2 4			St. Mark's Street West ... 1			Summer Hill Street ... 11 32		
Priory Road ... 1 6			St. Martin's Lane ... 1			Summer Hill Terrace ... 2		
Pritchett's Lane ... 11			St. Martin's Place ... 1 10			Summer Lane... 1 16		
Pritchett Street ... 2 10			St. Martin's Row ... 1			Summer Row ... 3		
Proctor Street ... 2			St. Martin's Street ... 1 1			Summer Road... 15		
Prospect Row ... 2			St. Mary's Row ... 1 4			Summer Street ... 1 4		
Q			St. Mary's Street ... 9			Sutton Street ... 2		
Queen Street ...			St. Paul's Square ... 3			Swallow Street ... 1		
			St. Peter's Place ...			Swan Passage...		
			St. Philip's Church Yard ...			T		
			St. Stephen's Street ...			Talbot Street ... 5 11		
			St. Vincent Street ... 15			Talfourd Street ... 1 7		
			Scholefield Street ... 5 15			Tanter Street ...		
			Scotland Passage ... 1			Taylor Street ... 1 4		
			Scotland Street ... 2			Temple Field Street ... 5		
			Scott Street ... 1			Temple Row ... 1		
			Severn Street ... 2			Temple Row West ...		
			Seymour Street ...					

