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Contributors

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

1911.

SECTION I.

The Local Government Board, in their instructions to Medical Officers of Health as to the preparation of Annual Reports, require—(a) A general account of influences and conditions injurious or dangerous to the health of the Burgh, and of the measures that, in his opinion, should be adopted for its improvement.

It has been customary in former years to preface this with a summary of the vital statistics of the year, and these are presented in the following Table:—

	Registrar General.	Medical Officer.
Population,	784,678*	784,496†
Acreage, ... ..	...	12,975
Persons per acre,	60	60
Number of Inhabited Houses, ... ..	...	163,064
Deaths—Number registered, ... ..	...	13,899
" After correction for Institutions, &c., ... ..	...	12,898
Births—Number registered,	21,755
" After correction,	21,584
Death-rate per 1,000 living—All causes,	17·7	16·4
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Deaths under One Year—Registered,	3,016
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Zymotic diseases,	2·54
Tuberculous diseases—		
(a) Phthisis,	1·31	2·01
(b) Others,	0·70	
Diseases of respiratory system,	1·44	3·06
Pneumonia,	1·62	
Diseases of circulatory system, ... ..	...	1·72
Diseases of nervous system, ... ..	...	1·47
Malignant diseases (cancer, &c.), ... ..	...	0·90
Septic diseases, ... ..	...	0·22
Violence, ... ..	...	0·57
Premature births, ... ..	...	0·59
All other causes, ... ..	...	3·36
All causes, ... ..	...	16·44

* Estimated to middle of year.

† Census population.

POPULATION.

The publication of the Census Returns during the year removed the doubt which had existed as to the accuracy of the estimates of the number of the population in recent years. As finally adjusted, the population in the City on the night of the Census was 784,496, and on this figure all rates for the year 1911, appearing in this Report, have been calculated, except where the rates quoted are from the Returns of the Registrar-General, whose calculations are based on a population estimated to the middle of the year.

A special Report has already been issued dealing with the Census and the distribution of the population throughout the several Wards, and it is unnecessary to refer further to the matter here. In Appendix, Table No. I., however, will be found a statement of the number of inhabited houses and of the population as found at the Census in each Municipal Ward.

UNOCCUPIED HOUSES.

Through the courtesy of the City Assessor, I am able to include a statement of the houses which were found unoccupied during the course of the Survey made by his Department during the month of June, 1911. The details for each Ward will be found in Table II. of the Appendix. The total for the City, classified according to size, for several years, has been as follows:—

NUMBER OF UNOCCUPIED HOUSES, CLASSIFIED ACCORDING TO NUMBER OF APARTMENTS.

	1908.	1909.	1910.	1911.
One apartment,	3,989	3,451	3,615	3,816
Two apartments,	8,080	8,665	10,048	9,895
Three "	2,842	2,906	3,484	3,483
Four "	959	1,034	1,221	1,232
Five "	1,220	1,230	1,347	1,227
	17,090	17,286	19,715	19,653

LININGS GRANTED BY DEAN OF GUILD COURT.

In Table III. of the Appendix a comparative statement of the linings for new houses granted by the Dean of Guild during the year ending 31st August, 1911, which has been supplied me by the Master of Works, is reproduced. Altogether, linings were granted in respect of 284 houses, varying from one to six apartments, as compared with 1,300 in the preceding year.

ACREAGE.

The acreage, number of inhabited houses, and population in each of the Municipal Wards, with the increase or decrease in population since the Census of 1901, is contained in Appendix, Table IV. The acreage of the City remains at 12,975 acres.

TEMPERATURE AND RAINFALL.

In the past year, according to Professor Becker, the days on which rain fell numbered 199, and the amount collected was equal to 36.26 inches, or 2.20 less than the average of 43 years.

The year 1911 was the second warmest year since 1868, the average mean temperature having been exceeded on 228 days. Temperatures above 75° occurred on 6 days, and on July 12th there was registered a temperature of 84°—the fifth highest recorded for 44 years, and within one degree of the highest temperature recorded during that period. Bright sunshine was recorded on 271 days, while snow fell on one day only. Since 1880 only two years (1893 and 1901) had more hours of sunshine than 1911, although

during that period four years had more days on which bright sunshine was recorded.

The mean temperature exceeded the average of 43 years in all the months except September, October, and November.

Appendix, Table V., compiled from the information supplied by Professor Becker, shows the mean temperature and rainfall for each month with the *plus* and *minus* differences compared with the average of 43 years.

MARRIAGES.

7,472 marriages were registered in Glasgow in 1911, as compared with 6,854 in 1910. These represent rates per 1,000 persons living of 9·5 and 8·7 respectively on the populations as adjusted by the Census. The following Table shows the marriage rate over a series of years, and it will be observed that the lowering of the rate recorded for 1909 and 1910, associated no doubt with the depressed industrial conditions prevailing during these years, has now been recovered from.

GLASGOW.—MARRIAGE RATE PER 1,000 PERSONS LIVING.*

1870,	9·8	1901,	9·3	} 9·4
1871-1875,	9·9	1902,	9·6	
1876-1880,	9·0	1903,	9·4	
1881-1885,	9·4	1904,	9·4	
1886-1890,	8·8	1905,	9·1	} 9·1
1891-1895,	9·0	1906,	9·8	
1896-1900,	9·9	1907,	9·6	
		1908,	9·0	
		1909,	8·2	} 8·7
		1910,	8·7	
		1911,	9·5	

* The rates quoted from 1870 to 1900 and in 1911 are taken from the Registrar-General's Annual Reports; the rates from 1901 to 1910 have been re-calculated on the adjusted populations for these years as shown in Appendix Table No. LIII.

The practice of stating the marriage rate in relation to the total number of persons living is not without error, and in particular it fails to reflect accurately the true rate of decrease when this is accompanied by a shrinking of the proportion of the population under or over the usual marriage ages. This shrinking is, we know, in fact occurring in the earlier years of life, and in the following Table it is shown that when the marriage rate is calculated on the population at all ages a decrease of 5 per cent. only is shown during the last 40 years, whereas when it is calculated on the unmarried and widowed female population over 15 years of age the reduction amounts to 10 per cent.

GLASGOW.—MEAN ANNUAL MARRIAGE-RATES.*

	Calculated on Total Population at All Ages.		Calculated on the Unmarried Females and Widows aged 15 years and upwards.	
	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.
1870-72	10·0	100	54·7	100
1880-82	8·8	88	50·7	93
1890-92	9·5	95	46·5	85
1900-02	9·6	96	50·9	93
1911	9·5	95	49·2	90

* From the Registrar-General's Annual Reports.

BIRTHS.

21,755 births were registered in Glasgow during the year 1911, and after deducting those not belonging to Glasgow, although born within the municipal area, and adding those born beyond the municipal area but belonging to Glasgow, there remain 21,584 births properly belonging to the City. This represents a birth-rate of 27·513 per thousand persons living, calculated on the Census population, as compared with 22,014 births, representing a birth-rate of 27·642 in 1910. The birth-rate is the lowest recorded, and represents a fall in the rate equal to 129 per million compared with 1910.

In the Report for last year there was inserted a Chart showing the birth-rate of the City in each year since 1855 (as recorded by the Registrar-General). The Chart is repeated for the present year, and shows the variation of the birth-rate in relation to the mean of the years 1855-1911.

As with the marriage rate so it is with the birth-rate when calculated over the total population, and a correction similar to that adopted in calculating the former is here introduced, save that the amended birth-rates are calculated on the number of females living between the ages of 15 and 45 years. Again there is illustration that the decrease shown in calculating the birth-rate over the whole population falls short of that which is actually occurring, and that although it is now 32 per cent. below the rate for 1870-72, when calculated on the whole population, the actual reduction amounts to 38 per cent. when calculated on the number of women at child-bearing ages.

GLASGOW.—MEAN ANNUAL BIRTH-RATE.*

	Calculated as a proportion per 1,000 on Total Population at All Ages.		Calculated as a proportion per 1,000 on the Number of Women aged 15-45 years.	
	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.
1870-72	40·9	100	173·5	100
1880-82	35·9	88	150·7	86
1890-92	35·2	86	125·6	72
1900-02	32·1	79	124·2	72
1911	27·7	68	108·3	62

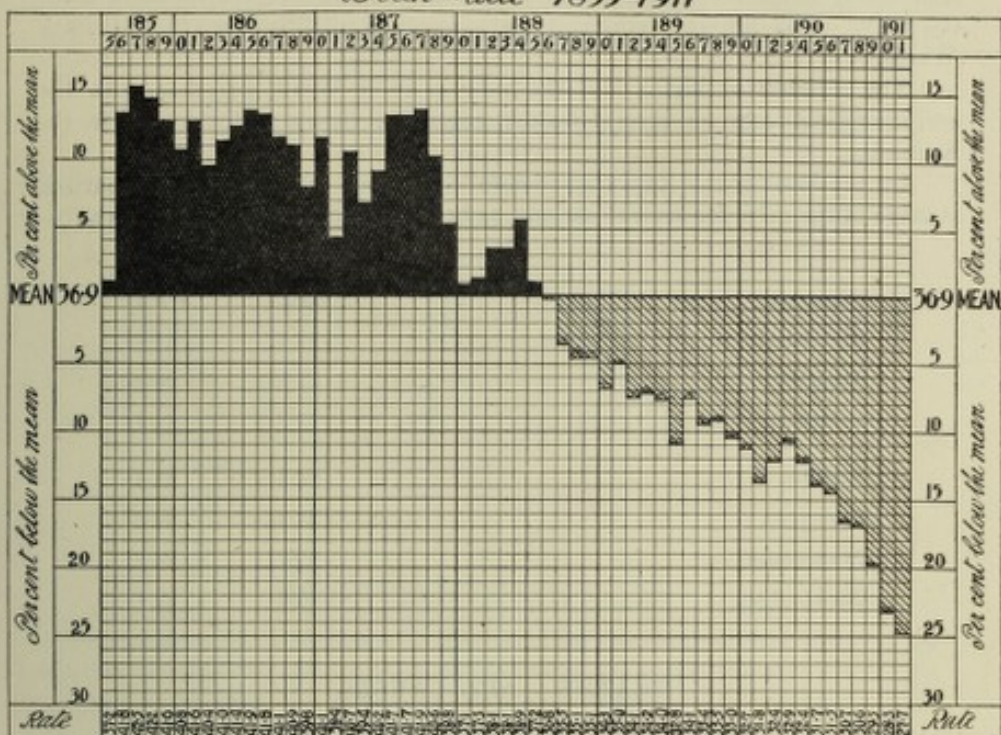
Returning to the usual method of stating these rates, we have the following for several periods since 1871:—*

	Glasgow.	Scotland.
1871-80,	36·6	34·9
1881-90,	36·5	32·4
1891-95,	33·9	30·7
1896-1900,	33·1	30·0
1901-1905,	31·3	28·9
1906-1910,	27·4	26·7
1911,	27·7	25·6

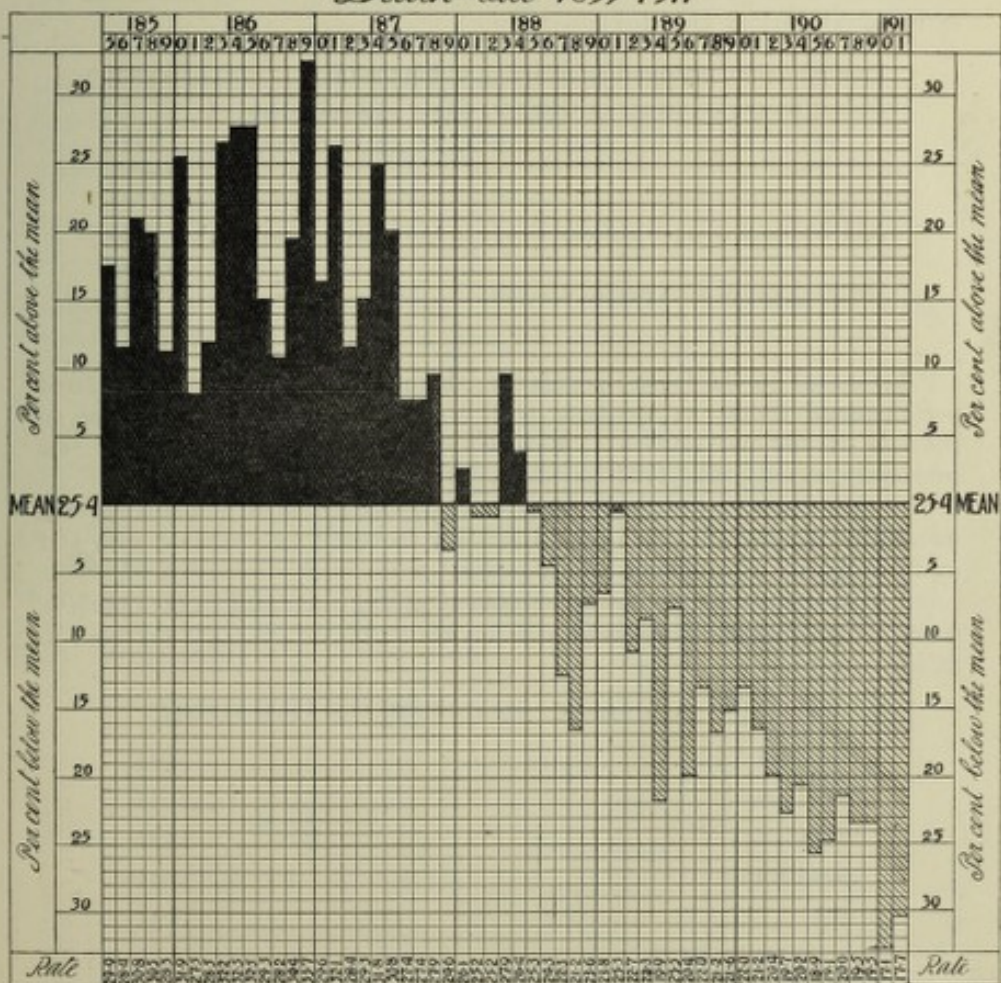
The birth-rate shows considerable variation throughout the several Wards. In Mile-end, Springburn, Hutchesontown, and Dalmarnock it exceeds 34 per thousand in the order named, while in Kinning Park it is over 33 per thousand. Rates exceeding 30 per thousand are shown for Govanhill, Cowcaddens,

* The rates in these Tables are taken from the Registrar-General's Annual Reports.

Birth-rate 1855-1911



Death-rate 1855-1911



Maryhill, Cowlares, Brooniellaw, and Calton, while the rates for Whitevale, Anderston, Blackfriars, and Gorbals are also in excess of the mean rate for the City. The lowest birth-rates were recorded in Blythwood and Park Wards.

The number of births and the rate in each Ward, together with the corresponding rates for several former years, are shown in Table VI. in the Appendix.

On the basis of the Registrar-General's Returns, the following comparison is made of the rates for several periods, as between Glasgow and other towns:—

	1901-1910.	1911.
Glasgow,	29·4	27·7
Edinburgh,	22·7	21·3
Dundee,	27·8	26·2
Aberdeen,	27·8	24·7
London,	26·6	25·5
Liverpool,	32·4	30·2
Manchester,	29·7	26·2
Birmingham,	29·6	28·1

DEATHS — ALL CAUSES.

13,899 deaths from all causes were registered in Glasgow during the year 1911.

These are subject to correction for deaths occurring in institutions and for extra-mural deaths, as follows:—

From all deaths registered as occurring within the City, ...	13,899
Deduct deaths occurring in Glasgow, chiefly in Institutions, of persons whose usual residence was beyond the City boundary, ...	1,201
	<hr/>
	12,698
Add deaths of Glasgow citizens, chiefly in Govan Poorhouse, ...	200
	<hr/>
Deaths properly belonging to Glasgow,	12,898
	<hr/>

Estimated on the Census population, this represents a death-rate of 16·44 per thousand living, as compared with 15·66 in the preceding year, or an increase of 782 per million. Excepting the latter year, the lowest rate previously recorded was 17·58 per thousand in 1906.

On the Registrar-General's estimate of population as at mid-summer and uncorrected deaths, the death-rate is 17·7 per thousand, as compared with 17·1 on the adjusted population for 1910.

For several periods the death-rate from all causes, *calculated on the inhabited house estimate of the population and on the deaths as corrected*, has been as follows:—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890,	24·22
1891-1900,	21·53
1901-05,	18·97
1906-1910,	17·51
1911,	16·44

In order to compare these rates with those of other towns, we must revert to the deaths as registered, and to the Registrar-General's estimate of the population, and in the following Table the rates are given for several of the large towns in England and Scotland:—

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1901-1910.	1911.
Glasgow,	17·7	17·7
Edinburgh,	16·0	16·0
Dundee,	17·6	17·6
Aberdeen,	15·0	15·0
London,	15·3	15·7
Liverpool,	20·3	20·0
Manchester,	19·1	17·0
Birmingham,	17·1	16·8

QUARTERLY DEATH-RATES.

For comparative purposes a Table, based on the Quarterly Returns of the Registrar-General, is here introduced, showing the quarterly death-rates for each year since 1904.

GLASGOW.—QUARTERLY DEATH-RATE, 1904-1911.

	1904.	1905.	1906.	1907.	1908.	1909.	1910.	Mean. 1904-1910.	1911.
First Quarter,	22·5	20·6	20·5	23·2	25·1	22·1	19·4	21·9	19·8
Second "	19·6	19·6	19·6	21·8	18·8	18·5	17·5	19·3	17·3
Third "	17·3	16·0	16·4	15·5	16·1	14·0	14·9	15·7	16·2
Fourth "	21·0	19·5	19·9	19·8	17·9	23·4	16·6	19·7	17·7
Year,	20·2	18·9	19·1	20·0	19·5	19·5	17·1	19·2	17·7

A chart, showing the death-rate in each year since 1855 in relation to the mean of the period 1855-1911, will be found facing page 4.

WARD DEATH-RATES.

In Table VII. of the Appendix the deaths and death-rates for each of the several Wards are given for 1911, and for comparison the corresponding rates since 1903.

On the average rates for these years it is now possible, with some degree of accuracy, to grade the Wards in relation to the mean for the City, and I select for illustration eight in which the rate is *continuously* in excess. These are as follows:—

Ward.	Average Death-rate per 1,000. 1903-11.	Ward.	Average Death-rate per 1,000. 1903-11.
Broomielaw, ...	23·4	Mile end, ...	20·6
Cowcaddens, ...	22·0	Dalmarnock, ...	19·8
Calton, ...	21·9	Hutchesontown, ...	19·7
Blackfriars, ...	21·1	Whitevale, ...	18·9
City, =	17·7		

As indicated in former Reports, some division of the Wards for statistical purposes will ultimately be required, in order that the true density of small areas, together with other factors expressing unhealthiness, may be more accurately defined. In tabulating the Census returns for local purposes provision was made for the extraction of such details, and a number of special areas, which present unhealthy or insanitary conditions, are now under consideration.

The Sub-Committee on Housing of the Working Classes have already had under consideration six of these areas, in regard to one of which they have instructed the Medical Officer of Health and the Sanitary Inspector to prepare a scheme of improvement; while with regard to the other five negotiations are being entered upon with the various proprietors interested, with a view to an amicable arrangement for clearing out the congested portions of the areas. The following extract from a report to the Corporation regarding these areas illustrates their general condition:—

The areas are similar in character, varying from about two-and-a-half to three-and-a-half acres in extent, while the population on each is about 1,200 to 1,500 persons, occupying, for the most part, houses of one and two apartments.

