

# STATISTICAL TABLES

SUBMITTED TO

## THE BOARD OF POLICE

*On MONDAY, 19th JUNE, 1871;*

SHIewing THE SANITARY STATE OF GLASGOW, LONDON  
AND LIVERPOOL, FROM 1855 TO 1870, &c.;

WITH

REMARKS BY THE MEDICAL OFFICER.

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VII.—FORTNIGHTLY SUMMARY OF DEATHS FROM ALL CAUSES AND FROM FEVER AND SMALL-POX IN GLASGOW, LONDON, AND LIVERPOOL.

IV.—TABLE  
Showing the Mortality of Glasgow at all Ages, and under Five Years, from 1848 to 1854.

YEARS	Total Deaths.	Rate per 1000 of Estimated Population.	Deaths under 5 Years.	Rate per cent. to Total Deaths
1848	12,475	38.6	4,330	35.1
1849	12,883	38.6	5,410	42.0
1850	9,477	27.8	4,720	50.0
1851	10,746	30.9	5,460	50.8
1852	10,675	30.1	5,010	47.0
1853	14,312	39.7	7,040	49.2
1854	16,356	44.6	6,670	40.8

V.—TABLE  
Showing the Mortality of Ten large Towns in Great Britain, with density of Population—1870.

TOWNS.	Births.	Deaths.	Annual Rate of 1000 of Population.		Population on Acre.
			Births.	Deaths.	
London, .....	113,488	77,278	35.3	24.0	41.2
Bristol, .....	6,247	5,123	36.4	29.9	36.6
Birmingham, .....	12,921	7,804	34.9	21.1	47.2
Manchester, .....	13,721	10,429	36.5	27.8	33.6
Leeds, .....	10,445	7,325	40.2	28.2	12.0
Newcastle-on-Tyne, ...	5,093	3,209	38.1	24.0	25.0
Hull, .....	4,411	2,850	33.7	21.7	26.7
Edinburgh, .....	6,729	4,706	37.5	26.2	40.4
Glasgow, .....	19,359	13,952	41.3	29.8	93.0
Liverpool, .....	19,146	16,099	36.9	31.1	101.3

VI.—TABLE  
Showing the Mortality in Infants below Five Years in Liverpool and Glasgow during the Year 1870.

TOWNS.	Total Deaths.	Deaths of Infants.	Rate per cent.
Liverpool, .....	16,099	8,113	50.6
Glasgow, .....	13,952	6,115	43.8

FORTNIGHT ENDING	1870.									1871.									
	GLASGOW.			LONDON.			LIVERPOOL.			GLASGOW.			LONDON.			LIVERPOOL.			
	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	Deaths at all Ages.	Fever Deaths.	Small-pox Deaths.	
Saturday, 15th January, ...	736	57	2	3,361	85	20	557	15	—	Saturday, 14th January, ...	686	38	4	3,724	75	214	1,007	70	85
— 29th " ...	683	57	—	3,265	74	13	531	15	—	— 28th " ...	664	45	7	3,478	64	345	974	76	115
— 12th February, ...	640	50	—	3,396	68	15	628	18	—	— 11th February, ...	740	49	11	3,432	82	407	925	54	175
— 26th " ...	618	38	1	3,577	71	21	609	17	—	— 25th " ...	634	42	14	3,258	69	445	890	42	234
— 12th March, ...	629	52	1	3,172	68	14	545	19	—	— 11th March, ...	663	42	11	3,192	63	407	777	34	173
— 26th " ...	629	38	1	3,010	65	8	532	15	—	— 25th " ...	746	34	13	3,241	75	390	789	26	290
— 9th April, ...	616	48	—	3,256	67	16	558	15	—	— 8th April, ...	622	18	10	3,057	60	406	743	28	150
— 23rd " ...	539	22	1	2,962	63	12	506	19	—	— 22nd " ...	723	30	14	3,300	64	541	743	24	142
— 7th May, ...	525	24	1	2,709	70	12	479	12	—	— 6th May, ...	638	42	6	2,991	71	549	681	54	129
— 21st " ...	469	20	—	2,739	66	25	481	18	—	— 20th " ...	630	24	8	2,827	53	499	615	30	102
— 4th June, ...	472	26	—	2,471	66	23	450	15	—		6,746	364	98	32,500	681	4,203	8,144	418	1,512
— 18th " ...	506	20	—	2,565	73	15	400	18	—										
— 2nd July, ...	454	27	—	2,641	61	23	480	13	—										
— 16th " ...	412	21	—	2,995	80	24	481	17	—										
— 30th " ...	503	26	—	3,454	77	26	661	26	1										
— 13th August, ...	519	16	—	3,142	87	26	819	13	—										
— 27th " ...	519	14	1	2,791	86	21	758	33	2										
— 10th September, ...	448	23	—	2,748	79	21	732	39	3										
— 24th " ...	405	17	—	2,409	90	26	629	56	3										
— 8th October, ...	394	17	1	2,556	100	30	632	59	1										
— 22nd " ...	416	30	2	2,750	88	30	682	70	1										
— 5th November, ...	426	25	2	2,609	82	44	685	55	9										
— 19th " ...	530	38	3	3,107	87	85	743	75	8										
— 3rd December, ...	546	42	3	3,134	92	101	774	87	29										
— 17th " ...	582	30	1	3,323	101	105	824	65	42										
— 31st " ...	621	45	6	3,137	102	192	923	76	74										