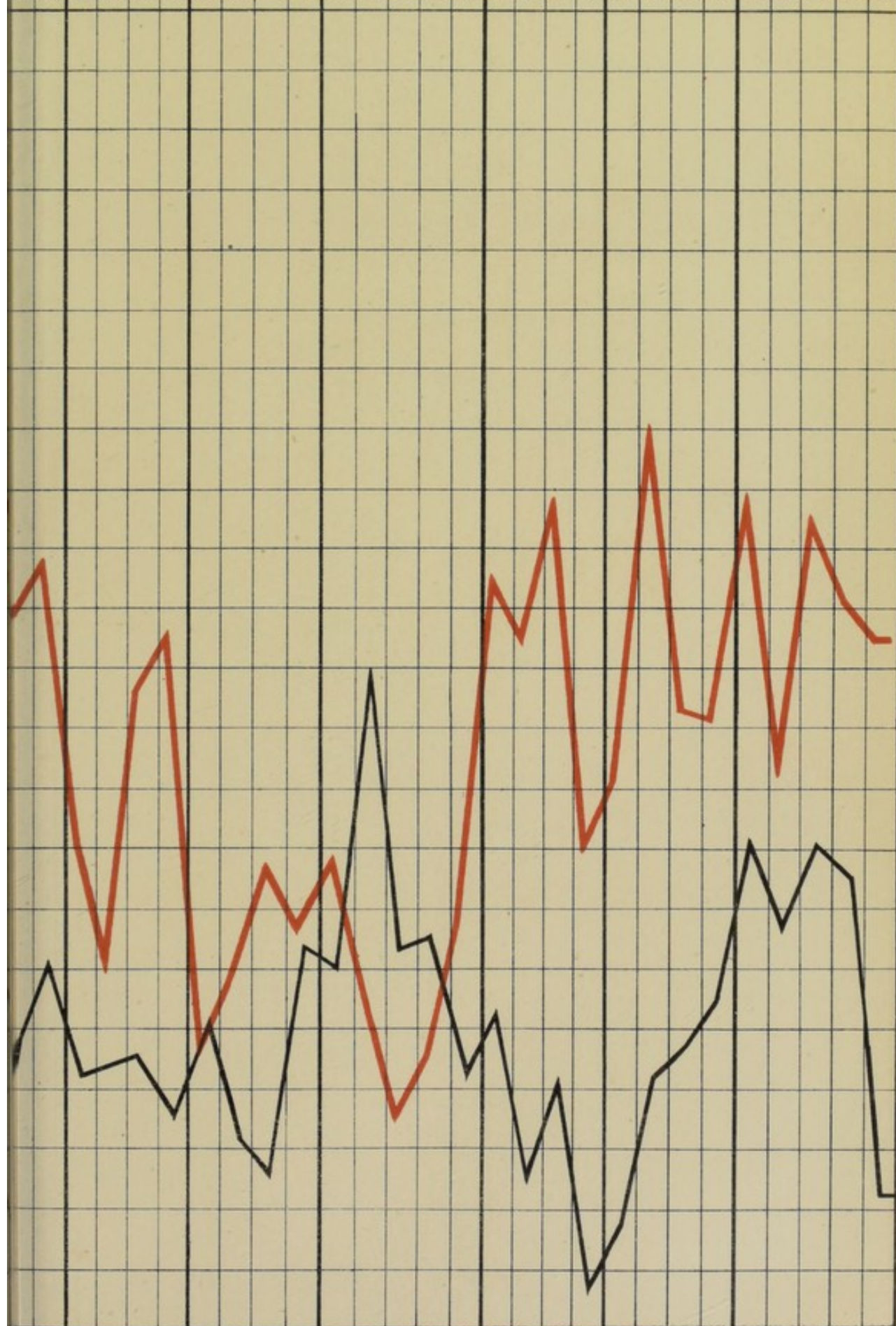


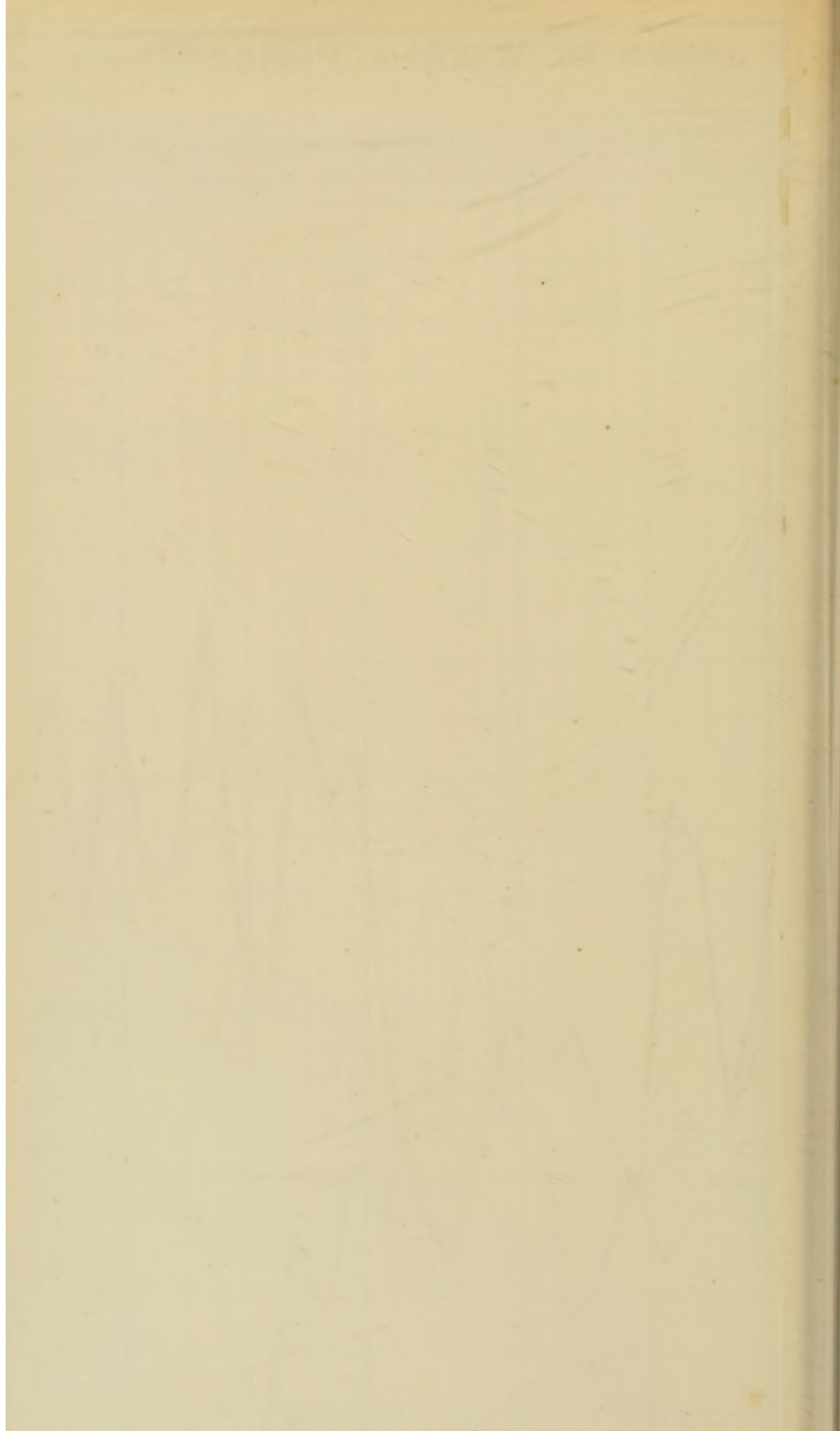




SES SHEWN IN WEEKLY PERIODS THUS — TH " " " " "

E		JULY				AUGUST				SEPTEMBER					OCTOBER				NOVEMBER				DECEMBER				
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