They compare in the high number of persons per acre, and their general death-rates are in excess of the mean rates for the city and for the wards in which they are situated.

The death-rate from respiratory diseases is much in excess of the average rate for the city, and reflects more clearly than any other vital statistics the conditions under which the population in the areas are housed.

The infant mortality rate is also much in excess of the average rate for the city.

The areas are typical the one of the other, so that a comparison of the statistics of the combined areas with those for the whole city affords a fair indication of the conditions prevailing in each.

In the city the number of persons per acre is about 60; in the combined areas it is 460.

The average number of square yards per person, taking the city as a whole, is 80; in the areas this is reduced to 10.5.

The average death-rate in the city from all causes is 16.4 per thousand living; in the combined areas it is 22.7.

From respiratory diseases the deaths in the city are equal to 3.1 per thousand of the population living; in the areas this rate is exactly double (6.2 per thousand).

The average infantile death-rate is 136 per thousand births; for the combined areas it is 180 per thousand, while in Hutchesontown area it rises to 282 per thousand.

At the census in 1911 there were housed on the combined areas 6,433 persons, occupying 1,343 houses, of which 1,176 were of one and two apartments. 136 houses of three apartments were also occupied, but in each of these there was fully one person additional to the average for the city, viz., 6.4 against 5.2. In 24 four apartment houses there were 7.2 persons each, compared with 5 for the city.

DEATHS OF NON-RESIDENTS.

In accordance with the instructions of the Local Government Board regarding the transference to the place of usual residence of the deaths of persons occurring elsewhere, 678 deaths were accepted as belonging to Glasgow, but these do not appear among the Glasgow deaths as published by the Registrar-General, and are not included by the Medical Officer in calculating the death-rate. There is nothing equivalent to them in past local records, and in many cases absence of information as to the interval elapsing between the time when residence in Glasgow ceased and when death occurred impairs any statistical value these transfers might have. Details are contained in Appendix Table XII., where it will be seen that 13 of these deaths are ascribed to common infectious diseases, 1 to influenza, 32 to pneumonia, and 44 to violence—about one-sixth of these, that is, which on the most superficial

scrutiny may be set down to causes which are distinctly local in their origin, and have nothing whatever to do with the conditions under which these persons lived while resident in Glasgow.

CAUSES OF DEATHS.

In Appendix Table XIII. the death-rates from several causes in 1910 and 1911 are compared. As previously stated, the rate for 1911 is 782 per million in excess of the rate for 1910. Almost one-half of this increase occurs among diseases of the zymotic group. Whooping-cough shows an increase of 506 per million, and diarrhoea and enteritis an increase of 144 per million, while there are also increases in connection with typhus fever, enteric fever, and cerebro-spinal fever. On the other hand, measles shows a reduction of 287 per million; scarlet fever, 61 per million; and diphtheria, 19 per million.

Among tuberculous diseases there is a decrease of 175 per million, which occurs wholly among tuberculous diseases other than phthisis, the latter showing a slight increase equal to 8 per million over the preceding year.

All the remaining groups—cancer (malignant disease), diseases of nervous system, diseases of circulatory system, and respiratory diseases—show increases. Among the latter, pneumonia shows an increase of 124 per million, while the other respiratory diseases show an increase of 95 per million. Among unclassified causes there is an increase of 101 per million.

AGE DISTRIBUTION AND DEATHS FROM SEVERAL AND ALL CAUSES.

Appendix Table XIV. shows the deaths from all causes at several age periods. The age grouping now shown is in accordance with the instructions of the Local Government Board, and is more detailed than in former years.

Of the total deaths occurring, 23 per cent. were of infants under 1 year, while fully 37 per cent. were of children under 5 years. Both these rates are slightly in excess of those for the preceding year.

Deaths from diseases of the respiratory system still form a large proportion of the total; including pneumonia, bronchitis, croup, and influenza, they number 2,449. There were also 1,024 deaths from phthisis. The deaths from respiratory diseases are considerably in excess of the number recorded in the previous year—2,449 against 2,319—and with phthisis they are almost equal to twice the number of deaths occurring from all the diseases included within the principal zymotic group. They indicate more accurately than the zymotic rate the conditions which adversely affect the health of the inhabitants.

DEATHS OCCURRING IN INSTITUTIONS.

The Local Government Board, in their instructions to Medical Officers for the preparations of Reports, ask, for the first time, to be informed as to the number of deaths occurring in Institutions within the Burgh, *i.e.*, in poor-houses, lunatic asylums, hospitals, sanatoria, and nursing homes, and Appendix Table LVII. gives this information arranged according to groups of diseases and in Municipal Wards.

The total number of deaths recorded during the year was 12,898, and of these 3,589, or 27·8 per cent., occurred in Institutions for the treatment of the sick. The proportion of institutional to the total deaths in each group indicates

generally the proportion of cases which require institutional treatment when severe illness arises.

The following summary affords a ready comparison of the proportion in the various groups of diseases:—

GLASGOW, 1911.—TABLE SHOWING TOTAL DEATHS, DEATHS OCCURRING IN INSTITUTIONS, AND THE LATTER AS A PERCENTAGE OF THE TOTAL.

Cause of Death.	Total Deaths.		Number Occurring in Institutions.		Percentage in Institutions.	
Zymotic Diseases, ... ..	...	1,291	...	558	...	43·2
Smallpox, ... ..	...	...	...	...	...	...
Diphtheria and Membranous Croup,	173	...	152	...	87·8	...
Enteric Fever,	59	...	53	...	89·8	...
Typhus Fever,	3	...	3	...	100·0	...
Scarlet Fever,	91	...	84	...	92·3	...
Cerebro-Spinal Fever,	46	...	25	...	54·4	...
Measles,	294	...	101	...	34·4	...
Whooping-cough,	625	...	140	...	22·4	...
Digestive Diseases, ... ..	...	1,188	...	272	...	22·9
Diarrhoea and Enteritis,	704	...	79	...	11·2	...
Others,	484	...	193	...	39·9	...
Septic Diseases, ... ..	...	170	...	121	...	71·1
Puerperal,	48	...	42	...	87·5	...
Erysipelas,	44	...	23	...	52·2	...
Others,	78	...	56	...	71·8	...
Tuberculous Diseases, ... ..	...	1,574	...	600	...	38·1
Phthisis,	1,024	...	459	...	44·8	...
Tuberculous Meningitis,	233	...	44	...	18·9	...
Abdominal Tuberculosis,	154	...	25	...	16·2	...
Others,	163	...	72	...	44·2	...
Cancer, ... ..	...	706	...	211	...	29·9
Rheumatic Fever, ... ..	...	15	...	7	...	46·7
Diseases of Nervous System, ... ..	...	1,154	...	263	...	22·8
Meningitis not Tuberculous,	128	...	21	...	16·4	...
Cerebral Hæmorrhage,	596	...	161	...	27·0	...
Others,	430	...	81	...	18·8	...
Diseases of Circulatory System, ... ..	...	1,350	...	387	...	28·7
Respiratory Diseases, ... ..	...	2,449	...	456	...	18·6
Pneumonia,	1,269	...	264	...	20·8	...
Bronchitis,	876	...	155	...	17·7	...
Croup,	27	...	1	...	3·7	...
Influenza,	47	...	1	...	2·1	...
Others,	230	...	35	...	15·2	...
Violence, ... ..	...	448	...	198	...	44·2
Premature Birth, ... ..	...	465	...	49	...	10·5
Uncertified, ... ..	...	45	...	6	...	13·3
All Other Causes, ... ..	...	2,043	...	461	...	22·6
All Causes, ... ..	...	12,898	...	3,589	...	27·8

Among diseases of the zymotic class the proportion of deaths occurring in Institutions is fully 43 per cent. In typhus fever, scarlet fever, enteric fever, and diphtheria, where the major portion of the cases occurring are removed for treatment, the proportion of deaths in hospital is correspondingly high, being about 90 per cent. for scarlet and enteric fever and diphtheria.

Among septic diseases the proportion of deaths in Institutions was equal to 71 per cent., 42 out of 48 deaths from puerperal fever having occurred in hospital.

In tuberculous diseases the proportion dying in Institutions is 38 per cent., the proportion among phthisis alone being almost 45 per cent.

INFANTILE MORTALITY.

2,944 deaths of infants under one year occurred during 1911, which is equal to a death-rate of 136 per thousand births. This is 17 per thousand above the rate for last year, which was the lowest on record. The increase in the rate for the present year is consequent on the high temperatures which prevailed during the summer and autumn, and which adversely affected infant life.

Of these deaths, 2,562 were of legitimate and 382 of illegitimate children, representing rates of 127 and 260 respectively per thousand births of each class. For several years the death-rate for each class has been as follows:—

DEATH-RATE PER 1000 BIRTHS.

			Legitimate.	Illegitimate.
1899,	...	...	143	286
1900,	...	...	145	286
1901,	...	...	141	269
1902,	...	...	126	244
1903,	...	...	132	298
			} 137	} 276
1904,	...	...	131	342
1905,	...	...	122	263
1906,	...	...	122	244
1907,	...	...	122	229
1908,	...	...	129	238
			} 124	} 263
1909,	...	...	124	214
1910,	...	...	111	233
1911,	...	...	127	260

In each class there is evidence of improvement when compared over a series of years, and it is a reasonable expectation that still further reduction will result from the increased facilities for supervision which the provisions of the Notification of Births Act and of the Children Act afford.

For both classes during several periods the death-rate has been as follows:—

Average of 5 years, 1886-90,	= 143 per 1,000 births.
"	1891-95, = 146 "
"	1896-1900, = 151 "
"	1901-1905, = 139 "
"	1906-1910, = 129 "
	1911, = 136 "

Compared with several large towns the infantile mortality in 1901-1910 and in 1911 is as follows:—*

			1901-1910.	1911.
Glasgow,	...	...	135	139
Edinburgh,	...	...	125	118
Dundee, ...	...	...	156	156
Aberdeen,	...	...	136	139
Paisley, ...	...	...	121	111
Greenock,	...	...	121	112
London, ...	...	...	127	129
Liverpool,	...	...	160	154
Manchester,	...	...	159	154
Birmingham,	...	...	158	164

In 1911 the infantile death-rate for Glasgow was exceeded among the principal towns in Scotland by that for Dundee, while a similar rate prevailed in Aberdeen.

* From Registrar-General's Annual Reports.

In the accompanying chart the infantile death-rate in each year since 1855 is expressed as a percentage above or below the mean for the whole period 1855-1911.

Considerable variation in the rate occurs in the several Wards of the City, and the mean of several years is necessary to obtain an approximately accurate rate where the number of births occurring annually is small. Details for each Ward for the years 1903-1911 will be found in Appendix Table XV., and a comparison of the rates shown in this Table with the death-rates from "All Causes" in Appendix Table VII. shows that most of the Wards with death-rates from all causes in excess of the mean for the City present also the highest infantile death-rates. For convenience of reference these rates for the present year are shown in the Table which follows:—

GLASGOW, 1911.—GENERAL DEATH-RATE AND INFANTILE MORTALITY RATE COMPARED.

Wards.	Death-rate from all Causes.	Wards.	Infantile Mortality.
Broomielaw, ..	22·7	Broomielaw, ...	234
Cowcaddens, ...	19·6	Exchange, ...	200
Calton, ...	19·4	Blackfriars, ...	180
Mile-end, ...	19·0	Cowcaddens, ...	163
Dalmarnock, ...	18·6	Townhead, ...	161
Blackfriars, ...	18·4	Mile-end, ...	159
Kingston, ...	18·3	Calton, ...	155
Hutchesontown, ...	18·1	Dalmarnock, ...	152
Anderston, ...	17·8	Whitevale, ...	151

Details of the causes of death among infants during 1911 are contained in Appendix Tables XVI. and XVII., but for convenience of reference the group death-rates for a number of years have been summarised in that which follows:—

GLASGOW.—INFANTILE MORTALITY.—DEATH-RATES IN GROUPS PER THOUSAND BIRTHS FOR THE YEARS 1903-11, AND AVERAGE RATE, 1903-10.

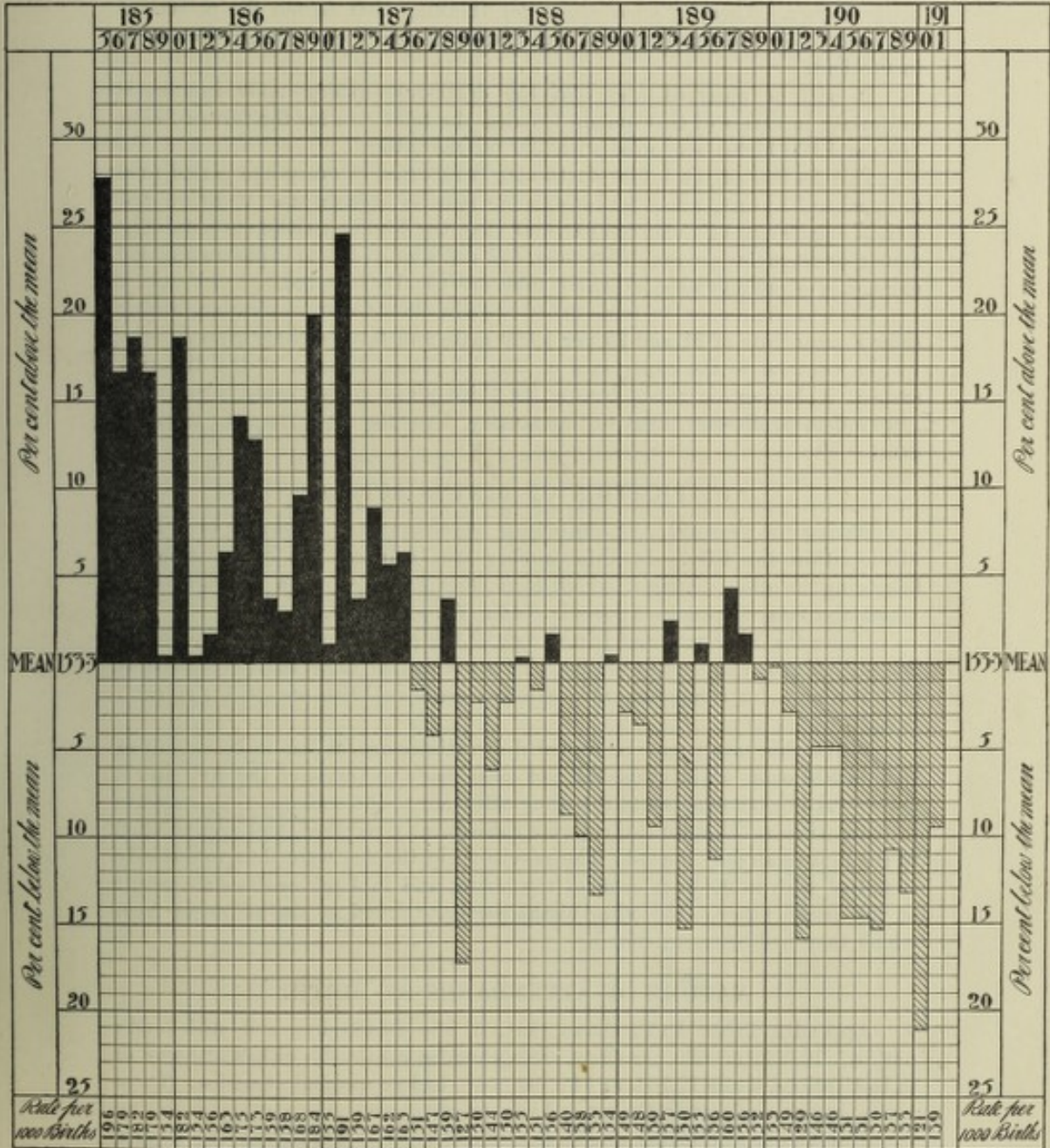
MALES.

CAUSES OF DEATH.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	Average 1903-10.	1911.
I. Immaturity, ...	50	51	46	47	42	47	44	42	46	45
II. Diseases of Respiratory System, ...	37	35	35	28	26	32	33	24	31	29
III. Diseases of Digestive System, ...	23	24	25	28	19	28	17	21	23	28
IV. Diseases of Nervous System, ...	16	16	16	14	11	10	12	9	13	8
V. Tuberculous Diseases, ...	7	6	6	6	6	6	7	7	6	7
VI. Infectious Diseases, ...	15	14	16	12	23	19	19	14	17	17
VII. Suffocation, ...	2	1	1	2	2	1	2	1	2	2
VIII. All other Causes, ...	8	8	4	6	6	5	9	10	7	14
All Causes, ...	158	155	149	143	135	148	143	128	145	150

FEMALES.

CAUSES OF DEATH.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	Average 1903-10.	1911.
I. Immaturity, ...	41	43	34	36	37	36	37	35	37	35
II. Diseases of Respiratory System, ...	28	31	24	24	22	25	26	19	25	24
III. Diseases of Digestive System, ...	19	24	17	22	18	21	14	19	19	21
IV. Diseases of Nervous System, ...	13	12	11	12	8	8	11	7	10	8
V. Tuberculous Diseases, ...	4	5	5	5	5	5	5	7	5	5
VI. Infectious Diseases, ...	16	14	16	13	24	17	18	12	16	18
VII. Suffocation, ...	2	1	1	2	2	2	1	1	2	1
VIII. All other Causes, ...	3	4	4	4	5	7	7	10	6	10
All Causes, ...	126	134	112	118	121	121	119	110	120	122

INFANTILE MORTALITY 1855-1911.



On the basis of the nine years for which the deaths have been analysed in this manner it is possible to discuss the relationship of the various groups to each other, and the column showing the average rates for the years 1903-1910 affords a ready means of doing so.

The diseases contained in the group "Immaturity" constitute the largest individual portion of the infant death-rate, and represent a mean rate of 46 per 1,000 male births, and 37 per 1,000 female births. Under existing circumstances this is to be regarded as an irreducible part of the infant death-rate—irreducible at least until the causes, which prejudicially affect gestation, are better known. There is some reason for thinking that among the poorest of the population the proportion of fat and carbohydrates in their dietary is insufficient.

It will be observed also that the death-rate among male infants is uniformly in excess of that among females, the total rate for the former being 145 per 1,000 births compared with 120 for the latter.

This feature of the infant death-rate is reflected at every age period save from 25 to 35 years, when the rate among females exceeds that of males, and it is a suggestion of these comparisons that the higher death-rate obtaining among adult males are sex differences, and not wholly due to exposure and the exigencies of employment to which they are usually ascribed.

Next in frequency to immaturity are the diseases of respiration, which show a mean rate of 31 and 25 per 1,000 male and female births respectively.

In contrast to the experience of English cities, diseases of the digestive system, including diarrhoea, occupy the third place in the Table, whereas in England these diseases, next to immaturity, form the most frequent cause of death.

NOTIFICATION OF BIRTHS ACT, 1907.

During the year 1911, 21,755 infants were registered as having been born alive within the City. In this number are included 171 births properly belonging to other districts, which have been excluded from the figures on which the rates shown in Appendix Table VI. are based.