NOTE.—It will be observed that the average of ten fortnights in 1871 is as follows:—In Glasgow, Deaths at all ages amounted to 674; of these, 36 were from Fever, and 9.8—say 10—from Smallpox. In London, the average Deaths at all ages amounted to 3250; of these, 68 were from Fever, and 420 from Smallpox. In Liverpool, the average Deaths at all ages were 814; and of these 41 were from Fever, and 151 from Smallpox.

The Deaths from Smallpox in Glasgow were at the rate of 1½ per cent. to the Deaths at all ages. In London, they were at the rate of 12.9 per cent. In Liverpool, at the rate of 18.5 per cent.

If the Deaths from Smallpox had been in Glasgow the same percentage as in London, instead of 10 dying in the fortnight 87 would have died; and if the same as Liverpool, 132.

## REMARKS BY THE MEDICAL OFFICER.

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THE numerical statements herewith presented have been drawn up in obedience to an instruction of the Committee of Health, with a view to obtain, if possible, materials for an estimate of the sanitary state of Glasgow, and the progress of improvement now, or in the future. It seems necessary to remark, however, that all estimates founded on the general death-rate are open to fallacious inferences, unless guarded by very accurate information as to details. The presence or absence of epidemics in any particular year may cause a town to appear higher or lower than what might be termed its natural, or at least usual, place in the scale of death-rates. *E.g.*, the town of Bristol, specially notable a few years ago on account of its comparatively low death-rate, was, in the year 1870, a marked example of a high death-rate, and compared unfavourably, not only with London and Birmingham, but also with Manchester, Leeds, Newcastle, Hull, Edinburgh, and almost with Glasgow. Moreover, the kind of population inhabiting a town; the density of the population; the proportion of infants and old persons as compared with the intermediate ages; the proportion of the labouring and more or less destitute classes as compared with the comfortable and

well-to-do; the proportion of families inhabiting single apartments; the number and character of the tenement-houses, and generally, the character of the house accommodation, and its amount at a given time in relation to the demand for it, are all circumstances requiring to be held in view in such inquiries as those suggested by these Tables. It is not proposed at present to do more than point out a few of these considerations arising directly from the Tables themselves.

As is only too well known, the death-rate of Glasgow has been for many years almost constantly among the highest in the kingdom; and the great liability of the city to epidemic disease, especially to typhus fever, has also obtained for us an unenviable repute. It is not intended here to palliate or explain away these facts, or even to discuss them at large; but it may be safely affirmed that many persons who have been accustomed to take note of them, and who justly look upon the figures presented from week to week as a reproach to our civilisation, have failed at the same to appreciate the true bearing of some of the following considerations:—

1. Glasgow has a population of 93 persons to an acre; *i.e.*, much more than double the density of the population of London or Edinburgh; more than three times the density of Newcastle, and nearly eight times the density of Leeds; Liverpool alone exceeding Glasgow in this respect. (See Table 5.)