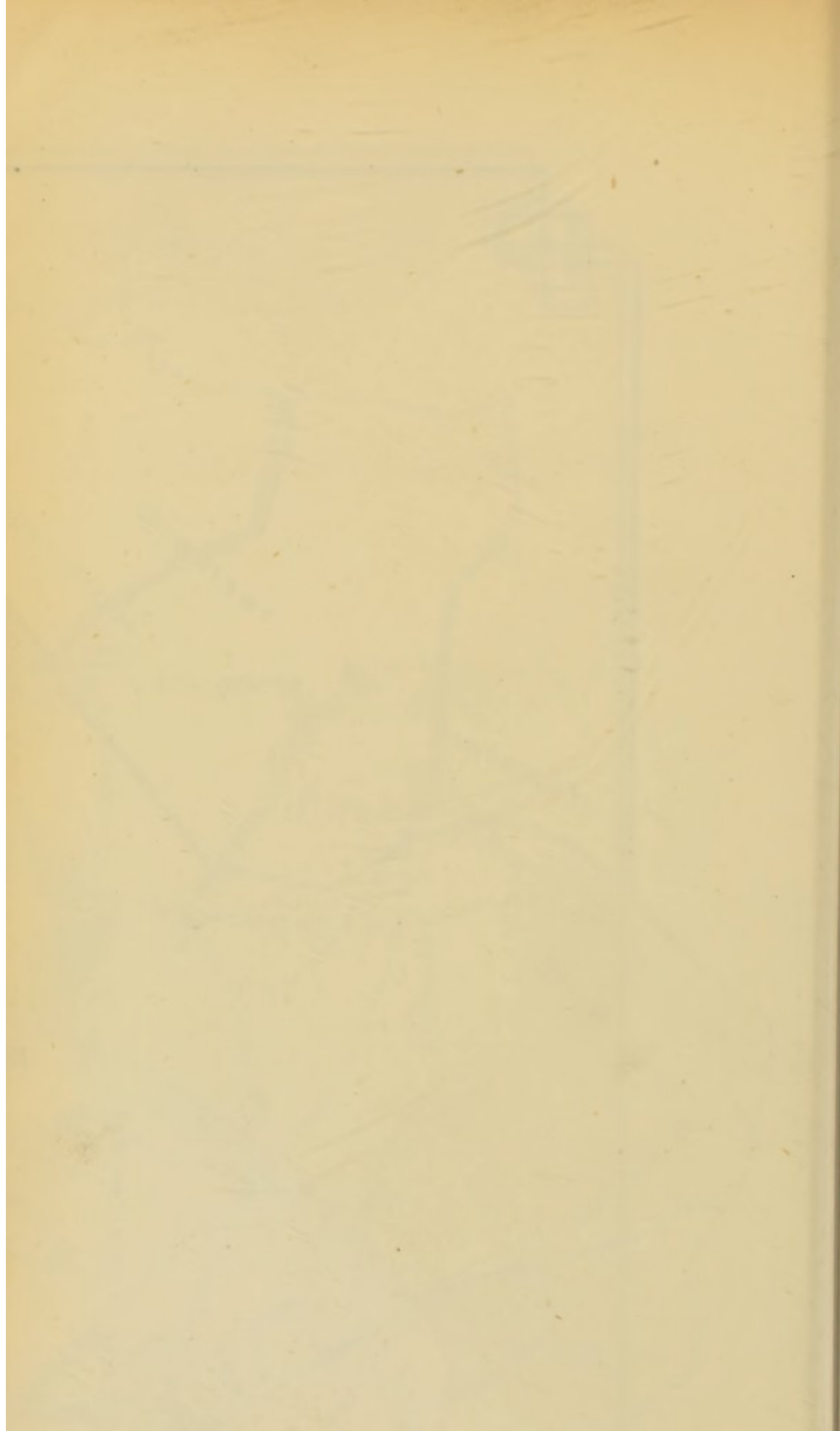




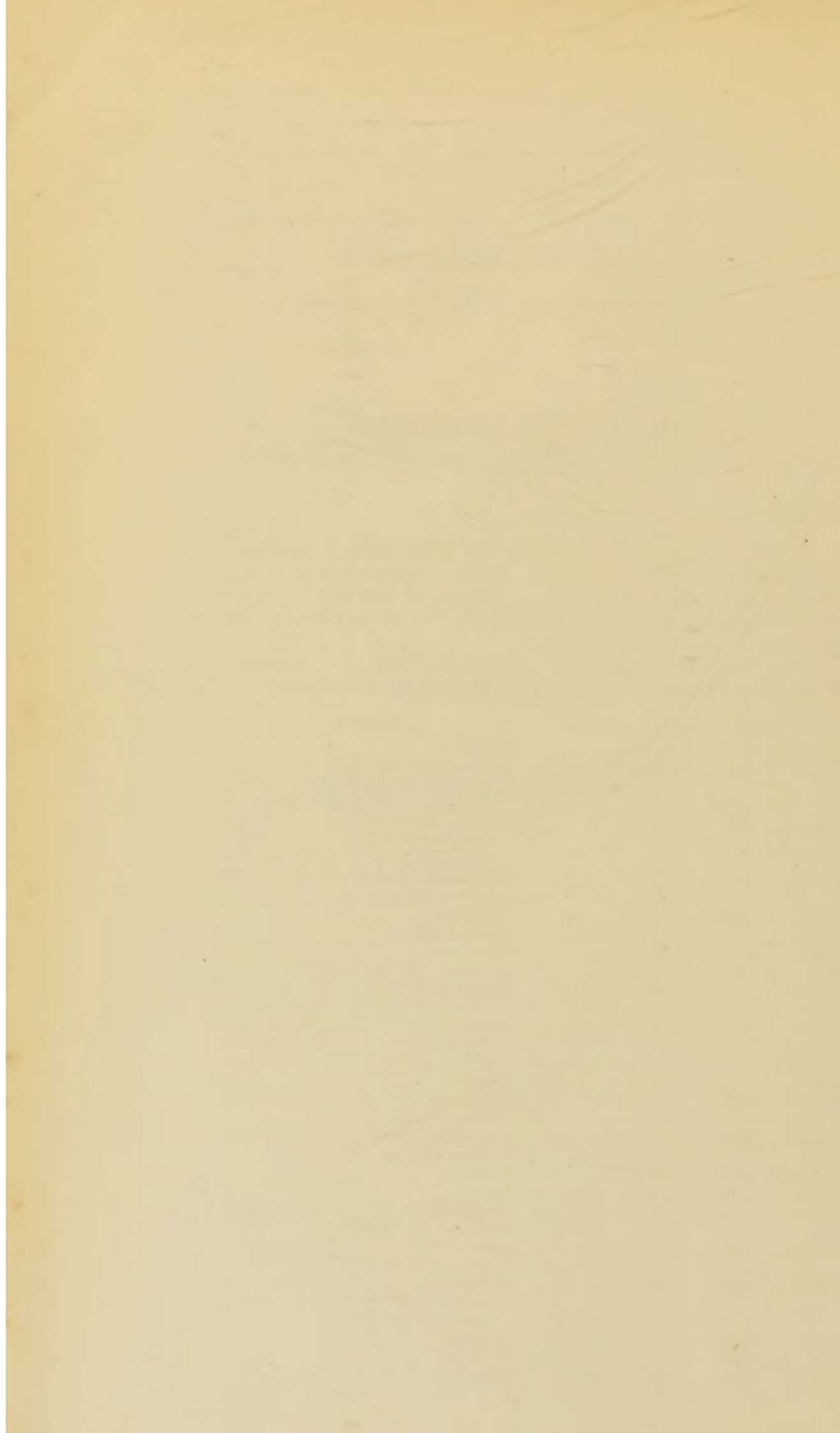
MAP OF THE BOROUGH OF BIRMINGHAM, AS IN 1880.

NOTE. THE RED SPOTS REPRESENT THE NUMBER OF DEATHS (326) FROM SCARLET FEVER IN 1883
CROSSES " " " " (155) " MEASLES
BLUE " " " " (73) " TYPHOID FEVER





REPORT
ON
ADULTERATION.



BOROUGH ANALYST'S LABORATORY,

THE COUNCIL HOUSE, BIRMINGHAM,

March 24th, 1884.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I beg to Report, that during the year 1883, I analysed 151 samples of food and drink, under the provisions of the "Sale of Food and Drugs Bill." Eleven of the samples were submitted to me by private purchasers, the remainder by the Inspector of Nuisances.

The following statement gives the date of purchase, nature of article, and the result of analysis of each sample:—

List of Articles
Analysed.

NO.	DATE.	ARTICLE.	REMARKS.
1522—	Jan. 1st.....	Milk	Genuine.
1523—	" 1st.....	Milk	Adulterated with $3\frac{1}{2}$ % water, and deprived of 12 % of its cream. Cautioned by Sub-Committee.