Under the Notification of Births Act, 22,486 births were notified, including 902 still births. The ratio of live births notified to those registered is thus 99·2 per cent., as compared with 98·8 per cent. in 1910, and 97·8 per cent. in 1909.

While this result may be regarded as satisfactory, it has to be explained that in 910 cases notification had not been made in terms of the Act, and a notice was in each case issued directing attention to the omission. In response to these notices, 775 notifications were subsequently received, and are included in the figures already quoted. The provisions of the Act were thus voluntarily complied with in 95·3 per cent. of the births, and in 4 per cent. as the result of the action taken. 135 other births were not found at the addresses from which they had been registered.

NATURE OF ATTENDANCE AT BIRTH.

Appendix Table XIX. shows that, of the 22,486 live and still births notified, 10,353, or 46·0 per cent., were attended medically, either at home or in institutions, while 12,133, or 54·0 per cent., had no medical attention. These ratios are approximately the same as in previous years.

The number of births attended medically varies greatly in the several Wards, the maximum of 94·4 per cent. being reached in Langside, and the minimum of 22·9 per cent. in Broomielaw. In sixteen out of the twenty-six Wards the proportion of births not medically attended exceeded the mean of 54·0 for the City, five Wards having rates under 60 per cent., seven between 60 and 70 per cent., while in Broomielaw, Blackfriars, Cowcaddens, and Calton the rates exceeded 70 per cent. in the order named.

Until the advantages of a Midwives Act have been extended to Scotland, and an official register of midwives prepared, it will not be possible to distinguish accurately between the births attended by certified and uncertified women. Excluding midwives belonging to the Maternity Institutions and Associations in the City, however, a list of 285 names has been prepared, mostly from information contained in the notification cards, which shows that 130 certified, and 155 uncertified, are in more or less regular practice.

STILL-BIRTHS.

As already stated, the number of still-births recorded during the year was 902, which is equal to 4.2 per cent. of the live births notified, as compared with 4 per cent. and 3.9 per cent. in the two preceding years.

Excluding the still-births in institutions, and comparing only those occurring at home, the percentage to births medically attended is equal to 3.8, and in births non-medically attended to 3.2. In the preceding year the proportions were 3.6 and 3.4 per cent. respectively. While there is every reason to believe that medical men are notifying the still-births occurring under their care, many midwives, it is believed, still fail to do so, and until some system of registration of still-births is instituted, we shall probably always lose a proportion of the numbers actually occurring. The Ward details are shown in Appendix Table XX.

INFANT VISITATION.

Under the scheme of infant visitation, a female inspector visits every house in which a birth has occurred, provided we have not been informed that a medical practitioner is in attendance. 13,844 enquiry cards were accordingly issued to the female inspectors during the year. Of these, 30 proved to be duplicate notifications, while 1,090 were not visited for various reasons—principally because, although the notification did not bear that a medical practitioner was in attendance, the district was not of a character which suggested that visitation was necessary. 169 had removed from the address given before the inspector called, while in 157 others doctors were found to be in attendance. There thus remained 12,398 children not medically attended at birth who received at least one official visit after notification.

Certain information in regard to these latter children is shown in the following summary:—

	Number.	Per Cent.
Legitimate,	11,808	95.2
Illegitimate,	590	4.8
	<hr/>	<hr/>
	12,398	100.0
	<hr/>	<hr/>
Born at Full Term,	11,800	95.2
Premature births,	598	4.8
	<hr/>	<hr/>
	12,398	100.0
	<hr/>	<hr/>

Condition of Infant at Birth.

	Number.	Per Cent.
Well nourished,	10,210	82.4
Fairly nourished,	1,284	10.4
Badly nourished,	441	3.5
	<hr/>	<hr/>
	11,935	96.3
Still-born,	463	3.7
	<hr/>	<hr/>
	12,398	100.0
	<hr/>	<hr/>

Nature of Feeding at First Visit.

Breast,	...	...	...	...	11,100	95.4
Artificial,	...	...	...	...	537	4.6
					<u>11,637</u>	<u>100.0</u>
Still-born,	...	...	...	...	463	
Dead at First Visit,	...	...	...	...	298	
					<u>12,398</u>	

Of the children thus visited for the first time by a member of the Female Staff, 82.4 per cent. were found to be well nourished, 10.4 per cent. were fair only, 3.5 per cent. were badly nourished, while 3.7 per cent. were still-born.

298 children were found to have died before the Inspector visited, but of the 11,637 found alive at first visit fully 95 per cent. were being breast-fed, while for the remainder the problem of artificial feeding had already begun.

Practically one-third of the deaths occurring in Glasgow among children under one year of age arise from immaturity, a condition which after-care can do little to remedy.

As already stated, all newly born infants not medically attended at birth are visited immediately after notification by a female Inspector, who submits a report on the circumstances of each case. Of the 12,398 infants thus visited, 5,287 were regarded as satisfactory, and supervision ceased with the first visit. The information contained in the report card, however, in regard to the remaining 7,111 children suggested that further observation was desirable, and these were accordingly taken up by the Health Visitors. The Health Visitors are trained nurses, who hold in addition the Certificate of the Central Midwives Board, and their duties are to advise mothers as to the feeding, &c., of infants, and in such cases as require medical advice to urge that the children be brought to the infant consultations.

Altogether the Health Visitors made 11,450 home visits during the year, with the following results:—

	First Visits.	Revisits.
Infants visited under one year of age, ...	5,585	2,833
Infants visited over one year of age, ...	40	19
	<u>5,625</u>	<u>2,852</u>
Removed and new address not traced, ...	190	204
Not found at address given, ...	106	—
Out at time of visit, ...	809	843
In hospital or nursery, ...	22	47
Dead, ...	141	193
Nurse still attending, ...	205	9
Refused admittance, ...	12	4
Doctor in attendance, ...	1	1
Visits to mothers, ...	—	186
	<u>7,111</u>	<u>4,339</u>

Of the children found alive on the occasion of the first visit by the Health Visitor, 3,532 were classified as being well, 1,614 were regarded as fair only, while 479 were in bad condition. These may be summarised according to the size of the house occupied, as follows:—

	Well.	Fair.	Bad.	Total.
1 apartment, ...	1,685	733	228	2,646
2 apartments, ...	1,661	805	232	2,698
3 " ...	165	72	17	254
4 " and up,	21	4	2	27
	<u>3,532</u>	<u>1,614</u>	<u>479</u>	<u>5,625</u>

Generally speaking, those classified as "well" on the occasion of the first visit were not re-visited, but all those tabulated as "fair" or "bad" were re-visited together with 759 of the number originally placed in the first group, but which subsequent information suggested should again be visited. Including the 759 referred to among the class "fair," the results of subsequent visitation may be summarised as followed:—

	Much Improved.	Slightly Improved.	No Improvement.	Worse.
Fair,	675	415	387	112
Bad.	353	483	388	39
	<hr/>	<hr/>	<hr/>	<hr/>
	1,028	898	775	151
	<hr/>	<hr/>	<hr/>	<hr/>

The number of visits paid to each house depended on the urgency of the conditions, but where the nurse failed in her efforts to effect an improvement the cases were reported either to the Sanitary Inspector for prosecution in respect of the dirty condition of the house, or to the officers of the Glasgow and Govan Parish Councils, in order that action might be taken under the Children Act in respect of the continued neglect of the children. During the year 74 cases were so reported to the Parish Councils, who under the greater powers possessed by them and their ability to prosecute were successful in many instances in effecting an improvement. In other cases prosecution was necessary, and the following extracts from reports to me by the Clerk to the Glasgow Parish Council illustrate the conditions which became the subject of prosecution and the support which is obtained from the judicial bench in thus dealing with child neglect:—

28th February, 1911. Mrs. C—, Whitelaw Street, Maryhill.—" . . . Sheriff Davidson yesterday sentenced her to two months' imprisonment, not so much for abandoning the children, but for their neglect. She seems to be a heartless woman, devoid of any interest whatever in her offspring. . . . "

16th February, 1912. J. M-C— and Wife, Barrack Street.—"With reference to your communications of 11th December last and 12th instant, respecting the above-named, I beg to inform you that the wife was yesterday apprehended on the charge of neglecting the child, and to-day remanded till 22nd instant for trial. The man has disappeared and has not yet been found, and the baby has been removed to Stobhill.

It is difficult sometimes to know what to do with a case of this kind; they appear to be a useless, good-for-nothing pair, with no very pronounced vices, and simply allow themselves to drift lower and lower without making any attempt to improve their condition. On 18th December last, I took the four elder members of their family into hospital, but at their earnest request allowed them to keep the infant, and I had hoped that with this relief they would have pulled themselves together, but instead, they have drifted from bad to worse, notwithstanding repeated warnings.

I would have removed the infant from them sooner, but it is unfortunately the case that when an infant of tender years and emaciated like this one, is removed from parental care to hospital, the results are often fatal, and it is sometimes the more humane way to leave it with the parents and keep them under close supervision. As you are aware, this course became hopeless with the M-C.'s, and because of their persistent refusal to allow it to be admitted to hospital, I had no alternative but to take criminal proceedings."

GLASGOW INFANT HEALTH VISITORS' ASSOCIATION.

Working in association with the Public Health Department is the Glasgow Infant Health Visitors' Association, to whom are reported children whom it is desirable to keep under observation during a longer period than is possible by the official Visitors. As this period generally extends to the first twelve months of life, a complete year must elapse before the results of the visitation

can be summarised. Of infants born during the year 1910, 2,474 were reported to the Voluntary Visitors, so that the last of the infants attained the age of one year by the end of 1911. A summary of the results as at that date in the several Wards in which visitation is carried on is shown in the following Table:—

Wards.	Year old.	Removed.	Dead.	Ceased to be Visited.	Visits Un-necessary.	No In-formation.	Visits Resented.	Total.
1	82	81	29	19	4	13	...	228
2	24	65	11	9	1	7	...	117
3	76	97	23	7	5	3	...	211
4	25	23	15	3	2	...	...	68
6	16	31	9	13	3	4	...	76
8	28	40	11	5	...	5	...	89
9	9	14	4	6	2	4	...	39
9 _A	19	34	10	1	2	...	...	66
10	...	1	...	1	...	1	...	3
12	18	8	2	3	2	...	...	33
13	90	50	28	10	8	3	1	190
14	76	41	13	6	12	2	...	150
16	167	152	49	11	4	1	1	385
17	52	50	14	1	3	1	...	121
18	11	44	6	6	11	...	...	78
19	54	69	15	5	...	...	...	143
20	31	18	7	4	...	102	...	162
25	84	70	18	15	9	9	...	205
26	29	23	18	17	9	14	...	110
	891	911	282	142	77	169	2	2,474

The difficulty of keeping these infants under continuous observation is illustrated by the large proportion under the heading "Removed," of whom there were no fewer than 911. In 390 other cases the child was either not visited at all—principally because of the lack of visitors to undertake the work—or visitation was discontinued after a short interval.

The above Table may be summarised shortly as follows:—

Attained the age of one year,	...	...	...	891
Died during first year,	...	...	...	282
Removed,	...	...	...	911
Visits discontinued,	...	...	...	221
No information,	...	...	...	169

2,474

It is thus only possible to deal definitely with the children who have lived throughout one year, or who died within the same period. Together, these numbered 1,173, and, calculating in the usual way, there resulted among them a death-rate of 240 per thousand, as compared with an average for the City as a whole of 131 in the year 1909, 119 in 1910, and 136 in 1911.

This rate is considerably in excess of the rates prevailing generally in the Wards in which visitation is being conducted, but it must be remembered that the children are selected for visitation because of the presence of unsatisfactory conditions, which produce these high death-rates.

1,833 of the children born during 1911 were reported to the Voluntary Visitors, but in regard to these the results will not be available until the end of the current year.

The following Table shows, also, the nature of the feeding of the 2,474 children referred to above, so far as this information was available. The

figures given under the respective columns indicate the last information available as to feeding:—

	- 3 Months.	- 6 Months.	- 9 Months.	- 12 Months.	12 Months +	No In- formation.	Total.
Year old—							
Breast only, ...	...	...	...	27	149	...	176
Breast and Artificial Food, Artificial Food only, ...	...	...	...	32	401	...	433
	...	...	...	13	269	...	282
Removed—							
Breast only, ...	101	179	97	33	...	...	410
Breast and Artificial Food, Artificial Food only, ...	15	47	41	47	...	...	150
	10	24	21	16	...	...	71
No Information, ...	...	...	...	...	...	280	280
Dead—							
Breast only, ...	19	42	13	18	...	...	92
Breast and Artificial Food, Artificial Food only, ...	10	21	20	6	...	...	57
	7	13	15	9	...	...	44
No Information, ...	...	...	...	...	...	89	89
Ceased to be visited—							
Breast only, ...	8	17	19	31	...	...	75
Breast and Artificial Food, Artificial Food only, ...	2	2	10	23	...	...	37
	1	7	10	12	...	...	30
Visits unnecessary—							
Breast only, ...	16	20	6	7	...	...	49
Breast and Artificial Food, Artificial Food only, ...	...	3	5	3	...	...	11
	1	4	1	1	...	...	7
No information, ...	...	...	...	...	...	10	10
No Information, ...	...	...	...	...	...	169	169
Visits resented—							
Breast only, ...	...	...	...	...	...	...	...
Breast and Artificial Food, Artificial Food only, ...	...	...	...	1	...	...	1
	...	...	...	1	...	...	1
No Information, ...	...	...	...	...	...	...	...
	190	379	258	280	819	548	2,474

INFANT MORTALITY IN RELATION TO THE INDUSTRIAL OCCUPATION OF WOMEN.

The practice, which has been in operation since the adoption of the Notification Act, of reporting to H.M. Inspector of Factories and Workshops all births notified in which information is obtained that the mother is employed, was continued during last year, 1,417 having been intimated. Of these, 1,021 were in respect of legitimate births, and 396 in respect of illegitimate births.

CHILDREN ACT, 1908.

Reference has been made in previous years to the existence in the City of a number of private lying-in houses. During 1911, births, numbering in all 171, were recorded in twelve of these. Most of these children are illegitimate, and immediately after birth are handed over to the care of foster-parents. All such births are reported to the Parish Authorities, who keep careful supervision over the children. The question arises, however, whether these houses should not be registered and put under supervision, either of the Public Health or the Poor Law Authorities.

Reference has already been made to the number of children reported to the Poor Law Authorities because of the neglect of their parents and the action which has followed thereon.

INFANT CONSULTATIONS.

393 infant consultations were held at eight centres during the year, 1,578 children having attended 5,013 times, an average of 3·2 visits per child.

Details of the consultations, and the numbers attending each, during the year, are shown in the following Table:—

No. of Consultations	Place.	First Visit.	Subsequent Visits.	TOTAL.	Average Visits per Child.
71	Maitland Street, ...	307	709	1,016	3·3
48	South Portland Street, ...	297	413	710	2·4
48	Franklin Street, ...	207	462	669	3·2
51	Sanitary Chambers, ...	132	294	426	3·2
50	Washington Street, ...	150	330	480	3·2
50	Garnagad Hill, ...	160	474	634	4·0
50	Soho Street, ...	278	712	990	3·6
25	Main Street, ...	47	41	88	1·9
393		1,578	3,435	5,013	3·2

Of the 1,578 children attending the infant consultations during the year, 750 were found to be in "good health," 378 were classed as "fair" only, while 450 were "bad." Those classed as "bad" suffered as follows:—

Birth debility,	142	<i>Forward,</i>	381
Prematurity,	30	Whooping-cough,	5
Digestive Disorders (Improper feeding, 40; Gastritis, 8; Diarrhoea, 13; Constipation, 1; Dentition, 1; Catarrh, 1),	64	Erysipelas,	1
Respiratory Disorders (Bronchitis, 20; Broncho-pneumonia, 1),	21	Poliomyelitis,	1
Congenital Defects (Hydrocephalus, 3; Hare-lip and Cleft-palate, 2; Cleft-palate, 3; Pyloricstenosis, 1; Congenital Cataract, 1; Heart Disease, 1; Torticollis, 1; Hernia and Phimosis, 7; Talipes, 3; Spina bifida, 1),	23	Skin affections,	8
Rickets,	44	Osteomyelitis,	1
Tuberculosis,	8	Neglect,	8
Syphilis,	38	Burning,	1
Ophthalmia neonatorum,	10	Debility,	6
Measles,	1	Marasmus,	8
		Icterus,	1
		Glandular enlargement,	2
		Abscess,	4
		Rhinitis,	2
		Conjunctivitis,	1
		Cellulitis,	1
		Otitis Media,	1
		Others,	18
<i>Forward,</i>	381		450

OPHTHALMIA NEONATORUM.

In the foregoing Table it will have been observed that of the children brought to the infant consultations, and whose state of nutrition was classified as "bad," almost 11 per cent. suffer from the result of venereal disease, 38 being affected with congenital syphilis.

With regard to the less grave forms of infection, the Committee on Health had under consideration the question of adding ophthalmia neonatorum to the list of diseases compulsorily notifiable under the Infectious Disease Notification Act, 1889, and in connection therewith the following Report was submitted:—

REPORT BY THE MEDICAL OFFICER OF HEALTH ON
THE ADMINISTRATIVE TREATMENT OF OPHTHALMIA
NEONATORUM.

"The subjoined information has been collected in order to assist the Health Committee in deciding upon a course of administrative action which would require to be followed if the Corporation resolve to add ophthalmia neonatorum to the diseases notifiable under the Infectious Disease (Notification) Act of 1889.

Enquiries were directed to ascertain—

- (a) the prevalence of the disease in Glasgow;
- (b) the present facilities for treating it; and
- (c) the extent to which its results appear to cause defect in the eyesight of school children.

The Prevalence of the Disease.

In answer to a query addressed to 17 hospitals and dispensaries at which the disease might be treated, I have information which suggests that about 160 cases come up for treatment annually, so that if we add 20 or 25 per cent. to cover cases occurring in private practice, it is probable that the total number falling to be dealt with annually may not exceed 200.

The Present Facilities for Treating the Disease.

We may assume from the number of cases treated at the dispensaries that the provision for outdoor treatment is ample. It must be remembered, however, that ophthalmia neonatorum begins, as the name indicates, very early in life, within the first few days in fact after birth, and usually at a stage when the mother could not, with safety to herself, attend any dispensary. My information as to the number attending these institutions says nothing whatever regarding the age of the child, the stage of the disease at which it was brought, or the result which followed treatment.

The probable effect of notification will be to bring such cases to knowledge at an earlier stage of the disease than that at which they at present apply to hospitals for treatment, and this will, to some extent, enable an opinion to be formed as to whether any improvement in results is to be expected by undertaking the home treatment of the disease.

The Extent to which its Results appear as a Cause of Permanent Defection in Eyesight.

The information obtainable from the Blind Asylum School is to the effect that, of 80 children in attendance, about one-fourth of the blindness is the result of ophthalmia in infancy.

General.