2. Glasgow has an enormously high birth-rate, usually from 40 to 42, or more, in 1000 of the population; while London, the largest and most rapidly extending population in the world, has a birth-rate of only 35 to 36.6 in 1000 of living population; and Liverpool, which in so many unfavourable particulars resembles Glasgow, has a birth-rate varying from 36.8 to 39.8 in 1000 of living population. In other words, the proportion of infant



population *living at risk*, so to speak; the proportion of persons specially liable to die in the largest numbers, is at all times much greater in Glasgow than in London, and greater even than in Liverpool. (See Table 1, column 4.)

3. Taking these two facts together, as presented merely statistically, viz., that Glasgow, upon a relatively smaller acreage than any excepting two of the most unhealthy cities of the kingdom, is breeding up, from year to year, a much larger proportion of young lives than any of these cities; the inference clearly is, that the sanitary state of Glasgow is in some way or other connected with its intense productiveness, and its too small superficial area. And any one who is familiar with the high, dark, warrens of closely packed tenement-houses in this city; its narrow ill-ventilated closes; its many miles of such streets and closes without an open space, without a blade of grass, without a tree or a shrub to be seen; its swarms of children pouring forth from such utterly wretched dwellings through dark passages and narrow lanes, with no playground but the street, no bathing-place but the gutter, can be at no loss to apply the moral of the tale which these numbers unfold.

Leaving this general question, and returning to Table 1, in order to compare Glasgow present with Glasgow past:—In the year 1870 the death-rate of Glasgow was 29.8, which, as compared with the two preceding years (when typhus was epidemic), gives a very considerable proportionate reduction of mortality. Compared with the mean death-rate of the whole sixteen years during which a registration of deaths has been kept, 1870 is still a year of comparatively moderate losses by death; inasmuch as the mean death-rate of the sixteen years, 1855-70, is 30.4, while the death-rate of 1870 alone is 29.8. But the most striking feature of the year 1870, as presented in the columns of

Table 1, is the relatively low proportion of the deaths which occurred among children under five years. For if any one will look down the column of Table 1 which displays, as regards Glasgow, the rate per cent. of infantile as compared with total deaths, he will find that while in more than one preceding year the proportion of infantile deaths exceeded 53 per cent. of the deaths at all ages, in no year, with the exception of 1870, was it nearly so low as 43.8 per cent. The special character of the year 1870, therefore, was a mortality rather lower than the average on the whole, and in its special distribution as regards age, bearing much less in proportion upon the infantile than upon the other periods of life. In this respect, Glasgow is remarkably contrasted with Liverpool, where, notwithstanding (as we have already seen) a lower proportion of infantile life actually *at risk* than in Glasgow, the per centage of infantile deaths was as high as 50.6 in 1870, against 43.8 per cent. in Glasgow.

It may, however, fairly be maintained that this mode of presenting the infantile deaths, although the one usually adopted by the Registrar-General of Scotland, is open to various kinds of fallacious inferences. It is certainly a better plan to calculate the infantile death-rate upon the same principle as the death-rate of all ages, viz., as against 1000 estimated living persons under five years of age. Table 2, accordingly, gives the infantile death-rate per 1000 living in Glasgow for each of the years 1856-70; and it will be seen that in only one of the preceding fifteen years was the death-rate lower, and in only two others nearly as low, as in the year 1870.

The Medical Officer has never allowed himself to use expressions calculated to beget false expectations, nor has he ever consciously exaggerated any actual or presumable result of sanitary progress; but he thinks that these considerations, although not conclusive as to any great and general improvement during the past year, may fairly be taken as hopeful signs for the



future; inasmuch as, in the very midst of an epidemic which furnished 851 fever deaths, which rapidly filled all our hospital accommodation to overflowing, and left large numbers of poor and destitute sick to struggle with debilitating disease, or to perish in their miserable homes, from a want during several months of adequate shelter and protection, we have been able to maintain a death-rate lower than the average of the last sixteen years, and especially low for the infantile population.

W. T. G.