1524—	" 1st.....	Milk	Adulterated with $3\frac{1}{2}$ % water, and deprived of 12 % of its cream. Cautioned by Sub-Committee.
1525—	" 1st.....	Milk	Adulterated with 29 % water. Fined 40/- and costs.
1526—	" 12th	Milk	Genuine.
1527—	" 12th	Milk	Genuine (nearly)
1528—	" 12th	Milk	Genuine.
1529—	" 16th	Milk	Genuine. Private purchaser.
1530—	" 17th	Milk	Adulterated with 8 % water. Cautioned by Sub-Committee.
1531—	" 17th	Milk	Adulterated with 7 % water, and deprived of 18 % of its cream. Fined 5/- and costs.
1532—	" 17th	Milk	Genuine.
1533—	" 17th	Milk	Deprived of 20 % of its cream. Fined 5/- and costs.
1533A—	" 24th	Milk	Adulterated with 17 % of water. Fined 10/- and costs.
1534—	" 24th	Milk	Genuine.
1535—	" 24th	Milk	Genuine.
1536—	" 24th	Milk	Adulterated with $18\frac{1}{2}$ % water. Fined 10/- and costs.
1537—	" 24th	Milk	Adulterated with $9\frac{1}{2}$ % water. Cautioned by Sub-Committee.
1538—	" 24th	Milk	Adulterated with 12 % water, and deprived of 36 % of its cream. Fined 5/- and costs.
1539—	" 30th	Gin	Genuine.
1540—	" 30th	Gin	Genuine.
1541—	" 30th	Gin	Genuine.