(a) *The Notification Act and the Supervision of Midwives.*—In submitting the foregoing information verbally to the sub-committee, I expressed the opinion that we should be in a better position to approach this disease had we the same facilities for supervising the practice of midwives as now exists in England. Ophthalmia neonatorum is an acutely infectious disease, and its progress in any given case is often disastrously rapid. The results of treatment, therefore, when begun only after

the disease has become so well established that it may be readily recognised, are likely to be much less satisfactory than when the possibility, or, as may happen in some cases, the probability of its appearance is anticipated and careful watch kept for the conditions from which it arises. The Notification Act will bring knowledge which is only of a *post factum* character, and it might be well if the committee, in addition to taking whatever advantage the Act may confer, would also further the efforts of the National Executive Committee for the reduction of infant mortality to obtain for Scotland such supervision of midwives as now exists in England. This is all the more necessary, as the proportion of births attended by midwives throughout the city is almost 55 per cent. of the total, while in Calton, Mile-end, Blackfriars, and Hutchesontown the proportion reaches from 65 to 75 per cent., and in Broomielaw and Cowcaddens exceeds this latter figure.

(b) The value of any treatment for the cure of the disease, once it is established, depends wholly on the regularity and thoroughness with which it is carried out.

It is doubtful whether, in many of the homes in which the disease occurs, the frequent irrigation of the eyes which efficient treatment requires can be carried out, but experience alone can show what proportion of the cases may require institutional treatment, and, until such information has been acquired, I would recommend the committee to agree to one or other of the Reception Houses being used for such cases as require treatment in this form.

(c) *The Scope of the Act.*—Having in view the number of births attended by midwives on the one hand, and the incidence of responsibility for notification under the Notification Act on the other, some uncertainty is pretty sure to emerge on the application of the Act, especially when neglect of its provisions falls to be dealt with punitively. The burden of the Notification Act in practice, although not according to its terms, is discharged by the medical practitioner in attendance. An equal burden is laid, however, not only on the nearest relatives of the patient, but on every person in charge and in attendance, and, in default of this, on the occupier of the building. By custom, notification by the medical attendant has been accepted as reasonably fulfilling the intention of the Act. But as we have seen 55 per cent. of all the births in Glasgow (and these probably would include the larger proportion of the cases of ophthalmia occurring) are not medically attended, and some time will be required in order to educate the midwife to the new responsibility which the addition of ophthalmia neonatorum to the list of notifiable diseases will create.

In the whole circumstances, therefore, and in order especially to afford an opportunity for ascertaining the value of the Notification Act in the absence of the Midwives' Act, I would recommend the Corporation to include the disease for a period of three years only to begin with.

To make its adoption of practical value, however, we must provide for the effective skilled supervision of each case as it is revealed, and this can best be accomplished by adding two additional nurses to the number of those already engaged in the work of infant visitation.

Probable Cost.

(1) *Notification*—

Say 160 from public dispensaries, at 1s. each,	£8 0 0
„ 40 „ private practitioners, at 2s. 6d. each,	5 0 0

£13 0 0

(2) Two nurses, at £70 per annum,	140 0 0
--	---------

£153 0 0

It is impossible to make any estimate of the cost which will be incurred should any cases be removed to the Reception Houses. If occasional cases only occur, the nursing might be provided by detaching members of the present hospital staff for the purpose, but if there should be a continuous succession of them, a permanent provision will require to be made.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 25th April, 1911."

The above Report was approved of by the Corporation, and they further authorised the appointment of two additional nurses to supervise cases that might be notified. Notification came into force on 1st August, 1911, and 88 cases were notified between that date and 31st December, of which 17 were from addresses beyond the City boundary. Further consideration of the cases occurring within the boundary is delayed pending the preparation of a Report on the cases notified and treated during the current year.

INTERNATIONAL CONGRESS ON INFANT MORTALITY.

In the month of September the Third International Congress on Infant Mortality was held in Berlin, and the Corporation appointed Bailie J. W. Stewart, Convener of the Committee on Health, Councillor Dr. McConnell, Sub-Convener, and Councillor W. Fleming Anderson to be their representatives, while facilities to attend were also afforded the Medical Officer of Health, the Chief Sanitary Inspector, and Dr. Florence Mann, Assistant to the Medical Officer of Health. On their return these delegates submitted the following Report to the Corporation:—

REPORT OF REPRESENTATIVES TO THE THIRD INTERNATIONAL CONGRESS ON INFANT MORTALITY.

BERLIN AND DRESDEN, *September, 1911.*

The deputation appointed by the Corporation to attend the Third International Congress on Infant Mortality at Berlin, and to visit the International Exhibition of Hygiene in Dresden, have now carried out their instruction, and beg to submit the following report.

The principal part of the report deals with subjects which came under the observation of all the members, and supplementary sections have been added concerning other aspects of administration, which attracted the notice of individuals.

This is partly due to the fact that the demands on the time of the members of the deputation otherwise made travelling together impossible, and that, while some found it more convenient to visit Dresden first and Berlin afterwards, others could only join their conferees at the beginning of the Berlin Conference, and at its close proceed to Dresden. Finally, two of their number took advantage of the return journey to visit the Laboratories and Hygienic Institutes at Frankfurt-on-Main, with which the names of Professors Ehrlich, Neisser, and Edinger are so widely associated.

Advantage was also very largely taken of the opportunity afforded to obtain at first hand a knowledge of the working of the various organisations engaged in the effort to reduce Infant Mortality, and the deputation visited many of the Institutions in Berlin and Dresden, which are devoted to the care of both mother and child, and endeavoured by visitation and otherwise to acquaint themselves with such conditions affecting the home life of the people in both cities as would seem to some extent to explain the highly developed system of supervision and relief which exists.

In this way it was hoped to make the visit in the first place educative to the members who formed the deputation, and through them to the Corporation generally.

THE WORK OF THE CONFERENCE.

The meetings of the Conference were held in the buildings of the German Reichstag, and were inaugurated by a reception given by the Hon. President of the Congress—his Excellency the Hereditary Prince Hohenlohe-Langenberg.

At a subsequent general meeting, at which the Empress was present, the representatives of the Governments which had appointed delegates described what was being attempted in their own country towards the reduction of infant mortality, and what was hoped for from the Congress. Thereafter the work of the Sections was begun, and continued throughout the week until the Friday, when the Conference adjourned to Dresden.

The work of the Congress was divided among four sections, which were named as follows:—

- (1) For the Teaching and Instruction of Child Hygiene and the Pathology of Infancy;
- (2) For the Protection of Infant Life in practice, as illustrated by the different movements on foot in the several countries;
- (3) The Legislative and Administrative Measures possible; and
- (4) The Question of Guardianship, and Statistics.

The scope of the individual sections was widely interpreted, as will be seen by the following outline of their work:—

Section (1)—Teaching and Instruction.—Under this section were grouped such subjects as the Undergraduate and Postgraduate teaching of the Hygiene and Pathology of Infancy; the training of midwives; the education and training of hospital nurses, nurse maids, and of visiting nurses for parish and settlement work; instruction in the nursing and feeding of infants; the requisite standard for raw materials in the successful substitution of artificial for breast feeding; artificial feeding during the first three months of life, &c.

Section (2)—The Protection of Infant Life in Practice.—Here a series of reports were presented, sketching the movement for the reduction of infant mortality in many parts of the world, and the extent of the movement was indicated in the field from which the reports were drawn. Almost no European country is without an organisation for the purpose, and we had reports of infant consultations from places so widely separated as St. Petersburg, Moscow, Brazil, Egypt, Copenhagen, and Hungary.

Moreover, we were brought into touch in this Section with a phase which broadened as the work of the Congress progressed, and its first extension was naturally towards the pre-natal period, so that the later months of pregnancy were included.

Section (3)—Legislative and Administrative Measures.—The subjects dealt with in this Section were to British ears probably the strangest, because they exhibited a condition of the social system greatly differing from that of this country. Indeed, in order fairly to understand the highly developed organisations which exist on the Continent for dealing with child life, we must keep prominently before us the national obligation for the care of children, which many Continental Governments recognise, and the responsibility which has been undertaken by several municipalities for illegitimate and orphaned and neglected children.

So, also, in its care of the syphilitic child Germany sets an example, which at least we should have courage to follow so far as required in this country.

With this explanation, the several subjects dealt with in this Section are more readily understood. For instance, they included—

- (1) The Legislative and Administrative Measures for the Protection of Infant Life;
- (2) Maternity Insurance;
- (3) The Protection of Adopted and of Illegitimate Children;
- (4) Infant Health Associations, Hospitals, Asylums and Homes;
- (5) Rural Infant Health Associations;
- (6) The Public Care and Control of Illegitimate Children;
- (7) The Employment of Syphilitic Wet Nurses for Syphilitic Children.

A sub-section here was devoted to consideration of the guardianship of children, so that we had—

- (1) The International Aspects of Guardianship, made the subject of a paper by G. Horn, *Avocat a la Cour d'Appel, Paris*;
- (2) The Judicial Rights of Illegitimate Children in Foreign Countries, dealt with by Dr. Engel, *Budapest*;
- (3) The Legal Position of the Illegitimate Child in the Principal Countries of Europe, by Dr. Meister; and
- (4) The Foundling, by Dr. Riether, *Vienna*, and Professor Schlossmann, *Düsseldorf*.

Section (4) was devoted to the study of the statistics of infant mortality.

Reference has already been made to the position of the child in European countries, and especially in the German Empire, and the descriptions which follow are condensed from information supplied to the members of the Congress, or obtained by the members of the Deputation during the visits which they paid to the Infant Homes and other Institutions in Berlin, Charlottenburg, and Dresden.

These included the new orphanage in Alte Jakobstrasse, and the Children's Asylum in Kurassier Strasse—both Institutions forming part of the *Städtisches Waisenhaus*, Berlin (Berlin Municipal Orphanage); several Infant Welfare Stations, some of which were originally charitable foundations under the Schmidt Gallisch bequest, but are now under Municipal management; the *Kaiserin Augusta-Victoria Haus*; the *Cecilianhaus* of the National Ladies' Association; the Charlottenburg Home for Infants (West End); the chief branch of the *Jugendheim Society*; the Forest Schools; and the National Insurance Institute (Administrative and Medical), Berlin. Subsequently several institutions of a like sort in Dresden were also visited.

Almost at the outset of the visits the members of your deputation had their attention arrested by the highly complex character of the organisation, which seemed able to find some place for almost every variety of demand which child life could make. Looked at through the atmosphere of our insular customs, and, to some extent, it may be, of insular prejudices, it was difficult to find any home analogue for the work, for example, of the various departments of the Municipal Orphanages, which take charge of over 13,000 children, of whom 2,000 are under one year. Here was no simple question of guiding an infant through the first year of life, but of supervising the upbringing by the Municipality of all children who stand in need of help, either because they are orphans, or are permanently or temporarily deprived of the natural care of their nearest relatives, or whose parents because of illness, absence, or imprisonment are unable to look after them.

The movement for the reduction of infant mortality in Berlin, and, indeed, throughout Germany generally, is, however, part only of a national movement for the welfare of youth, and it is only in the light of this wider objective that we can get any intelligent view of its operation within the somewhat limited area represented by infant mortality.

Indeed, it should be here stated that no fair parallel can be established between the agencies in operation in this country for the reduction of infant mortality and those in Germany, unless we group under the former much of the work which in this country is at present discharged both by Statutory Authorities and by philanthropic organisations. Under the former, for example, would be included the duties of the Poor Law Authorities, especially in relation to orphan and neglected children, and the provision of open-air schools and school meals, so far as both have been established by the Education Authorities; while the latter would include Maternity and Sick Children's Hospitals, fresh-air fortnights, and feeding and clothing schemes for children, *Creches* and Orphan Homes.

Administratively, the advantage of the German method would seem to be that a child may readily be placed in whatever section of the organisation best supplies its individual need, and overlapping tends to be reduced to a minimum.

The contrast which these present to the complicated and independent machinery by which we endeavour to accomplish the same end need not be elaborated. The difference, indeed, is between a philanthropy which is the outgrowth of national sentiment and that which may be organised by a Government to meet a national need.

The municipal foster-children of Berlin represent a portion only of the whole number supervised through municipal and charitable organisations, and the reason for this has nowhere been better expressed than in a brochure which was supplied to the members of the Congress, entitled "*Säuglingsfürsorge in Gross-Berlin*," and prepared to a large extent by Dr. Dietrich, of the Imperial Home Office, and President of the "*International Association for the Protection of Child Life*." After describing the national welfare movement, which in Germany had stimulated sanitary and social reform, Professor Dietrich shows how effort in this latter direction had resulted in a reduction of the general death-rate of the German Empire by 35·7 per cent. during the 33 years from 1876 to 1909 (from 28·1 per cent. to 18·07), and that of tuberculosis by 41 per cent. "The only exception to this

general reduction in mortality was that of the mortality of children under one year," the death-rate among whom had, in Prussia alone, increased by 17 per cent. between 1816 and 1905 (from 17 to 19·8 per cent.).

Comparing this with the infant mortality in other European States, it is stated that " infant mortality in the German Empire is only surpassed by that in Russia, Roumania, and Austria-Hungary, and a calculation is introduced to show that if, during 1906, the same proportion of infants had died in Germany as in Norway, about 200,000 children would have been saved to the German Empire in one year. To the practical German mind this could only appear in one way. " False conclusions " were likely to be arrived at " as to the strength of the coming generation of the nation." It was formerly believed " that the rate of mortality among children who had not reached the first anniversary of their birth was a wise dispensation of nature intended to prevent children with a weak constitution becoming too plentiful. *To-day we know that a great infant mortality is a national disaster*—on the one hand because numerous economic values are created without purpose and prematurely destroyed, and on the other because the causes of a high rate of infant mortality affect the powers of resistance of the other infants, and weakens the strength of the nation in its next generation."

There is nothing altruistic in the statement. Every life is regarded as of potential value to the nation, and if the nation is to benefit, the child must be taken care of.

Legislation having realised this, it is suggestive to follow the line of development which the argument took. One of the principal causes of the increase in infant mortality is the substitution of artificial for breast feeding, and recognising that no kind of artificial nourishment could act as a substitute for natural food, the foremost place in their efforts to preserve the child was for the protection of mothers and those about to become mothers.

Industrial progress had the disadvantage of increasing the number of women employed in factories, and so to reduce the proportion of breast-fed infants, and in December, 1908, it was enacted throughout the German Empire (Section 137 of the Trade Regulations),

" that working women may not be employed immediately before or after their confinement, or for a total period of eight weeks, and they can only be employed again after confinement on showing that at least six weeks have passed since the occurrence."

The same section of the Regulations enables working women who have a home to look after to leave work half-an-hour before dinner time, provided that such dinner time does not exceed 1½ hours. It also prohibits their employment for longer than ten hours daily, and on Saturdays and on the day before holidays for not longer than eight hours.

It soon became obvious, however, that to free the occupied working woman from her work could only be of advantage to her provided she was compensated in some way for her loss of wages, and so the present Sick Insurance Law determines that certain sick bureaux are to grant support " to the amount of sick money " to women in child-bed who have belonged to such Insurance Societies for at least six months before their confinement, and such support is to be granted for a period of six weeks afterwards. Further, the new Imperial Insurance Law which comes into operation shortly would appear to extend these provisions to all women who have been insured against illness six months before confinement. The same law provides that, at the option of the women, the confinement may take place in a lying-in home, the service of doctors and midwives being ensured in any case. A further advantage is secured to the nursing mother, who may be allowed assistance, up to half the amount of her insurance, as long as she suckles her baby, and such aid may be given for a period up to twelve weeks after confinement.

Voluntary Organization.—Supplementary to these which may be regarded as the legislative features of the organisation, there are many voluntary associations, and it is pointed out that many large manufacturers employing female labour give suckling money (*Stillgeld*) to working mothers who undertake to suckle their children for six months; others allow working mothers pauses during work without any deduction from wages, in order that they may suckle their children in rooms or creches adjoining the factories.

Municipal Authorities in several places also undertake the production of milk in model cowsheds, and place milk for children at the disposal of indigent persons at a reduced charge, or free.

The Work of Unification.—The unification of the organisation for promoting the welfare of children was supplied when the Empress, six years ago, invited the co-operation of all charitable agencies with the authorities.

The Home of the Organisation.—The Berlin Authorities regard the "Kaiserin Augusta-Victoria Haus" as the headquarters of the whole organisation in Germany for combating infant mortality. This institution was built by voluntary subscription, on a site presented by the Municipality of Charlottenburg, and cost about £125,000. It took practical effect on the direct suggestion of the Empress, and its objects are—

- (1) To investigate, scientifically and practically, all questions affecting the nutrition and upbringing of infants, and the care of mothers.
- (2) To collect material concerning infant mortality and the existing organisations for the care of infants and mothers in Germany and foreign civilised countries.
- (3) To make known in suitable publications the results of such scientific and practical investigations, as well as to publish the material collected in the field of infant and mother welfare work.
- (4) A further object is to give information and advice to official bodies, public and private associations, and private individuals.
- (5) Special attention is directed to the training of medical men and nurses in infant diseases, and to the education of mothers. Midwives are placed under special training, and are given instruction in the principal questions concerning the nourishment and care of infants. School courses for mothers are likewise held four times a year, and a school for nurses has been attached to the institution, while a training is also given in the practical work of the nursery, so that pupils may be capable of looking after a child from its birth, and to follow with attention the medical instructions during sickness.

The expenses of the institution are covered by a subsidy from the German Empire, grants from the Federal States, larger Municipalities, and Societies, as well as by the Society of the Patrons of the Institute. Fees which the institution receives for treatment and sustenance also form a considerable part of the annual revenue.

The patients are divided into two groups, known as First and Second Class patients.

In addition to the functions of a maternity hospital, the "Augusta-Victoria Haus" also includes an infants' home for children nurtured naturally, a department for healthy children artificially nourished, as well as one for children who are ill from digestive disturbances. Part, if not all the milk used in the hospital is obtained from milch cows stalled within the hospital grounds.

Infant Consultations—(Infant Welfare Stations).—Coming to the details of the system in operation, we found the "Infant Consultation" (Infant Welfare Station) regarded as the most effective form in which supervision of infants could be conducted, but its scope extends much beyond that of the corresponding institutions in this country.

For example, when mothers are found who are not sufficiently nourished themselves to suckle their infants, they are fed at an eating house for such mothers, and again, when the supply of breast milk absolutely fails they are directed to shops where suitable children's milk may be obtained, free of charge if necessary.

The Infant Consultations are also used as schools for the instruction of expectant mothers.

The scheme also comprehends the equivalent of our maternity hospitals, but appears to include a system of supplying women trained in the hygiene of the home and of child-birth to assist in the housework during the period of confinement, and considerable care would seem to be taken to ensure that when the domestic conditions are such as to render child-bed hygiene difficult the mother is removed to a home for confinement.

Again, infant homes and hospitals, or special departments of general hospitals, have been provided for children or sick infants who cannot have requisite attention at home, and here provision is made for supplying human milk as the best remedy in many cases of sickness. Indeed, the system of wet nursing would appear to be developed to an extent not known in this country.

Moreover, for weak and convalescent infants, Forest and Seaside Homes are liberally provided.

Special effort is also made to meet the case of necessitous children, when the mother leaves the lying-in hospital, and for these, children's asylums are provided.

For orphans and illegitimate children special provision is made, and under Section 136 (Civil Code) an "Official Guardian" is provided, whose duty it is to see that all such infants are accommodated in suitable homes. It is also part of his duty to ensure that the father makes regular payment for the proper sustenance of the child.

Finally, the larger municipalities have each a central bureau, under the direction either of a town councillor and a consulting doctor or under the management of medical men, and the functions of such bureaux are—

"To direct the instruction regarding the necessity of natural nourishment and everything else that mothers and relations of the infant ought to know; to supervise the welfare and milk dispensing depots, as well as the public and private dairies, either directly or through the officials of the Welfare Station."

The officials of the Central Bureau have also to supervise all establishments for the care of infants; to house homeless women in child-bed and their children; to regulate the supervision of the orphans who are directly under the Official Guardian formerly referred to; to control the conditions of life of the infants during their first year, as well as to show the results of the welfare measures taken by means of statistical compilations.

A general summary of the facilities Berlin offers for the care of children was presented under the following heads:—

(1) An inquiry bureau for mothers, the aim of which is to afford advice with respect to maintenance, procuring work and accommodation in lying-in hospitals.

(2) A registry office for obtaining foster parents. To one institution alone—Professor Neumann's—there are 255 suitable foster mothers attached.

(3) Facilities for placing sick children in Sanatoria and holiday camps.

(4) Loans of nursing materials and utensils from the Berlin Society of Home Dietetics.

(5) To encourage thrift and to popularise the teaching of hygiene and domestic economy among the children of the poor.

Depositors are supplied with cards, and the amounts deposited are represented by the adhesive stamps affixed. The objects aimed at by this scheme are to provide a holiday fund, either for the country or the seaside; for residence in a convalescent home, and in particular those situated in forests. It is also employed for providing confirmation robes and for contributions to the church funds, as well as for the expenses connected with child-bed.

(6) In connection with this thrift scheme, there is a system of lending baby outfits, which include a bath and its accessories, and baby underclothing, &c.

The advantage which is taken of every opportunity for teaching practically the hygiene of child life is illustrated by the following:—

In association with Professor Neumann's Children's Home there are—

(1) Courses for mothers, which consist of instruction in the nursing of infants, combined with practical demonstration. Each course lasts one month, and instruction is given weekly. Many of these are free, but similar courses are held for those who can pay, and the fee in these cases is 10 marks.

(2) Course for the nursing of infants—these are primarily intended for—

(a) young girls who desire to become nurses of infants,

(b) for ladies who are actively engaged in the care of orphans, and

- (c) a course of instruction in the nursing of children, which extends over a year, and is accompanied by board and lodging at the institution, the fee being 100 marks.

Such, in short, is an outline of the object of the whole movement for child welfare in Germany, and it will be seen to cover pretty fully the whole field of child life from infancy onwards. To visitors from this country the organisation seemed to cover fields which we are disposed to regard as separate, both in organisation and finance, and in the preceding paragraphs one may find many aspects of the work which we regard as falling within the scope of Maternity and Sick Children's Hospital, of Infant Consultations, of the Poor Law Organisation, Fresh Air Fort-night Schemes, Feeding and Clothing Schemes, Creches, and finally of Orphan Homes such as represented in the Bridge of Weir establishment.

It was quite impossible, in the short time at our disposal, to obtain a complete, or even connected, view of the financing of these several functions, but behind all the voluntary work which we saw there always remained the knowledge that civil registration places the administrators of Germany in a position with regard to indifferent and careless parents which has no parallel in this country.

Institutions visited—The Berlin Municipal Orphanages.—Two of these were visited, namely, the new orphanage in Alte Jakobstrasse and the Children's Asylum in Kurassier Strasse. The former was opened only in 1910, while the latter was built eleven years ago, from the funds provided by the Schmidt Gallisch foundation. The former building contains a house in which "170 infants are taken care of, and there is temporary accommodation for 150 older orphans, besides two hospital departments and isolation rooms for sick children, with a permanent resident staff of 110. Healthy infants leave the establishment after a short period of observation, and are placed with the foster parents, while sick infants continue under observation. The average time of such supervision extends to 19 days. 9 wet nurses are engaged, but special provision is made against the possible infection of the foster mother, and most of the children are nourished artificially."

The Asylum in the Kurassier Strasse is for the accommodation of foundlings and illegitimate children whose mothers apply for admission; the maintenance and education of the children is continued until their fourteenth year, and is regulated by a scheme laid down for the care of orphan children by the Municipality of Berlin, which pays 2.45 marks per day per child.

To the institution in the Jakobstrasse 2,547 infants were admitted during 1910, and the death-rate was only 66 per 1,000. The poorer citizens of Berlin would indeed appear to regard the functions of this institution with peculiar appreciation, for in one case we found the tenth child in succession of one family being taken care of.

The method of feeding adopted proceeds on the "per centage" principle, that is, the milk is prepared according to the proportion of fat and albumen desired, although in practice it roughly works out at the provision of four or five separate mixtures. This milk, as will be subsequently described, is obtained from a municipal farm, where the animals are tested with tuberculin.

Here we found, as in other similar institutions, that frequent use is made of incubators for prematurely born children, but their use was placed under scientific supervision, and the children were discharged from the incubator only when their body weight warranted the belief that their temperature could be maintained under ordinary conditions of atmosphere.

Incidentally, also, we found that 80 per cent. of the children on whom fell the suspicion of congenital syphilis were retained for three months, because it had been ascertained that the Wassermann reaction might be negative in the third week and become positive in the ninth. This home for syphilitic orphan children is the first established in Germany by a municipality, and the accommodation at present provided both for infants and older children will be extended, it is stated, if required. The object in view is that the child should, if possible, receive three mercury cures in the first year, two in the second, and one in the third; while the results are tested by the Wassermann blood reaction.

We visited the milk kitchen of this establishment with some interest, because of the custom of boiling the milk, which they retained, but this matter is dealt with in a separate paragraph.

Infant Welfare Stations.—There are seven of these stations in Berlin, under the control of the municipality, and their functions include those of similar establishments in this country, but extend somewhat beyond them.

For example, the foster mothers of the Berlin orphans are included among those who may seek advice at the Welfare Stations. Special effort is made to promote breast feeding, and needy mothers receive certain monetary help, which may amount to 80 pfennigs per day, but averages from 30 to 40. To encourage breast feeding the mother may be fed, but should these efforts fail, the child is artificially nourished, and the food may be obtained free. Support in this sense is not regarded as Poor Law relief.

At the consulting hours two or three ladies besides the matron are engaged in assisting the mothers to prepare the children for medical inspection. These ladies also visit the homes of the patients and investigate the circumstances of the family, and see that the medical instructions are carried out.

Outdoor Care of Infants—Foster parents.—Whenever a child has outgrown the requirements of the Children's Asylum, it is placed under the care of a foster parent, to whom the Municipality pays from 20 to 30 marks per month, and a clothing grant of 24 marks per year. In 1910 the number of such children exceeded 2,000, and should the children be delicate and require special medical supervision special families are selected, and, in 1910, 646 of these were convalescent nurseries. The foster mothers are bound to show the children to the Orphanage Doctor once a week, and for this the allowance is increased to 30 marks per month.

The method of surveillance is interesting, and is as follows:—

(1) The Official Guardian of the District in which the foster parents live is allowed 587 ordinary acting infant nurses.

(2) Attached to each there are eight Official Doctors, who visit the foster children till the end of their second year at least once a month, and in urgent cases oftener.

This child guardianship would appear to be a municipalised form of the work begun by Pastor Pfeiffer. About 400 children are added yearly, and the following summary of the financial statement indicates the extent of the work:—

Since the year 1905 the gross payments received from the fathers of wards amounted to 11,744,353 M. (equal to nearly £587,218), to which falls to be added a sum of 2,476,150 M. (equal to £123,807) paid by fathers of children by way of composition in settlement of claims.

At the end of the financial year 1909 there was a sum of 6,873,829 M. (equal to £343,691) standing to the credit of the Wards Fund.

Outdoor Welfare Work for Mother and Child.—Under this are grouped many forms of help, both advisory and material, which are available for mothers and children. It includes, for example, a department for the legal protection of women, and the "Deutsche Gesellschaft für Mutter und Kinderrecht" alone has seven inquiry offices in Berlin and its suburbs.

Here applicants are directed to one of the Welfare Bureaux, or accommodation is provided for them before and after confinement. Legal assistance is also given mothers in order to further claims for aliment, and they are placed under the care of guardians, and work is found for them. It is specially pointed out that the way to self-help is to be paved for the applicants, and money is only given in rare cases. The work is entirely voluntary.

There is also a society for the assistance of married women in child-bed, which provides food for the mother and clothing for the infant. In association with this there is a convalescent home, through which apparently from 4,000 to 5,000 women pass annually, the expenses last year amounting to about 22,000 marks.

We were particularly interested in one Section of the work of the Ladies' Association of Germany—the Frauen-Verein—which "provides responsible people to look after the household work of women who are prevented so doing by illness, child-bed, or absence."

Their own statement of their function is so direct that we reproduce it:—

"Through the action of the society in rendering it possible for the women in child-bed to obtain sufficient rest during the period immediately following their

confinement, the society acts directly for the protection of the baby. The mothers are enabled hereby to gather the necessary strength to look after and feed their babies. Whenever it is necessary, the society gives assistance before the confinement; it supplies washer-women to look after washing, and has soup and milk provided for the babies by other societies."

Another section of the work for which we think there is room in our midst undertakes to supply first-born bundles, which are given to every needy mother. These bundles are much appreciated, and contain everything necessary for the first clothing of an infant. Of a like value, and equally useful, are the temporary outfits, which are made of coarse linen, and contain all that is necessary for the toilette of child-bed, so that, as the society claims—"even the poorest women in child-bed are able to have clean linen when they are confined."

Berlin Sick Kitchen.—Although not exclusively for the use of poor women in child-bed, the Berlin sick kitchens are introduced into the description of the work carried on, because they supply food to all sick persons who are not in a position to look after their own homes.

The food is distributed every day from 12 till 2, and the prices charged range from 25 pfennigs up to 1 mark 25 pfennigs, which is equal to 1s. 3d. It is interesting to note, however, that the diets are prescribed by the doctor in attendance, and that soup, with a piece of meat, is given to needy persons for 25 pfennigs. Grants are received annually from private persons, and this year, for the first time, a grant was given by the Municipality of Berlin. The cost would seem to exceed the revenue from food sold by 12,000 marks, of which the Municipality contributed 3,000.

We had an opportunity, also, of visiting the open-air schools at Charlottenburg, and insert the following notes regarding them:—

These were founded in 1904, for children suffering from bloodlessness, nervousness, scrofula, heart or lung disease; but children suffering from non-compensating form of heart disease, epilepsy, St. Vitus dance, severe hysteria, or consumption (with a spit) are excluded.

They are open from spring till autumn. In certain special needful cases the children are kept till Christmas.

The children arrive in school at 8 a.m., and return home before dusk.

The object of the schools is partly therapeutic and partly educational.

The factors relied upon for the betterment of the children are hygiene and diet; forest air, sunshine, simple, nutritious food, and appropriate baths.

Each child receives daily three-quarters of a pint of milk, three and a-half ounces butcher meat, with vegetables, also white or rye bread, butter, dripping, and stewed fruit. The following is a specimen menu, with time-table:—

7.45 a.m.—Soup, white bread and butter.

10 a.m.—1 or 2 mugs milk, with rye-bread and butter or dripping.

12.30 p.m.—Butcher meat and vegetables, or roast and potatoes, or soup and beef, &c.

4 p.m.—Milk and rye bread, with stewed fruit.

6.30 p.m.—Milk porridge, with bread and butter, or cocoa and bread and butter.

The cost is 5½d. per day for each child, but poorer children pay less, and some nothing at all. The balance of the cost is made up by the Vaterlandischen Frauen-Verein (National Women's Association).

After dinner the children rest in deck lounges for two hours in the open air. In cold or stormy weather a woollen wrap is given, and in rainy weather they rest under a verandah.

Lessons are interspersed with intervals for play, gymnastics, gardening, and manual work.

The various kinds of bath in use are spray, salt water, and ordinary tub, as also a light and air bath.

The subjects of instruction are those of the Board School (Volksschule). The number of hours devoted to the preparation of lessons per week is only one-half that of the Normal School, and this works out at two hours per day for the lower classes, and two and a-half hours for the higher.

The number of scholars in each class is limited to twenty. Each lesson lasts half an hour. After every class a rest of five minutes is given, and at the end of every hour ten minutes. The scholars number 240. All the teaching is conducted in the open air, or under the verandahs.

The teaching staff consists of six male and three female teachers.

After being cured, or greatly improved, the children return to the ordinary public schools, and their subsequent progress is found to be in nowise behind that of the ordinary scholar.

There is also an open-air high-class school, having correspondingly better conditions and a higher curriculum. Here the cost is 8d. per day for day scholars, 1s. 2d. for boarders, and for infants, 1s. 6d. per day.

Municipal Source of the Milk used.—A considerable part of the milk used in connection with the Orphanages and Infant Welfare Stations is derived from a farm which the Municipality of Berlin conduct, under the direction of the Sewage Committee. The estate is at Berneau, and the aim is to produce the milk in a hygienic condition, and so pure that it does not require to be pasteurised or sterilized, but may be handed over to the consumer in its natural state.

Directly it is drawn it is cooled to between 3 and 4 degrees centigrade (rather less than 40 degrees Fahr.), put into half and quarter-litre bottles after the manner of some of the bottled milk supplies in our own district. The cooling of the milk and the filling and closing of the bottles is done by machinery, so that contact with the hand is avoided as much as possible.

The Orphanages pay for the milk at the rate of 30 pfennigs for the litre, which is approximately 4d. a quart. In many of the institutions, as already stated, we found it was the custom to boil the milk, but so much effort is made in Germany to promote maternal feeding of infants that the methods of hand-feeding sink rather into the background.

The National Insurance Institute, Berlin.—This institution, which is the central office for Berlin of the National Insurance Societies, was visited under the guidance of Dr. Kayserling, who has charge of the Tuberculosis Section of the work. With this section is associated a sanatorium at Beelitz—about 15 miles from Berlin—and candidates for admission to the sanatorium are referred in the first instance to Dr. Kayserling's clinic.

In addition to determining the clinical condition of the patient, enquiry is made into his social circumstances, the home is visited, and the members of the family inspected. Sometimes a grant is made to the family resources, to enable them to rent an additional room—the grant amounting to about four-fifths of the additional rent incurred. This would seem to be reserved for those cases when the treatment may be carried out at home.

The institution has other functions, both administrative and medical, but to rightly appreciate their functions a complete description of the whole Insurance system would be required.

Home Conditions.—During the visits to the Welfare Stations, and on other occasions, opportunity was taken to visit the homes of the people in their neighbourhood. The tenement house is the type of dwelling occupied by the working classes in most German cities, and we found many illustrations of the overbuilding on sites, which attracts so much attention in our city.

Few things, indeed, can be more depressing to vitality than the huge structures enclosing narrow courtyards or "wells," as we should call them here, which are so prevalent in some of the working-class districts of Berlin. There appears, also, to be a tendency among these families to remain satisfied with limited accommodation, for which high rents are paid—10 marks per month for a single apartment, 16 to 18 for a two-apartment house, and 25 for three apartments, being not uncommon. It

was impossible, however, to escape noting the relative cleanliness of the stairs and passages in the tenement buildings, and this to a large extent was characteristic also of a large number of the houses even in the poorest districts.

The presence of the stove and the absence of the open fireplace produce conditions which must be experienced to be appreciated, but this disadvantage did not seem to be reflected in the state of the walls and floor and clothing of the inmates. We believe that this is largely due to the fact that many tenements of this type have a caretaker whose primary function it is to cleanse the stairs and landings, and who probably finds that, as dirty stairs and landings are the outcome of dirty tenants, his own work is materially lessened when he ensures that the tenants are cleanly in their own habits.

General.—We believe it would be impossible to exaggerate the educational value of the opportunities offered to the deputation during their visit, and they have been impressed with the need for expanding our local effort for the reduction of infant mortality. Indeed, a resolution with a like object was submitted to and unanimously approved by the Executive Committee of the National (British) Conference, at a meeting held in Berlin. Several directions in which this may take effect have been already referred to.

There is room for the co-operative help of many voluntary associations, but particularly for some co-operation in the work of maternity and sick children's hospitals and day nurseries, with those primarily concerned with the mortality among infants. It is in this direction, we believe, that a reasonable expansion of the crusade for the reduction of infant mortality is mostly needed, and can most usefully be attempted.

J. W. STEWART.

ED. M'CONNELL.

W. FLEMING ANDERSON.

A. K. CHALMERS.

PETER FYFE.

FLORENCE MANN.

Sanitary Chambers,
Glasgow, 6th November, 1911.

SECTION II.

INFECTIOUS DISEASES.

During the year, 28,157 cases of infectious disease were registered and dealt with by the Department. This represents an attack-rate equal to almost 36 per 1,000 of the population, which is 2 per 1,000 less than the rate for 1910. Of the total cases registered, 9,181, or 32·6 per cent. were treated in hospital.

The varying rates of incidence in the several Wards are shown in Appendix Table XXII., but it must be remembered that these afford an accurate attack-rate only for those diseases which are notifiable under the Infectious Disease (Notification) Act. On the other hand, measles and whooping-cough are grouped with chickenpox, and a small number of cases of other diseases in the column "All others," and the rates given indicate only the cases known and dealt with. It may be further remarked that all the Ward rates in Table XXII., with the exception of that for phthisis, are calculated on populations which include the institutional population in each Ward. In the case of phthisis, however, the institutional cases and population have been excluded in calculating the Ward rates, although both are included when calculating the rate for the City as a whole.

The composition of the rate for the past nine years is shown in the following Table:—

GLASGOW.—CASE-RATE PER MILLION OF THE POPULATION FOR CERTAIN ZYMOETICS AND FOR ALL CASES OF INFECTIOUS DISEASES REGISTERED, 1903-11.

YEAR.	Typhus Fever.	Enteric Fever.	Contagious and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Group.	Cerebro-Spinal Fever.	Phthisis.	All Others.	TOTAL.
1903,	41	1,207	22	138	373	2,597	926	...	216	15,560	21,080
1904,	34	800	39	113	1,108	2,003	824	...	998	14,875	20,794
1905,	67	569	37	137	5	1,235	924	...	1,659	20,379	25,013
1906,	12	483	76	148	4	1,721	1,580	255	1,648	17,819	23,746
1907,	6	583	36	151	1	2,180	1,510	1,237	1,619	18,945	26,268
1908,	16	741	25	149	2	3,491	1,590	300	1,531	25,223	33,068
1909,	32	707	20	135	...	5,510	2,306	101	1,483	24,841	35,135
1910,	19	427	29	142	1	5,277	2,435	58	4,508	25,586	38,482
1911,	9	489	14	170	3	4,020	2,418	64	2,973	25,732	35,892

Table XXII. just referred to affords a comparison of the relative prevalence of notifiable and non-notifiable diseases in the several Wards. Taking both together, the incidence was greatest in Cowlares, Mile-end, Kingston, Hutchesontown, and Dalmarnock Wards, in the order named, where the rates exceeded 46 per 1,000; and least in Blythswood, Kelvinside, Pollokshields, and Park Wards, the rate in Blythswood being slightly over 9 per 1,000, and in Park Ward fully 18 per 1,000.