	NO.	DATE.	ARTICLE.	REMARKS.
List of Articles Analysed (continued).	1542—	Jan. 30th	Gin	Adulterated. 42° below proof. Fined 5/- and costs.
	1543—	„ 30th	Gin	Genuine.
	1544—	„ 30th	Gin	Adulterated. 43° below proof. Paid costs.
	1545—	Feb. 23rd	Mustard	Genuine.
	1546—	„ 23rd	Mustard	Adulterated with 40 % of starch, and coloured with turmeric.
	1547—	„ 23rd	Mustard	Genuine.
	1548—	„ 23rd	Mustard	Genuine.
	1549—	„ 23rd	Mustard	Genuine.
	1550—	„ 23rd	Mustard	Genuine.
	1551—	„ 23rd	Mustard	Adulterated with 30 % starch, and coloured with turmeric.
	1552—	„ 23rd	Mustard	Genuine.
	1553—	„ 23rd	Mustard	Genuine.
	1554—	„ 23rd	Mustard	Genuine.
	1555—	„ 23rd	Mustard	Genuine.
	1556—	„ 23rd	Mustard	Genuine.
	1557—	„ 28th	Milk	Genuine.
	1558—	„ 28th	Milk	Adulterated with 9½ % water, and deprived of 35 % of its cream. Fined 5/- and costs.
	1559—	„ 28th	Milk	Genuine.
	1560—	„ 28th	Milk	Adulterated with 28 % water. Fined 5/- and costs.
	1561—	Mar. 1st	Butter	Genuine. Private purchaser.
	1562—	„ 1st	Milk	Genuine.
	1562A—	„ 6th	Milk (condensed)	Genuine. Private purchaser.
	1563—	„ 10th	Milk	Adulterated with 8½ % water. Cautioned by Sub-Committee.
	1564—	„ 10th	Milk	Adulterated with 17 % water. Fined 5/- and costs.
	1565—	„ 10th	Milk	Genuine.
	1566—	„ 13th	Butter (so-called)	Butterine.
	1567—	„ 13th	Butter (so-called)	Butterine.
	1567A—	„ 29th	Milk	Genuine. Private purchaser.
	1567B—	Apl. 5th	Milk	Genuine. Private purchaser.
	1567C—	„ 5th	Milk	Genuine. Private purchaser.
	1568—	„ 27th	Milk	Genuine.
	1569—	„ 27th	Milk	Deprived of 14 % of its cream. Cautioned by Sub-Committee.
	1570—	„ 27th	Milk	Deprived of 20 % of its cream. Paid costs.
	1571—	„ 27th	Milk	Genuine (nearly).
	1572—	„ 27th	Milk	Adulterated with 11½ % water. Fined 5s. and costs.
	1573—	May 18th	Butter	Genuine.
	1574—	„ 18th	Milk	Genuine. Private purchaser.
	1575—	June 4th	Butter	Genuine.
	1576—	„ 4th	Butter	Genuine.
	1577—	„ 4th	Butter	Butterine. Prosecution withdrawn.
	1578—	„ 6th	Milk	Deprived of 40 % of its cream. Fined 40s. and costs.
	1579—	„ 6th	Milk	Deprived of 40 % of its cream. Prosecution withdrawn.
	1580—	„ 6th	Milk	Adulterated with 17 % water. Fined 20s. and costs.
	1581—	„ 6th	Milk	Adulterated with 17 % water. Fined 10s. and costs.