The attack-rate for the notifiable diseases for the city as a whole was slightly over 10 per 1,000, as compared with almost 26 per 1,000 for the diseases which are not notifiable. Of the notifiable diseases, 4 per 1,000 is due to scarlet fever, almost 3 per 1,000 to phthisis, and 2·4 to diphtheria.

Scarlet fever and diphtheria were again pretty generally distributed throughout the year, although there was evidence of a lessening in the prevalence of the former, as compared with the two preceding years. The attack-rates for diphtheria and enteric fever were practically the same as in

the previous year. In phthisis there is a conspicuous reduction. This is not accounted for by diminution in the actual number of persons attacked by the disease, but by the fact that compulsory notification was introduced at the beginning of 1910, and in consequence a large number of cases which had been attacked in previous years came upon the books for the first time. The attack-rate of 3 per 1,000 shown for 1911 may be taken as representing more accurately the incidence of the disease.

INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.

The cost per 1,000 of the population for Notification Fees since 1891 has been as follows:—

GLASGOW.—AMOUNT PER 1,000 OF POPULATION OF FEES FOR CERTIFICATES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889, FOR SEVERAL PERIODS SINCE 1891.

Period.	Amount.		
	£	s.	d.
1891-1900 (average),	1	2	4·3
1901-1905 („),	0	15	6·5
1906-1910 („),	0	19	8·2
1911,	1	6	5

In order to show the cost of notification, together with the monthly variation in the number of notifications received, and the proportion which “ public ” and “ private ” cases form in the totals, the following Table is inserted:—

1911.	Private.	Public.	£	s.	d.
January,	687	226	97	3	6
February,	557	176	78	8	6
March,	472	205	69	5	0
April,	481	172	68	14	6
May,	516	187	73	17	0
June,	515	232	75	19	6
July,	508	190	73	0	0
August,	516	217	75	7	0
September,	656	214	92	14	0
October,	831	245	116	2	6
November,	798	204	109	19	0
December,	760	198	104	18	0
1910,	7,297	2,466	1,035	8	6
	8,316	3,338	1,206	8	0
Increase, ... ..	...	...	...	...	...
Decrease,	1,019	872	170	19	6

PRINCIPAL ZYMOTIC DISEASES.

1,995 deaths occurred during the year, from the principal zymotic diseases—smallpox, diphtheria, scarlet fever, typhus, enteric, undefined fever, cerebro-spinal fever, measles, whooping-cough, and diarrhoea. This represents an annual death-rate of 2·544 per thousand living, compared with 1·682 in 1910, an increase of 862 per million. In considering Appendix Table XIII., the diseases in connection with which this increase occurred have already been referred to.

The corresponding rates for several periods have been:—

1881-90,	3-600 per 1,000 living.
1891-1900,	3-282 "
1901-1905,	2-660 "
1906,	2-436 "
1907,	3-300 "
1908,	2-586 "
1909,	2-244 "
1910,	1-682 "
1911,	2-544 "

In the following Table the rates for several towns are given on the basis of the Registrar-General's tabulation:—

	PRINCIPAL ZYMOTIC DISEASES.	
	Death-rate per 100,000.	
	1901-1910.	1911.
Glasgow,	206	172
Edinburgh,	130	86
Dundee,	159	94
Aberdeen,	121	158
London,	173	219
Liverpool,	287	307
Manchester,	240	245
Birmingham,	229	274

EXCESSIVE FATALITY FROM NON-NOTIFIABLE DISEASES.

The deaths and death-rates from the principal zymotic diseases for each Ward are given in Appendix Table XXIII., and for comparative purposes the corresponding rates since 1903.

In the following Table the fatality from several diseases of the notifiable and non-notifiable groups of the zymotic class are shown for the Wards where the mean rate for the City was exceeded.

From all diseases of the zymotic class the death-rate was greatest in Mile-end, Dalmarnock, Broomielaw, and Kinning Park, where the rates were 5,103, 4,691, 3,702, and 3,582 per million respectively, as compared with 2,544 for the City as a whole. In Cowcaddens, Kingston, Blackfriars, Exchange, and Calton the mean rate for the city was also considerably exceeded.

GLASGOW, 1911.—ZYMOTIC DEATH-RATE per MILLION in certain WARDS whose RATES EXCEED the MEAN RATE for the City.

MUNICIPAL WARDS.	Total Zymotics.	Smallpox.	Diphtheria.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Undefined Fever.	Cerebro-Spinal Fever.	Measles.	Whooping-cough.	Dysentery and Enteritis.	Total of Last Three Columns.
Mile-end, -	5,103	...	504	197	...	153	...	66	701	1,336	2,146	4,183
Dalmarnock, -	4,691	...	391	293	...	20	...	195	1,192	1,466	1,134	3,792
Broomielaw, -	3,702	...	148	...	...	148	...	...	...	1,629	1,777	3,406
Kinning Park, -	3,582	...	...	78	...	78	...	...	545	1,635	1,246	3,426
Cowcaddens, -	3,363	...	236	88	29	207	...	29	502	1,210	1,062	2,774
Kingston, -	3,336	...	184	184	...	61	...	92	918	1,071	826	2,815
Blackfriars, -	3,106	...	301	50	...	100	...	50	601	702	1,302	2,605
Exchange, -	2,990	...	...	...	...	...	...	...	1,196	1,196	598	2,990
Calton, -	2,958	...	341	114	28	85	...	114	256	996	1,024	2,276
Hutchesontown, -	2,829	...	50	25	...	100	...	50	501	1,277	826	2,604
Springburn, -	2,768	...	201	268	...	67	...	89	268	960	915	2,143
Whitevale, -	2,695	...	251	...	31	63	...	63	251	971	1,065	2,287
Cowlairs, -	2,581	...	374	68	...	...	...	...	679	747	713	2,139
CITY, -	2,544	...	221	116	4	75	...	59	375	797	897	2,069

It will be observed that the non-notifiable diseases—measles, whooping-cough, and diarrhœa—account for four-fifths of the death-rate from all zymotic diseases, the rate for measles alone being 375 per million persons living, as compared with 475 per million caused by all the infectious diseases which are notifiable. The rates for whooping-cough and diarrhœal diseases are each about twice the rate for the notifiable diseases.

Among the notifiable diseases diphtheria was most fatal, the death-rate therefrom having been 221 per million, while the rates from scarlet fever, enteric fever, and cerebro-spinal fever were 116, 75, and 59 per million respectively.

SMALLPOX.

During the year, two imported cases of smallpox were removed to hospital, where recovery took place. The circumstances of the cases are related in the following Report made to the Committee on Health:—

Extract from Minute of 10th May, 1911.

SMALLPOX.

On 26th ultimo a vessel from Indian ports arrived in the Clyde, and reported that a Lascar seaman was ill with an eruptive disease which suggested smallpox in a modified form. This diagnosis was confirmed in hospital, and on inquiring into the circumstances under which it occurred it was found that another member of the crew had sickened with similar symptoms at an earlier date, and was at the time convalescent. He also was removed to hospital.

The vessel left Bombay on the 24th March, and the first sickening occurred on 6th April. The man whose illness was reported on arrival had only complained of being ill on the previous morning, but as the eruption was at an advanced stage his symptoms must have begun some days before.

65 members of the Lascar crew and 17 members of the European crew were revaccinated.

The ship has since left Glasgow.

VACCINATION.

The following is a statement of the number and cost of vaccinations and re-vaccinations performed by the officers of the department, or on behalf of the Corporation, during the year 1911:—

	Primary.	Re-vaccinations.
At Office,	288	104
In Prisons,	—	727
„ Hospitals,	36	273
	<hr/>	<hr/>
	324	1,104
	<hr/>	<hr/>
	Cost.	
1. Vaccinations of Prisoners,		£36 7 0
2. Cost of Lymph,		36 8 0
		<hr/>
		£72 15 0
		<hr/>

VACCINATION (SCOTLAND) ACT, 1907.

During the year, declarations of conscientious objection to vaccination were made in respect of 3,791 children, as compared with 3,231 in 1910, and 2,653 in 1909. The total number of declarations now made since the Act came into operation is 12,332.

The number of declarations made in the several Wards during 1911 is given in Appendix Table XXV. The maximum number recorded in one Ward was in Springburn, where 344 declarations were made. It will also be observed from the Table that, in each year since 1908, the number of declarations made in this Ward has been much in excess of any of the other Wards. In Dalmarnock 306 declarations were made, in Mile-end 299, and in Hutchesontown 272.

For several years a Table, compiled from information contained in the Annual Reports of the Registrar-General regarding the vaccination of children born in the City, has been included in this Report. Similar information regarding children born during the year 1910 is contained in Appendix Table XXIV. For comparison the figures for several years are given below:—

GLASGOW.—TABLE SHOWING RESULTS OF PRIMARY VACCINATION OF CHILDREN BORN IN GLASGOW DURING SEVERAL YEARS.

Year.	Successfully Vaccinated.	Vaccination Postponed.	Inusceptible of Vaccination.	Died before Vaccination.	Statutory Declaration of Conscientious Objection.	Removed from District or otherwise unaccounted for.
	<i>Per Cent.</i>	<i>Per Cent.</i>	<i>Per Cent.</i>	<i>Per Cent.</i>	<i>Per Cent.</i>	<i>Per Cent.</i>
1902	84·2	0·8	0·9	10·6	—	3·5
1903	84·6	0·7	0·6	10·8	—	3·3
1904	83·4	1·2	0·7	11·0	—	3·7
1905	84·5	1·3	0·6	10·0	—	3·6
1906	82·9	0·8	0·5	10·6	0·2	5·0
1907	75·0	1·5	0·7	10·7	4·9	7·2
1908	69·5	1·7	0·8	10·8	9·2	8·0
1909	67·2	1·7	0·8	10·6	12·6	7·1
1910	64·8	1·6	0·5	9·8	16·0	7·3

Of the children born in 1910, 64·8 per cent. only were successfully vaccinated, as compared with 67·2, 69·5, 75·0, and 82·9 per cent. in the four preceding years. The proportion of statutory objections to vaccination was 16·0 per cent., as compared with 12·6 per cent. in 1909.

DIPHTHERIA.

1,897 cases of diphtheria and membranous croup were registered during the year, compared with 1,939 in 1910, and the number of deaths was 173, as against 191. These figures represent an attack-rate of 2,418 per million living, compared with 2,435 in 1910. The death-rate shows a somewhat similar decrease at 221 per million, compared with 240 for 1910. Of the total cases, 89·6 per cent. were treated in hospital. The morbidity-rate (that is the death-rate per 100 cases) was 9·1, as against 9·8 per cent. in 1910.

For several periods the death-rate from diphtheria in Glasgow has been—

1881-90,	·280 per 1,000 living.
1891-1900,	·231 ..
1901-05,	·134 ..
1906,	·169 ..
1907,	·157 ..
1908,	·180 ..
1909,	·277 ..
1910,	·240 ..
1911,	·221 ..

Compared with several other towns during the ten years 1901-1910 and 1911, the death-rate per 100,000 is as follows:—

	1901-1910.			1911.		
Glasgow,	17	...	...	23	...	...
Edinburgh,	15	...	...	16	...	...
Dundee,	19	...	...	21	...	...
Aberdeen,	12	...	...	15	...	...
Paisley,	20	...	...	12	...	...
Greenock,	17	...	...	8	...	...
London,	17	...	...	14	...	...
Liverpool,	21	...	...	16	...	...
Manchester,	19	...	...	12	...	...
Birmingham,	19	...	...	12	...	...

In the following Table, the number of cases and deaths are stated for a series of years, together with the attack-rate and death-rate, the proportion of cases treated in hospital, and the case-fatality rate in each year:—

DIPHTHERIA and MEMBRANOUS CROUP.

Year.	CASES.			DEATHS.			Case-mortality per cent.
	Number.	Rate per Million.	Per Cent. treated in Hospital.	Number.	Rate per Million.	Per Cent. occurring in Hospital.	
1891	465	822	16.1	131	232	23.7	28.2
1892	575	861	14.1	195	292	15.9	33.9
1893	828	1,228	19.0	246	365	25.6	29.7
1894	967	1,414	26.1	290	424	30.0	30.0
1895	654	944	28.4	137	198	19.0	21.0
1896	601	854	31.6	116	165	30.2	19.3
1897	462	647	32.9	127	178	30.7	27.5
1898	433	592	59.6	113	154	47.8	26.0
1899	465	622	52.3	109	146	31.2	23.5
1900	540	715	59.4	125	165	44.0	23.1
1901	563	739	57.2	115	151	44.4	20.4
1902	617	794	60.1	105	135	61.9	17.0
1903	724	926	71.1	103	132	68.9	14.3
1904	647	824	69.9	91	116	57.1	14.1
1905	726	924	80.0	107	136	75.7	14.7
1906	1,270	1,580	86.5	136	169	83.1	10.7
1907	1,218	1,510	85.6	127	157	87.4	10.4
1908	1,274	1,590	84.6	144	180	86.1	11.3
1909	1,846	2,306	88.5	222	277	86.5	12.0
1910	1,939	2,435	89.8	191	240	95.3	9.8
1911	1,897	2,418	89.6	173	221	90.7	9.1

The increased prevalence of this disease, which began in 1906, is still being maintained, although the case fatality-rate is lower for the past year than at any period since the introduction of anti-toxin treatment.

The distribution of the disease, and its relative fatality throughout the several Wards, are shown in Appendix Table XXVI. For purposes of comparison the death-rates are also given since 1903.

The mean attack-rate for the City as a whole was 2,418 per million, and this was exceeded in eleven Wards. Relatively the disease was most prevalent

in Maryhill, Cowlairst, Langside, and Park Wards, where the attack-rate was 3,960, 3,803, 3,067, and 3,009 per million respectively. Other Wards in which the average rate was exceeded were Dalmarnock, Mile-end, Dennistoun, Springburn, Townhead, Anderston, and Woodside.

Excluding Blythswood Ward, where the population is small, and in which there were only five cases and two deaths, the disease was relatively most fatal in Mile-end, where it reached a rate of 504 per million as compared with 221 for the City. It was next most fatal in Dalmarnock, where the rate was 391 per million, and in Woodside, Cowlairst, and Maryhill, in all of which Wards the rate exceeded 300 per million.

The following Table shows the number of cases treated at home and in hospital in each year since 1891, as well as the deaths occurring in each group, and the case-mortality per cent. The mortality among cases treated in hospital remains fairly uniform, although for the present year the proportion is less than recorded at any other time. On the other hand, there is considerable fluctuation in the mortality of cases treated at home, the rate for the present year being 8·1 per cent., as compared with 4·6 and 14·2 in the two years preceding. The lower fatality-rate in recent years among home cases as compared with that in hospital cases is accounted for by the fact that among the cases so treated there are included a considerable number of instances in which the disease was recognised only after bacteriological enquiry consequent on the occurrence of previous cases in families, and in which evidence of clinical symptoms was only elicited on careful enquiry being made after the result of the bacterial enquiry was known.

GLASGOW.—DIPHTHERIA and MEMBRANOUS CROUP.

YEAR	TREATED AT HOME.			TREATED IN HOSPITAL.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	390	100	25·6	75	31	41·3
1892	494	183	37·0	81	12	14·8
1893	671	183	27·3	157	63	40·1
1894	715	203	28·4	252	87	34·5
1895	468	111	23·7	186	26	13·9
1896	411	81	19·7	190	35	18·4
1897	310	88	28·4	152	39	25·6
1898	175	59	33·7	258	54	20·9
1899	222	75	33·8	243	34	14·0
1900	219	70	32·0	321	55	17·1
1901	241	64	26·5	322	51	15·8
1902	246	40	16·3	371	65	17·5
1903	209	32	15·3	515	71	13·8
1904	195	38	19·5	452	53	11·7
1905	145	26	17·9	581	81	13·9
1906	172	23	13·4	1,098	113	10·3
1907	175	16	9·2	1,043	111	10·6
1908	196	20	10·2	1,078	124	11·5
1909	212	30	14·2	1,634	192	11·8
1910	197	9	4·6	1,742	182	10·4
1911	198	16	8·1	1,699	157	9·2

SEASONAL PREVALENCE.

The following Table shows the seasonal prevalence of the disease over an extended period. It is most prevalent during the autumn and early winter, and continues, although with less severity, throughout the spring. This is

followed by a comparative quiescence during the summer. The reduction in the number of cases registered in summer, and the increase in autumn, has elsewhere been cited in illustration of the influence of schools in the spread of the disease, but there is a striking absence of groupings of cases in individual schools, and the relative uniformity in the seasonal distribution suggests that the movement is due to other causes.

GLASGOW.—DIPHTHERIA and MEMBRANOUS CROUP.—NUMBER OF CASES REGISTERED and ANNUAL CASE-RATE per 100,000 LIVING for each MONTH for the PERIODS 1890-1900, 1901-1909, 1910, and 1911.

MONTH.	CASES.				ANNUAL CASE-RATE.			
	1890-1900.	1901-09.	1910.	1911.	1890-1900.	1901-09.	1910.	1911.
January,	652	767	153	174	103	126	226	261
February,	611	742	136	145	108	134	223	239
March,	586	701	135	130	93	115	200	195
April,	461	656	131	118	75	111	200	183
May,	444	557	101	114	70	91	149	171
June,	377	524	156	131	62	89	238	203
July,	300	434	114	116	47	71	169	174
August,	478	605	121	137	76	99	179	206
September,	608	819	193	177	100	139	295	275
October,	711	1,085	280	217	113	178	414	326
November,	698	1,041	232	224	114	177	355	348
December,	649	954	187	214	103	157	277	321
Year,	6,575	8,885	1,939	1,897	89	124	243	242

The analysis which has been made in previous years of the age distribution of cases before and after school holiday periods is again inserted:—

GLASGOW, 1911.—DIPHTHERIA.—CASES NOTIFIED between May 1st and Oct. 31st, 1911, ARRANGED to SHOW the INFLUENCE of SCHOOL HOLIDAYS on CASE-INCIDENCE.

PERIODS.	Cases Notified.						Increase or Decrease.						TOTAL.
	Age, 0-5.		Age, 5-14.		Age, 14 and up.		Age, 0-5.		Age, 5-14.		Age, 14 and up.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1st. { May 1 to June 30,	49	49	44	64	15	24	...	...	...	...	...	...	245
2nd. { July 1 to Aug. 31,	43	54	38	77	12	29	-6	+5	-6	+13	-3	+5	253
							-1		+7		+2		
3rd. { Sept. 1 to Oct. 31	98	69	74	104	18	31	+55	+15	+36	+27	+6	+2	394
							+70		+63		+8		
	190	172	156	245	45	84							892
	362		401		129								

Age and Sex Distribution.—In former Reports the excessive fatality of diphtheria in infants has been pointed out, and the following Table repeats the illustration:—

GLASGOW, 1911.—DIPHThERIA and MEMBRANOUS CROUP.—AGE and SEX DISTRIBUTION of CASES and DEATHS, with CASE-MORTALITY.