NO.	DATE.	ARTICLE.	REMARKS.
1582—	June 6th	Milk	Genuine.
1583—	„ 6th	Milk	Adulterated with 5 % water and deprived of 10 % of its cream.
1584—	July 26th	Milk of Sulphur	Adulterated with 65 % Calcium Sulphate.
1585—	„ 26th	Spirits of Nitre	Quantity insufficient for analysis.
1586—	„ 26th	Milk	Genuine (nearly).
1587—	„ 26th	Milk	Adulterated with 4.2 % of water, and deprived of 3.7 % of its cream. Cautioned by Health Sub-Committee.
1588—	„ 26th	Milk	Adulterated with 12.5 % of water, and deprived of 19 % of its cream. Fined 20/- and costs.
1589—	„ 26th	Gin.....	Genuine.
1590—	„ 26th	Sausage.....	Genuine.
1591—	Aug. 8th	Milk	Genuine.
1592—	„ 8th	Milk	Genuine.
1593—	„ 8th	Milk	Genuine.
1594—	„ 8th	Milk	Adulterated with 8.5 % water. Cautioned by Health Sub-Committee.
1595—	„ 8th	Milk	Adulterated with 8.5 % water. Cautioned by Health Sub-Committee.
1596—	„ 20th	Butter	Genuine.
1597—	„ 20th	Butter	Genuine.
1598—	„ 20th	Butter	Genuine.
1599—	Sep. 14th	Wine.....	Consisted of a fruit juice, principally of black currant, and contained no alcohol. Private purchaser.
1611A—	Oct. 12th	Milk	Adulterated with 8½ % water. Cautioned by Health Sub-Committee.
1612—	„ 12th	Coffee.....	Genuine.
1613—	„ 12th	Milk	Adulterated with 7 % water. Cautioned by Health Sub-Committee.
1614—	„ 12th	Coffee.....	Genuine.
1615—	„ 12th	Coffee.....	Genuine.
1616—	„ 12th	Coffee.....	Adulterated with 64½ % chicory. Cautioned by Health Sub-Committee.
1617—	„ 26th	Mustard	Adulterated with 15 % of wheat flour. Cautioned by Health Sub-Committee.
1618—	„ 26th	Mustard	Genuine.
1619—	„ 26th	Mustard	Genuine.
1620—	„ 26th	Mustard	Genuine.
1621—	„ 26th	Mustard	Adulterated with 30 % wheat flour. Cautioned by Health Sub-Committee.
1622—	„ 26th	Mustard	Genuine.
1623—	„ 27th	Milk	Genuine.
1624—	„ 27th	Milk	Adulterated with 10½ % water. Fined 5/- and costs.
1625—	„ 27th	Milk	Adulterated with 22.9 % water. Cautioned by Health Sub-Committee.
1626—	„ 27th	Milk	Adulterated with 19 % water. Cautioned by Health Sub-Committee.
1627—	„ 31st	Milk	Adulterated with 34 % water. Fined £5 and costs.
1628—	„ 31st	Milk	Genuine.
1629—	„ 31st	Milk	Genuine.
1630—	„ 31st	Milk	Genuine.

NO.	DATE.	ARTICLE.	REMARKS.
1631—	Oct. 31st	Milk	Genuine.
1632—	Nov. 6th	Milk	Genuine. Private purchaser.
1633—	„ 17th	Coffee	Adulterated with 65·2 % chicory. Cautioned by Health Sub-Committee.
1634—	„ 17th	Mustard	Genuine.
1635—	„ 17th	Coffee	Adulterated with 59·8 % chicory. Cautioned by Health Sub-Committee.
1636—	„ 17th	Mustard	Genuine.
1637—	„ 17th	Mustard	Adulterated with 25 % of starch and turmeric. Cautioned by Health Sub-Committee.
1638—	„ 17th	Coffee	Adulterated with 46·7 % chicory. Cautioned by Health Sub-Committee.
1639—	„ 17th	Coffee	Adulterated with 66·2 % chicory. Cautioned by Health Sub-Committee.
1640—	„ 17th	Mustard	Genuine.
1641—	„ 17th	Coffee	Adulterated with 47·8 % chicory. Cautioned by Health Sub-Committee.
1642—	„ 17th	Mustard	Adulterated with 47 % of starch and turmeric. Cautioned by Health Sub-Committee.
1643—	„ 17th	Mustard	Genuine.
1644—	„ 17th	Coffee	Adulterated with 72·9 % chicory. Cautioned by Health Sub-Committee.
1645—	„ 21st	Coffee	Genuine.
1646—	„ 22nd	Milk	Adulterated with 8 % of water and deprived of 35 % of its cream. Fined 20/- and costs.
1647—	„ 22nd	Milk	Genuine.
1648—	„ 22nd	Milk	Genuine.
1649—	„ 22nd	Milk	Adulterated with 3½ % of water and deprived of 25 % of its cream. Fined 20/- and costs.
1650—	„ 22nd	Milk	Genuine.
1651—	„ 26th	Milk	Genuine. Private purchaser.
1652—	Dec. 3rd	Milk	Genuine.
1653—	„ 3rd	Milk	Genuine.
1654—	„ 7th	Oatmeal	Genuine.
1655—	„ 7th	Oatmeal	Genuine.
1656—	„ 7th	Oatmeal	Genuine.
1657—	„ 7th	Oatmeal	Genuine.
1658—	„ 7th	Oatmeal	Genuine.
1659—	„ 7th	Oatmeal	Genuine.
1660A—	„ 13th	Port Wine	Sophisticated. Private purchaser.
1660—	„ 18th	Milk	Genuine.
1661—	„ 18th	Milk	Adulterated with 13 % water.
1662—	„ 18th	Milk	Adulterated with 10 % water.
1663—	„ 18th	Milk	Genuine.
1664—	„ 18th	Milk	Genuine.
1665—	„ 18th	Milk	Genuine.
1666—	„ 31st	Beer	Genuine.
1667—	„ 31st	Beer	Genuine.
1668—	„ 31st	Beer	Genuine.
1669—	„ 31st	Beer	Genuine.
1670—	„ 31st	Beer	Contained 63·5 grains of salt per gallon.

NO.	DATE.	ARTICLE.	REMARKS.	List of Articles Analysed (continued).
1671—	Dec. 31st	Beer	Genuine.	
1672—	„ 31st	Flour.....	Genuine.	
1673—	„ 31st	Flour.....	Genuine.	
1674—	„ 31st	Flour.....	Genuine.	
1675—	„ 31st	Flour.....	Genuine.	
1676—	„ 31st	Flour.....	Genuine.	
1677—	„ 31st	Flour.....	Genuine.	

Arranged in groups, the articles examined consist of—

76	Samples of Milk.
24	„ Mustard.
11	„ Coffee.
10	„ Butter.
7	„ Gin.
6	„ Beer.
6	„ Flour.
6	„ Oatmeal.
2	„ Wine.
1	„ Milk of Sulphur.
1	„ Sausage.
1	„ Sweet Nitre.

Total ... 151 Samples.

The Table below shows the number of samples analysed, the total percentage of adulteration, and the percentage of adulteration of certain leading articles of Food for each year since 1872:—

PROPORTION OF ADULTERATED ARTICLES PER 100 SAMPLES.
ANALYSED OF THE FOLLOWING COMMODITIES:—

Years.	Number of Samples Analy- sed.	Total Per- centage of Adul- teration	Percentage of Adulteration of undermentioned Articles.								
			Milk.	Bread and Flour.	Butter.	Gro- ceries.	Wines.	Beer.	Spirits.	Drugs.	Other Articles
1873	87	65	75	0	0	87	—	—	—	100	100
1874	79	42	67	0	66	16	—	0	100	—	—
1875	73	38	55	0	—	36	100	—	—	25	—
1876	92	33	30	—	—	19	—	33	25	36	62
1877	176	40	58	0	—	12	—	21	36	26	31
1878	158	21	57	0	0	10	0	13	26	—	—
1879	168	25	60	0	0	5	—	16	—	—	0
1880	178	21	46	0	0	0	—	0	—	—	0
1881	197	23	54	0	36	8	—	0	50	0	0
1882	321	18	36	0	25	10	—	0	—	—	0
1883	151	38	47	0	30	42	100	17	29	100	—

An examination of the figures shows that the total percentage of adulteration now stands higher than at any time since 1877.

Milk.

Thirty-six, or 47 per cent. of the samples of Milk examined had been tampered with, either by the addition of water, or the deprivation of cream, or by both these methods of falsification combined. It is a most regrettable fact that the practice of adulterating milk should continue to be followed to so large an extent in Birmingham as to cause our town to attract special and official notice, and to rank lower in this unenviable respect than any of the other large English communities. It is regrettable on the ground that it is a serious pecuniary fraud on the public, on the ground of health, which it may affect in a variety of ways, and on the ground of commercial morality, and I fail to see what there is about the trade in milk which entitles it to an immunity more or less complete from the punishment of frauds, which would not be allowed in other cases, where dishonesty would be far less serious in its consequences.

Coffee.

Seven of the Coffees were admixtures of that substance with Chicory, in the average proportion of only two parts of Coffee to three of Chicory. The sale of such mixtures is not illegal if they bear a label declaring them to be mixtures, but in many cases of mixture no such label is affixed.

Mustard.

Six of the Mustards contained on an average 31 per cent. of starch, and the addition of a little turmeric to restore the colour, which the flour had deprived it of; three of the

Butter.

so called Butters were entirely devoid of that constituent, consisting entirely of other fats, in other words they were Butterine although sold as Butter; while the strength of two

Gin.

Wine.

of the Gins had been reduced to a greater extent below proof than the Excise allows. Both the Wines were sophisticated samples, one of them not possessing a trace of alcohol, and being simply a fruit juice. An enthusiastic teetotal clergyman had endeavoured to introduce it in place of the sacramental wine. Sixty-five per cent. of the single sample of Milk of

Milk of Sulphur.

Beer.

Sulphur was Calcium Sulphate, and one of the Beers had considerably more Salt in it than is natural to Beer. The Brewer, after repeated denial, admitted that he had added Salt.

Sweet Nitre.

The quantity of Sweet Nitre submitted was insufficient for analysis.

Flour.

The samples of Flour, as usual, Oatmeal, and the solitary sample of Sausage were all genuine.

I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D., F.I.C

Borough Analyst.

INDEX.