AGE.	Cases.		Deaths.		Case-mortality per cent.	
	Male.	Female.	Male.	Female.	Male.	Female.
Under 1	31	35	10	9	32.3	25.7
2	86	91	20	20	23.3	22.0
3	85	70	15	12	17.6	17.1
4	88	97	4	8	4.5	8.2
5	89	110	14	8	15.7	7.3
6	98	95	9	7	9.2	7.4
10	179	269	9	15	5.0	5.6
15	84	124	3	9	3.6	7.3
20	31	49	...	...	...	...
25	22	47	...	...	...	...
35	25	53	1	...	4.0	...
45	11	18	...	...	...	...
55	1	7	...	...	...	...
65	2	...	...	...	...	...
All Ages,	832	1,065	85	88	10.2	8.4
	1,897		173		9.1	

Relation of Croup to Diphtheria.—The gradual shrinkage of group as a cause of death, and its inclusion among true cases of diphtheria, is illustrated in the following Table, which shows the deaths and death-rates from diphtheria and croup separately and together for the period of seventeen years. By referring to former Reports the decrease over a longer period may be followed:—

GLASGOW.—DEATHS and DEATH-RATES per Million from DIPHThERIA and CROUP from 1895 to 1911.*

Year	DEATHS.			DEATH-RATE PER MILLION.		
	Diphtheria.	Croup.	Diphtheria and Croup.	Diphtheria.	Croup.	Diphtheria and Croup.
1895	112	73	185	161	105	266
1896	83	54	137	118	76	194
1897	97	48	145	136	67	203
1898	103	29	132	142	40	182
1899	106	17	123	145	23	168
1900	130	19	149	175	25	200
1901	110	13	123	144	17	161
1902	106	21	127	137	27	164
1903	105	13	118	133	17	150
1904	95	9	104	119	11	130
1905	110	11	121	136	14	150
1906	147	9	156	176	11	187
1907	131	6	137	155	7	162
1908	156	3	159	180	3	182
1909	230	3	233	264	3	267
1910	202	3	205	228	3	231
1911	178	2	180	227	3	230

* Registrar-General's Annual Reports.

ENTERIC FEVER.

384 cases of enteric fever were registered during 1911, of which 359, or 93·5 per cent., were treated in hospital. The number of deaths from the disease was 59, representing a death-rate of ·075 per 1,000 living. The case-rate for the year was 489 per million living, compared with 427 in 1910, and the case-fatality rate was 15·4, compared with 16·5 per cent.

For several periods the death-rate from enteric fever in Glasgow has been:—

1881-90,	·230 per 1,000.
1891-1900,	·215 „
1901-1905,	·155 „
1906,	·102 „
1907,	·114 „
1908,	·090 „
1909,	·116 „
1910,	·070 „
1911,	·075 „

The following Table gives the attack-rate and death-rate per million and the case-mortality for each year since 1891, together with the proportion of cases removed to hospital:—

GLASGOW.—ENTERIC FEVER, 1891-1911.

Year.	CASES.			DEATHS.			Case-mortality per cent.
	Number.	Rate per Million.	Per cent. treated in Hospital.	Number.	Rate per Million.	Per cent. occurring in Hospital.	
1891	784	1,386	59·8	123	218	69·9	15·7
1892	590	884	58·3	101	151	67·3	17·1
1893	703	1,043	60·9	120	178	68·3	17·1
1894	810	1,184	72·2	151	221	76·2	18·6
1895	797	1,150	74·5	122	176	73·0	15·3
1896	691	982	71·1	145	206	72·4	21·0
1897	905	1,265	74·6	174	243	78·8	19·2
1898	1,212	1,657	86·6	228	312	86·0	18·8
1899	1,080	1,445	89·4	178	238	84·3	18·4
1900	1,013	1,340	85·1	158	209	85·4	15·6
1901	1,257	1,650	85·1	210	275	80·1	16·7
1902	698	899	90·7	110	142	88·2	15·8
1903	944	1,207	92·2	142	182	91·5	15·1
1904	628	800	91·6	84	107	89·3	13·4
1905	447	569	90·8	53	67	84·9	11·9
1906	388	483	92·5	82	102	87·8	21·1
1907	470	583	92·3	92	114	88·0	19·6
1908	594	741	87·7	72	90	86·1	12·1
1909	566	707	96·5	93	116	88·2	16·4
1910	340	427	95·6	56	70	100·0	16·5
1911	384	489	93·5	59	75	86·4	15·4

For comparison with other towns the following particulars are given:—
DEATH-RATE PER 100,000 FROM ENTERIC FEVER IN CERTAIN LARGE TOWNS OF
SCOTLAND AND ENGLAND FOR SEVERAL PERIODS.*

	1901-1910.	1911.
Glasgow,	12	8
Edinburgh,	5	1
Dundee,	7	1
Aberdeen,	3	2
Paisley,	13	4
Greenock,	20	4
London,	7	3
Liverpool,	15	4
Manchester,	12	7
Birmingham,	10	6

The Ward distribution of the cases and deaths is shown in Appendix Table XXVII. Relatively the disease was most prevalent in Kingston Ward, where there was an outbreak associated with a milk supply. Next in order of prevalence was Cowcaddens Ward, where the attack-rate was equal to 908 per million, as compared with 489 for the City. In Park, Gorbals, and Broomielaw Wards the rate was 860, 849, and 844 per million; in Kinning Park it was 701 per million; and in eight other Wards the average rate for the City was exceeded.

The average death-rate for the year of 75 per million was exceeded in eleven Wards, the greatest fatality having occurred in Cowcaddens, Mile-end, and Broomielaw, where the rates were 207, 153, and 148 per million respectively.

The attention of the Local Authority was on several occasions throughout the year directed to the occurrence of the disease in special circumstances, and the following may be quoted in illustration:—

“ MISSED ” ENTERIC CASES.

Between 4th and 21st October, 1910, 8 cases of enteric fever sickened in Glasgow, in persons who previously had resided in Saltcoats, and who, in common with a large number of cases which occurred there, obtained their infection as the result of an infected milk supply. Two further cases, and a probable third case, fall to be recorded as having obtained their infection from the same source.

On 2nd November, 1910, two children, 10 and 4 years, members of a family residing in the northern part of the city, were removed to Ruchill Hospital with enteric fever, both sickening on 21st October. The third case was in a child, 7 months, also of the same family, who sickened about the same time, namely, 21st October, dying on 14th November, the death being certified as due to broncho-pneumonia.

The family resided in Saltcoats from 24th September till 8th October, the above three cases, as previously stated, sickening thirteen days after arrival home in Glasgow.

A fourth member of the family, 7 years, also sickened of symptoms suggestive of enteric fever on 14th November, but a specimen of blood submitted to the Widal reaction yielded a *negative* result. This child was allowed to remain at home. He was ill, however for three weeks, and did not completely recover for quite six weeks.

On 7th December, his sister, $2\frac{3}{4}$ years, sickened of scarlet fever, and was found to be desquamating, the probable date of sickening being given as 6th December. Both were, therefore, removed to Ruchill Hospital on 7th January. Although no history was obtained in this latter case suggestive of enteric fever, when samples of her blood, as also that of her brother (the immediately preceding case), were submitted to the Widal reaction, both yielded a *positive* result, showing that his previous illness was definitely enteric fever, and that his sister suffered likewise from the disease in a mild and unrecognised degree.

* Registrar General's Annual Report.

DEATH-RATE IN HOSPITAL AND HOME CASES COMPARED.

The following Table is again introduced to illustrate the contrast in fatality between cases treated at home and in hospital. Since 1901, with the exception of the year 1910, the mortality among cases treated in hospital has always been below the rate among cases treated at home. The number of cases so treated, however, is relatively small, and there is naturally considerable fluctuation in the mortality-rate.

GLASGOW.—ENTERIC FEVER.

YEAR.	TREATED AT HOME.			TREATED IN HOSPITAL.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	315	37	11·8	469	86	18·3
1892	246	33	13·4	344	68	19·8
1893	275	38	13·8	428	82	19·2
1894	225	36	16·0	585	115	19·7
1895	203	33	16·3	594	89	15·0
1896	200	40	20·0	491	105	21·4
1897	230	37	16·1	675	137	20·3
1898	162	32	19·8	1,050	196	18·7
1899	114	28	24·6	966	150	15·5
1900	151	23	15·2	862	135	15·7
1901	187	42	22·5	1,070	168	15·7
1902	65	13	20·0	633	97	15·3
1903	73	12	16·2	871	130	14·9
1904	53	14	26·4	575	70	12·2
1905	41	8	19·5	406	45	11·1
1906	29	10	34·5	359	72	20·1
1907	36	11	30·6	434	81	18·7
1908	73	10	13·7	521	62	11·9
1909	20	11	55·0	546	82	15·0
1910	15	...	...	325	56	17·2
1911	25	8	32·0	359	51	14·2

Careful enquiry was made throughout the year as to the number of privies still existing. These were found to number 76, and served altogether 305 separate families, the distribution being as follows:—

	No. of Privies.	No. of Families.
Ward 1.—Dalmarnock,	1	2
„ 2.—Calton,	3	23
„ 3.—Mile-end,	4	32
„ 5.—Dennistoun,	4	17
„ 6.—Springburn,	17	56
„ 20.—Kingston,	2	17
„ 21.—Govanhill,	24	88
„ 22.—Langside,	4	28
„ 24.—Kelvinside,	7	25
„ 25.—Maryhill,	10	17
	76	305

Enquiry, however, has not suggested that enteric fever was in any way associated during the year with these privies.

Facing this page will be found a chart showing the monthly variations in the notifications of enteric fever in each year since 1898. The year 1910 represents the minimum which has been attained in enteric fever, and while other influences have no doubt contributed, the low incidence which has prevailed since 1905 is greatly due to the fact that a water carriage system of sewage is now practically universal in the City.

CEREBRO-SPINAL FEVER.

The number of cases of this disease registered during the year 1911 was 50, giving an attack-rate of 64 per million, as against 46 recorded in 1910, and a case-rate of 58. The deaths numbered 46, as compared with 30 in the preceding year, with a resulting death-rate of 59 per million against 38.

Table XXVIII. in the Appendix shows the distribution of the cases and the incidence of the disease throughout the various Wards.

TYPHUS FEVER.

Seven cases of typhus fever were recorded in 1911, and three deaths occurred. All the cases were removed to hospital. The case-rate was thus equal to nine per million, and the death-rate to two per million living.

The death-rate for several periods has been as follows:—

1881-90,	040 per 1,000 living.
1891-1900,	016 ..
1901-1905,	011 ..
1906,	002 ..
1907,	002 ..
1908,	001 ..
1909,	004 ..
1910,	002 ..
1911,	004 ..

Compared with other large towns, the death-rate in the ten years, 1901-1910, and in 1911, per 100,000 living, was as follows:—

	1901-1910.	1911.
Glasgow,	0·6	—
Edinburgh,	0·1	—
Dundee,	0·7	—
Aberdeen,	1·0	—
Paisley,	0·1	—
Greenock,	0·7	0·1

Appendix Table XXIX. shows that three cases were registered during the year in Calton, and one each in Whitevale, Dennistoun, Park, and Maryhill Wards. One case proved fatal in Calton, and a similar result occurred in the Whitevale and Cowcaddens cases. The circumstances under which all the cases occurred were reported to the Committee on Health at the time, as per the following extracts:—

Extract from Minute of 8th February, 1911.

TYPHUS FEVER.

Early on the morning of 8th ultimo a young man, 22 years of age, was admitted to Ruchill Hospital from the Cowcaddens district, having been certified as enteric fever, but who, on examination in hospital, was found to be suffering from typhus fever. Patient died on 16th January.

The three remaining members of the family, along with nine other persons who were regular visitors to the house, were taken into the Reception House, and all have since been dismissed well.

The mother of the patient died in Oakbank Street Hospital on 15th December, but the history of her illness and subsequent *post-mortem* examination do not suggest typhus fever, and no other source of infection has been ascertained.

Extract from Minute of 22nd February, 1911.

TYPHUS FEVER.

On 8th instant a woman was removed from an address in the Eastern District to Belvidere Hospital certified as doubtful enteric fever. On examination in hospital she was certified to be suffering from typhus fever.

The house from which she was removed was not very clean, but there was no overcrowding. No source of infection has been ascertained. Seven contacts with the patient were removed to the Reception House, and others are being kept under observation at home. One member of the family has since been removed from the Reception House suffering from typhus fever.

Extract from Minute of 22nd November, 1911.

TYPHUS FEVER.

On 6th instant three members (both parents and one child) of a family, residing in Calton, were removed to Belvidere Hospital certified enteric fever, but on admission were found to be suffering from typhus fever. The father sickened on 29th, the mother on 31st October, and the child (an infant of eleven months) on 3rd instant, which suggests that all were infected from the same source, although no illness has been discovered among relations or visitors of the family.

The only remaining member of the family, a child of seven years, was removed to the Reception House.

The house, a single-apartment one, was ticketed for two and a-half adults, and was in a very dirty condition, although no vermin were found.

Extract from Minute of 26th April, 1911.

TYPHUS FEVER.

On the afternoon of 22nd instant a man, 43 years of age, was removed from an address in the Townhead district suffering from typhus fever, he having sickened on 16th April. There has been no illness among the other members of patient's family, nor among the staff at the establishment where he was employed.

The other members of the family, five in number, were removed to the Reception House, while a number of visitors and contacts are under observation at their own homes.

Extract from Minute of 14th June, 1911.

TYPHUS FEVER.

On 6th instant a female patient, aged 50 years, was admitted to Ruchill Hospital from an address in the Maryhill district, certified as "doubtful enteric fever." After observation in hospital, however, this diagnosis was altered to typhus fever.

The household, in addition to the patient, consisted of her husband and two daughters and a female lodger, all of whom, along with another married daughter who had been nursing the patient in the early days of her illness, have been admitted to the Reception House.

No previous history of any illness among members of the family or visitors suggestive of typhus fever was ascertained.

SCARLET FEVER.

The number of cases of scarlet fever notified during 1911 was 3,154, representing an attack-rate of 4.0 per thousand of the population living. 2,893 of the cases, or 91.7 per cent., were treated in hospital. The deaths numbered 91, representing a death-rate of 116 per million living, and a case-fatality-rate of 2.9 per cent.

The decrease in the death-rate from the disease since 1881 has been as follows:—

Average of 10 years, 1881-90,	...	...	...	490 per 1,000 living.
" 10 " 1891-1900,	...	...	...	295 "
" 5 " 1901-1905,	...	...	...	111 "
1906,	...	...	...	62 "
1907,	...	...	...	56 "
1908,	...	..	...	111 "
1909,	...	...	...	197 "
1910,	...	...	...	177 "
1911,	...	...	...	116 "

Compared with other large towns, the death-rate for several periods has been as follows:—

							Death-rate per 100,000.	
							1901-1910.	1911.
Glasgow,	...	...	...	...	...	...	11	12
Edinburgh,	...	...	...	...	...	...	10	9
Dundee, ...	...	...	...	...	...	...	9	8
Aberdeen,	...	...	...	...	...	...	7	15
Paisley, ...	...	...	...	...	...	...	15	15
Greenock,	...	...	...	...	...	...	22	21
London, ...	...	...	...	...	...	...	10	4
Liverpool,	...	...	...	...	...	...	28	17
Manchester,	...	...	...	...	...	...	18	6
Birmingham,	...	...	...	...	...	...	21	12

The number of cases registered, with the proportion treated in hospital, the proportion of deaths occurring there, and the case-mortality for each year since 1891, are stated in the following Table:—

SCARLET FEVER.

Year.	CASES.			DEATHS.			
	Number.	Rate per Million.	Per cent. treated in Hospital.	Number.	Rate per Million.	Per cent. occurring in Hospital.	Case-mortality per cent.
1891	3,045	5,383	62·8	201	355	69·2	6·6
1892	4,844	7,257	62·7	301	451	63·5	6·2
1893	4,027	5,973	70·9	267	396	68·9	6·6
1894	3,930	5,701	73·7	210	307	70·0	5·3
1895	3,502	5,051	75·5	184	265	76·6	5·3
1896	2,728	3,879	78·9	143	203	82·5	5·2
1897	2,955	4,130	75·5	130	182	77·7	4·4
1898	3,620	4,947	82·3	190	260	76·3	5·2
1899	4,728	6,327	83·8	205	274	71·7	4·3
1900	4,162	5,508	85·7	210	278	77·6	5·0
1901	3,317	4,355	84·3	131	172	80·1	3·9
1902	2,509	3,229	85·3	113	145	77·9	4·5
1903	2,031	2,597	85·3	82	105	79·2	4·0
1904	1,573	2,003	83·2	69	88	85·5	4·4
1905	970	1,235	87·1	35	45	97·1	3·6
1906	1,382	1,721	87·8	50	62	84·0	3·6
1907	1,759	2,180	89·0	45	56	97·8	2·6
1908	2,797	3,491	91·4	89	111	95·5	3·2
1909	4,410	5,510	91·8	158	197	89·2	3·5
1910	4,203	5,277	91·4	141	177	89·4	3·4
1911	3,154	4,020	91·7	91	116	91·2	2·9

There was a considerable diminution in the number of cases recorded during the year—3,154, as compared with 4,203 in 1910—and the attack-rate fell from over 5 per 1,000 to about 4. The case-mortality was also less than in the preceding year, being 2·9 as against 3·4 per cent.

The chart which faces shows the incidence of the disease during each month in the past fourteen years. Since 1909 the downward tendency of the curve is approximately the same as occurred after the year 1899, so that the disease would appear again to have entered upon a period of diminishing prevalence.

The Ward incidence of the disease is shown in Appendix Table XXX. Cases occurred in all the Wards, but the disease was relatively most prevalent in Cowlares, Govanhill, Mile-end, Langside, and Hutchesontown, where the attack-rates were 5,501, 5,473, 5,199, 5,170, and 5,034 per million, as compared with the average rate for the City as a whole of 4,020. The attack-rate for the City was also exceeded in Dalmarnock, Park, Gorbals, Pollokshields, Maryhill, and Kinning Park.

The greatest fatality occurred in Dalmarnock, Springburn, Mile-end, and Kingston Wards, where the death-rates were 293, 268, 197, and 184 per million respectively, compared with 116 per million for the City.

Govanhill and Sandyford Wards come next, with death-rates of 143 and 127 per million; while in Calton, Townhead, and Kelvinside the rates approximated that of the City.

SCARLET FEVER IN ASSOCIATION WITH HOME WORK.