	PAGE		PAGE
Abattoir	51, 52	Deaths under five years of age	20
Adulteration, Percentage of	99	" Violent	34
Adulteration, Report of	95-100	Density of Population	4
Advice of Medical Officer of Health	44-50	Developmental Diseases	33
" to the Sanitary Authority	46-52	Diarrhœa	25
Ages at Death	17	" at different ages	26
Animals, Keeping of	43	" Decrease of	27
Articles Analysed	95-99	" Local Government Board Enquiry	26
Articles, Disinfection of	58	Disease, Causes, Origin, and Distri- bution of	45
Area of Borough	4	Disease, New Cases of, in Institu- tions, &c.	73
Atmosphere, Vitiating of	43	Disease Map	32 & App.
Average Age at Death	18	Diseased Meat	53
Baths	60	" " Cases	53, 54
Beer	100	Disinfecting Station	58
Births	6, 7	Diphtheria	29
Birth-rate	7	Elevation of Borough	5
Borough Hospital	56-58	Epidemic Disease	27, 52
Butter	100	Excrement Disposal	62
Bye-Laws (Sanitary) Duties under	54, 55	Fever	28
Canal Boats' Act	55	Flour	100
Causes of Death, Specified	24-34	Food Analysed	95-99
" " Certification of	43	" and Fuel, Prices of	72
Chart of Average Death-age	App.	" Unwholesome	52
" Mortality and Meteorology	—	Geological Position of Borough	5
Coffee	100	Gin	100
Constitutional Diseases	33	Houses Let in Lodgings	54
Continued Fever	28	House Refuse	62
Cow Sheds	55	Houses Unfit for Habitation	62, 70
Classification of Diseases and Deaths	23, 35-37	Infantile Diarrhœa	36
Dairies	55	Infant Mortality	18, 19
Death-age, Average	18	Infectious Disease	24-32, 44
Death, Certification of Causes of	43	" " Notification of	44
Death, Specified Causes of	24-37	" " Outbreaks of	51
Death-rate in Birmingham	10	" " and Schools	45
" Towns compared	12	" " and Trades	45
" at certain ætal periods	21	Influences Affecting Health	41-45
" in the Sexes	21	Inquest Cases	43, 44
Deaths	10	Inspection	70, 71
" at various ætal periods	17, 21	Institutions, Sickness in	73
" in Registration Sub-Districts	14	Interception System	62
" in Streets	87-91		
" in Wards	16		
" not Certified	43, 44		

	PAGE		PAGE
Life, Economy of	10	Rainfall	39, 40, 72
Local Diseases.	33	Refuse Disposal	62
Local Government Board's Enquiry into the Causes of Diarrhoea	26	Registration Sub-Districts, Mortality in	14
Lodging Houses	54, 71	Reports, General	55
Map, Disease	32 & App.	„ Special	42, 47-50, 51, 52
Marriages	5	Sanitary Analyses	60
Marriage Rate	6	„ Bye-laws, Action under	54, 55
Measles	28	„ Work	52, 70, 71
Meteorological Observations	38, 39, 72	Sanitation	41-63
Meteorology	38	Scarlet Fever	27
„ and Disease	13, 40	Schools	45
Middens	41, 62	Sewerage Works	62
Milk	100	Sickness in Institutions	72
„ of Sulphur	100	Slaughter-Houses	42, 54
Milk Shops	55	Small-pox	29-32
Mortality	10-37	Smoke Nuisance	43
„ and Meteorology Chart	—	Soil, Impure	41
„ Analyses of	23, 35-37	Specified Causes of Death	24-37
„ Infant	18, 19	Statistics, Vital	3-40
„ in Institutions.	11, 91	Street Improvements	41
„ Tables 12, 14, 16, 17, 19, 21, 23, 25, 35-37, 67-69, 87-91		Streets and Roads, Paving of	62
„ Zymotic	24, 25, 32	„ „ „ Deaths in	87-91
Mortuaries	52	Surface Filth	41
Mustard	100	Temperature, Influence of	10, 13, 18
Nightsoil and Refuse Disposal	62	Trades and Infectious Disease	45
Nosological Tables	35-37, 40, 69	Typhoid Fever	28
Notification of Infectious Diseases Bill	44	Uncertified Deaths	43, 44
Nuisances, Abatement of	62, 70, 71	Undertakers, Notice to	45
Oatmeal	100	Unwholesome Food	52
Economy of Life	10	Vaccination	7-9, 86
Offensive Trades	55	Violent Deaths	34
Pan System of Interception	62	Vital Statistics	3-40
Parasitic and Dietic Diseases	33	Ward Population	16
Pauperism	72	Wards, Mortality in	16
Paving of Streets and Roads	62	Waterclosets	62
Population	3	Water Supply, Corporation	59
„ Natural Increase of	4	„ „ from Shallow Wells	60
Preventable Disease	24-33	„ Results of Analysis of	74-85
Prices of Food and Fuel	72	Whooping Cough	27
Public Baths	60	Wine	100
„ Mortuaries	59	Zymotic Death-Rate	25
		„ Diseases	24-32