The following extract from the Reports to the Committee on Health records the circumstances under which a home worker was prosecuted for returning articles before disinfection from a house in which home work was being carried on, and in which scarlet fever had occurred:—

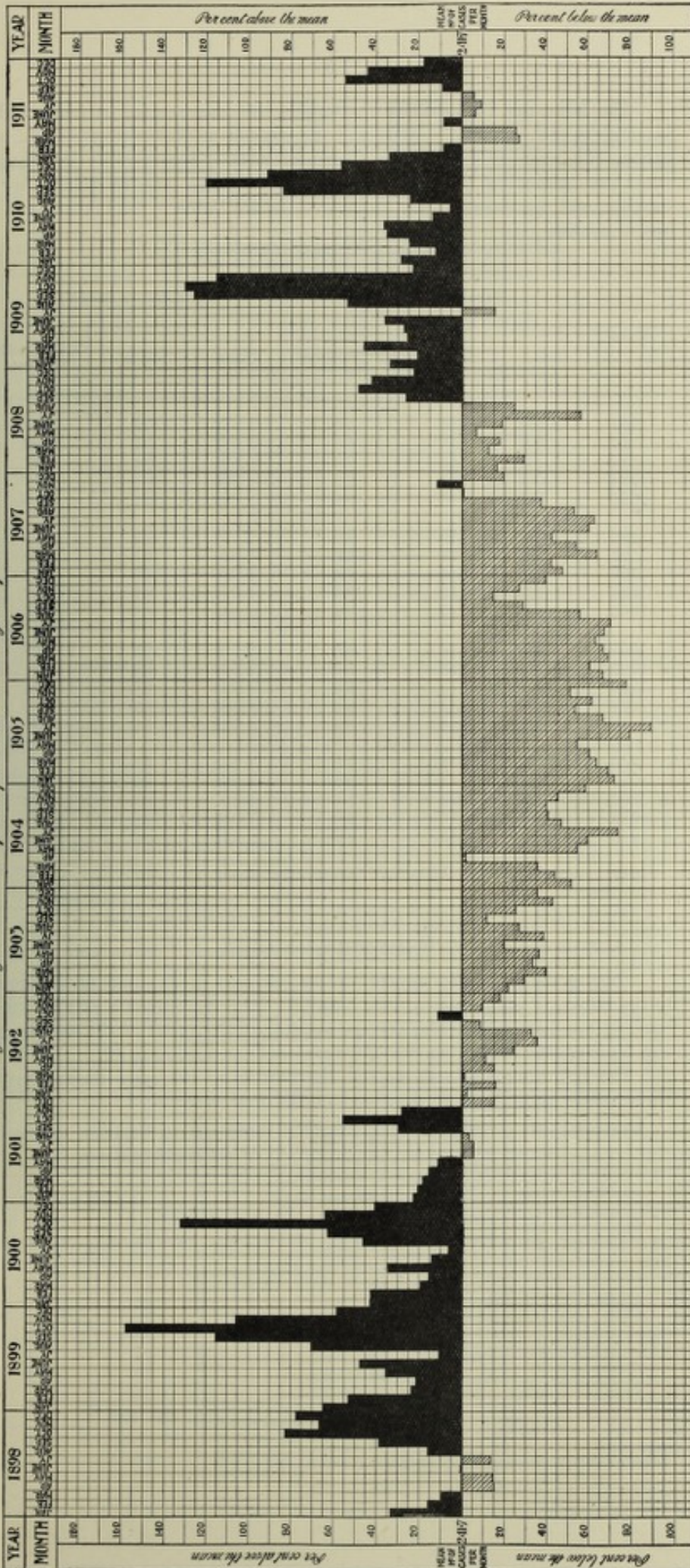
Extract from Minute of 26th April, 1911.

SCARLET FEVER.

On 6th instant a girl suffering from scarlet fever was removed to hospital from an address in Kinning Park. In the course of enquiry the Inspector found that the mother of the patient was an outworker, finishing aprons for a firm in the City, and that she had one and a-half dozen of these almost completed in the house. The Inspector gave instructions that the aprons were not to be returned to the warehouse until they had been disinfected, but notwithstanding this warning they were delivered the same evening. As this is a contravention of Section 56 (1) (c), I reported the matter to the Town-Clerk, and as a result the woman was convicted by the Sheriff on 21st instant, and a penalty imposed.

S C A R L E T F E V E R

Chart showing monthly variations of Notifications in each year from 1898 to 1911



The following Table shows the number of cases treated at home and in hospital in each year since 1891, and the number of deaths occurring in each group. The case-mortality among hospital cases is considerably less than in the three preceding years. Cases treated at home are relatively few in number, and the rates in these circumstances are liable to fluctuation, and are apt to mislead:—

GLASGOW.—SCARLET FEVER.

YEAR.	TREATED AT HOME.			TREATED IN HOSPITAL.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	1,133	62	5.5	1,912	139	7.3
1892	1,807	110	6.1	3,037	191	6.3
1893	1,172	83	7.1	2,855	184	6.4
1894	1,034	63	6.1	2,896	147	5.1
1895	858	43	5.0	2,644	141	5.3
1896	576	25	4.3	2,152	118	5.5
1897	724	29	4.0	2,231	101	4.5
1898	640	45	7.0	2,980	145	4.9
1899	764	58	7.6	3,964	147	3.7
1900	594	47	7.9	3,568	163	4.6
1901	522	26	5.0	2,795	105	3.8
1902	369	25	6.8	2,140	88	4.1
1903	297	17	5.7	1,734	65	3.8
1904	265	13	4.9	1,308	56	4.3
1905	125	1	0.8	845	34	4.0
1906	168	8	4.8	1,214	42	3.5
1907	193	1	0.5	1,566	44	2.8
1908	240	4	1.7	2,557	85	3.3
1909	363	17	4.7	4,047	141	3.5
1910	360	15	4.2	3,843	126	3.3
1911	261	8	3.1	2,893	83	2.9

"RETURN" CASES.

During the year, 83 "return" cases occurred in 72 families, subsequent to the return of earlier cases from hospital. This represents a rate of 2.9 per cent. on the dismissals. The average residence in hospital of the earlier cases was 60 days, the maximum was 106 days, and the minimum 42.

The following Table shows the distribution of the cases throughout the three weeks subsequent to dismissal of the first case:—

GLASGOW, 1911.—SCARLET FEVER.—RETURN CASES.—DAYS ELAPSING BETWEEN RETURN OF EARLIER AND SICKENING OF SUBSEQUENT CASES.

FIRST WEEK.		SECOND WEEK.		THIRD WEEK.	
Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.
1	...	8	5	15	3
2	3	9	8	16	1
3	3	10	4	17	1
4	6	11	6	18	1
5	5	12	1	19	3
6	8	13	2	20	2
7	7	14	1	21	13
				and over	
	32		27		24

"SECONDARY" CASES.

100 "secondary" cases occurred in households after disinfection had been carried out for a previous case. Of the total, 64 occurred within one week, 25 others within 14 days, and 11 under 21 days.

GLASGOW, 1911.—SCARLET FEVER.—SECONDARY CASES occurring in HOUSEHOLD after DISINFECTION.

FIRST WEEK.		SECOND WEEK.		THIRD WEEK.	
Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.
1	12	8	6	15	1
2	13	9	5	16	1
3	11	10	2	17	1
4	10	11	2	18	1
5	5	12	3	19	3
6	7	13	1	20	1
7	6	14	6	21	3
				and over	
	64		25		11

EFFECT OF SCHOOL HOLIDAYS ON THE OCCURRENCE OF CASES.

The apparent effect of school holidays in reducing the number of cases was referred to when dealing with diphtheria, and a similar Table is here introduced for scarlet fever. While there was a reduction in the number of cases during the two months the schools were closed, there was a very marked increase during the following two months. This was most marked at school ages 5-14. As pointed out when dealing with the diphtheria cases, however, this may not be wholly due to school influence, but may be associated with the autumnal prevalence which is characteristic of this disease.

GLASGOW, 1911.—SCARLET FEVER.—CASES NOTIFIED between May 1st and Oct. 31st, 1911, ARRANGED to SHOW the INFLUENCE of SCHOOL HOLIDAYS on CASE-INCIDENCE.

PERIODS.	Cases Notified.						Increase or Decrease.						TOTAL.
	Age, 0-5.		Age, 5-14.		Age, 14 and up.		Age, 0-5.		Age, 5-14.		Age, 14 and up.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1st. { May 1 to June 30,	52	52	129	161	39	57	...	...	...	...	...	...	490
2nd. { July 1 to Aug. 31,	69	70	110	132	26	41	+17	+18	-19	-29	-13	-16	448
							+35		-48		-29		
3rd. { Sept. 1 to Oct. 31,	85	83	157	219	39	55	+16	+13	+47	+87	+13	+14	638
							+29		+134		+27		
	206	205	396	512	104	153							1,576
	411		908		257								

MEASLES.

9,552 cases were registered in 1911, as compared with 14,570 in 1910, and 294 deaths occurred, representing a death-rate of '375 per 1,000 of the estimated population living. Of the total deaths, 35·7 per cent. occurred in hospital, and 94·6 per cent. of the fatal attacks were in children under 5 years of age.

For several periods the death-rate has been as follows:—

1881-90,	680 per 1,000 living.
1891-1900,	784 ..
1901-1905,	512 ..
1906,	492 ..
1907,	496 ..
1908,	1,028 ..
1909,	492 ..
1910,	662 ..
1911,	375 ..

The following Table shows the death-rate per 100,000 for several large towns for the ten years 1901-1910, and for 1911:—

	1901-1910.	1911.
Glasgow,	57	39
Edinburgh,	31	21
Dundee,	52	1
Aberdeen,	32	75
Paisley,	43	4
Greenock,	50	19
London,	42	57
Liverpool,	53	42
Manchester,	54	47
Birmingham,	42	57

The following Table shows the total deaths, the number occurring in hospital, and their proportion to the total deaths from the disease for several years.

MEASLES.

Year.	DEATHS.		Death-rate per Million.	Percentage of Total Deaths occurring in Hospital.
	Total Number.	Number occurring in Hospital.		
1895	329	46	475	14·0
1896	819	126	1,164	15·4
1897	586	73	819	12·5
1898	539	89	737	16·5
1899	544	95	828	17·5
1900	461	81	610	17·6
1901	499	89	655	17·8
1902	266	33	342	12·4
1903	346	73	442	21·1
1904	328	54	418	16·5
1905	551	159	701	28·9
1906	395	108	492	27·3
1907	400	158	496	39·5
1908	824	224	1,028	27·2
1909	394	68	492	17·3
1910	527	155	662	29·4
1911	294	105	375	35·7

WHOOPING-COUGH.

The deaths from whooping-cough during 1911 numbered 625, which is equal to a death-rate of 797 per million living. The death-rate from the disease for several periods has been as follows:—

1881-1890,	1.150 per 1,000 living.
1891-1900, ... ..	.879 "
1901-1905, ... ..	.802 "
1906, ... ..	.498 "
1907,	1.081 "
1908, ... ..	.656 "
1909, ... ..	.968 "
1910, ... ..	.291 "
1911, ... ..	.625 "

In comparison with other large towns, the rate per 100,000 for the ten years 1901-1910 and 1911 was as follows:—

	1901-1910.	1911.
Glasgow,	74	81
Edinburgh,	41	35
Dundee,	49	57
Aberdeen,	43	46
Paisley,	48	96
Greenock,	52	44
London,	31	23
Liverpool,	43	32
Manchester,	39	20
Birmingham,	42	19

The Ward distribution of the disease is shown in Appendix Table XXXII.

The total deaths, deaths occurring in hospital, and the proportion which these form to the total deaths in each year since 1895, are shown in the following Table:—

WHOOPING-COUGH.

YEAR.	DEATHS.		Death-rate per Million.	Percentage of Deaths occurring in Hospital.
	Total Number.	Number occurring in Hospital.		
1895	614	48	886	7.8
1896	643	68	914	10.6
1897	842	80	1,177	9.5
1898	703	86	961	12.2
1899	323	23	432	7.1
1900	694	67	918	9.7
1901	850	72	1,116	8.5
1902	466	59	600	12.7
1903	604	71	772	11.7
1904	574	96	731	16.7
1905	621	100	791	16.1
1906	400	94	498	23.5
1907	872	231	1,081	26.5
1908	526	131	656	24.9
1909	775	188	968	24.3
1910	232	74	291	31.9
1911	625	180	797	28.8

DIARRHOEAL DISEASES.

The deaths registered as due to diarrhoeal diseases in 1911 numbered 704, representing a death-rate of 897 per million. For the previous year the rate was 753 per million. These rates are strictly comparable, but it has to be remarked that the diseases included within this group are now in accordance with the International classification adopted both by the Registrar-General and by the Local Government Board. The group now includes the following diseases:—epidemic diarrhoea, epidemic enteritis, infective enteritis, zymotic enteritis, summer diarrhoea, choleraic diarrhoea, cholera (other than Asiatic), gastro-enteritis, gastro-intestinal catarrh, muco-enteritis, colitis, and the figures below have been recast on this basis since 1906, in order to afford a comparison with recent years

For several periods this rate has been—

1881-1890,	700 per 1,000 living.
1891-1900,	843 "
1901-1905,	849 "
1906,	933 "
1907,	587 "
1908,	860 "
1909,	547 "
1910,	753 "
1911,	897 "

On the basis of the Registrar-General's returns, the death-rate of Glasgow may be compared with several other towns:—

	Death-rate per 100,000.*	
	1901-1910.	1911.
Glasgow,	34	73†
Edinburgh,	19	36
Dundee,	63	95
Aberdeen,	25	39
Paisley,	35	64
Greenock,	35	75
London,	62	131
Liverpool,	125	196
Manchester,	97	153
Birmingham,	95	168

* Compiled from Registrar-General's Annual Report.

† Diarrhoea of children under 2 years.

AGE-INCIDENCE OF DIARRHOEAL DEATHS.

The tendency of the disease towards increased prevalence in the third quarter of the year and its special incidence during this period at ages 1-5 is illustrated by the figures in the first of the subjoined Tables, while the special influence of a maintained high level of mean temperature during the summer months is illustrated by the excessive fatality during August. The average range of temperature during July seems largely to affect the prevalence of the disease in the following month.

GLASGOW, 1911.—AGE-INCIDENCE OF DIARRHOEAL DEATHS.

1911.	Under 1 year.	—2.	—5.	—15.	—25.	—45.	—65.	65 years and upwards.
1st Quarter, ...	38	8	5	1	3	1	7	7
2nd " ...	37	12	4	3	1	3	3	4
3rd " ...	302	75	16	6	2	6	14	26
4th " ...	75	20	6	3	...	4	6	6
Year, ...	452	115	31	13	6	14	30	43

The relation between the mean temperature during June to September and the autumnal prevalence of the disease may be shown thus:—

	1906.		1907.		1908.		1909.		1910.		1911.	
	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.
June, -	57°·0	26	51°·2	17	55°·2	3	53°·7	3	55°·7	4	56°·4	15
July, -	56°·5	33	56°·1	15	57°·8	13	55°·5	1	56°·5	6	60°·5	43
August, -	57°·9	73	54°·2	28	56°·2	53	56°·8	18	57°·0	31	60°·7	144
September,	54°·4	140	54°·1	48	54°·2	23	51°·4	17	53°·8	27	53°·6	115

The Ward distribution of the deaths is shown in Appendix Table XXXIII.

TUBERCULOUS DISEASES.

PHTHISIS.

Tuberculosis of the lung or pulmonary phthisis is compulsorily notifiable in the City, and during the year 2,332 cases were registered, giving an attack-rate of 2,973 per million. The deaths registered during the same period numbered 1,024, which is equal to a death-rate of 1,305 per million living, and is slightly in excess of that for the previous year, which was 1,297 per million, and the lowest recorded.

For several periods the death-rate has been as follows:—

1881-90,	2·680 per 1,000 living.
1891-1900,	2·015 "
1901-1905,	1·626 "
1906,	1·513 "
1907,	1·562 "
1908,	1·417 "
1909,	1·409 "
1910,	1·297 "
1911,	1·305 "

In several towns in Scotland the rate for the ten years, 1901-1910, and for 1911, has been—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN SCOTCH TOWNS FOR THE TEN YEARS, 1901-1910, AND FOR 1911.

	1901-1910.	1911.		1901-1910.	1911.
Glasgow, ...	157	128	Aberdeen, ...	121	107
Edinburgh, ...	134	109	Paisley, ...	137	111
Dundee, ...	172	168	Greenock, ...	138	154

The reduction which has taken place in the phthisis death-rate in Glasgow during the whole period of registration is shown in the following Table:—

DEATH-RATE FROM PHTHISIS IN THE SEVERAL QUINQUENNIA SINCE THE BEGINNING OF REGISTRATION.

Years.	Death-rate per Million.	Years.	Death-rate per Million.
1855-9,	3,742	1885-9,	2,601
1860-4,	4,094	1890-4,	2,315
1865-9,	3,972	1895-9,	2,014
1870-4,	3,908	1900-4,	1,712
1875-9,	3,644	1905-9,	1,468
1880-4,	3,140	1910,	1,297
1911, ... ..	...	...	1,305

Appendix Table XXXIV. shows the number of cases and deaths in each Ward, as well as attack-rates and death-rates for 1911. For purposes of comparison, the death-rates since 1903 are also shown.

Relatively the disease was most prevalent in Blackfriars, Calton, Cowcaddens, and Broomielaw, where the attack-rates were 4,811, 4,724, 4,189, and 3,555 per million. In eight other Wards, namely, Dalmarnock, Anderston, Whitevale, Hutchesontown, Townhead, Mile-end, Sandyford, and Gorbals, the mean rate of 2,973 for the City was exceeded in the order named, the highest of these (Dalmarnock) having a rate of 3,264 per million, and the lowest (Gorbals) a rate of 3,073 per million.

Notification having now been in force for two years, the irregularities incidental to its introduction are to some extent eliminated, so that notifications refer only to occurring cases, and the rates already quoted afford a fair indication of the distribution of the disease throughout the City. Until further experience has been obtained, however, a more reliable measure of the incidence of the disease is by comparison of the average death-rates for each Ward over several years, and in the following Table these rates are arranged relatively to their position above and below the mean rate for the City.

On this basis the disease is considerably in excess in Calton, Blackfriars, and Cowcaddens, where it exceeds 1,800 per million, while the rate in Broomielaw, Mile-end, and Whitevale, is also in excess of the city mean.

GLASGOW, 1903-1911.—PULMONARY PHTHISIS. TABLE SHOWING AVERAGE DEATH-RATE FOR EACH WARD COMPARED WITH THAT FOR THE CITY.

Ward.	Death-rate per Million.	Ward.	Death-rate per Million.
Calton,	1,938	Sandyford,	1,218
Blackfriars,	1,868	Exchange,	1,135
Cowcaddens,	1,804	Woodside,	1,125
Broomielaw,	1,593	Govanhill,	1,117
Mile-end,	1,579	Cowlairs,	1,108
Whitevale,	1,534	Maryhill,	1,091
CITY,	1,466	Kinning Park,	906
Hutchesontown,	1,464	Dennistoun,	883
Springburn,	1,463	Blythswood,	657
Kingston,	1,453	Park,	634
Anderston,	1,403	Langside,	595
Gorbals,	1,368	Pollokshields,	473
Townhead,	1,335	Kelvinside,	292
Dalmarnock,	1,316		

RESULTS OF COMPULSORY NOTIFICATION.

The cases notified during the year 1910, which was the first year of compulsory notification, were subsequently reviewed in a special report to the Committee on Health, and that report is here incorporated.

The relation between the mean temperature during June to September and the autumnal prevalence of the disease may be shown thus:—

	1906.		1907.		1908.		1909.		1910.		1911.	
	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.
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Hutchesontown,	1,464	Dennistoun,	883
Springburn,	1,463	Blythwood,	657
Kingston,	1,453	Park,	634
Anderston,	1,403	Langside,	595
Gorbals,	1,368	Pollokshields,	473
Townhead,	1,335	Kelvinside,	292
Dalmarnock,	1,316		

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The cases notified during the year 1910, which was the first year of compulsory notification, were subsequently reviewed in a special report to the Committee on Health, and that report is here incorporated.

REPORT

ON

THE ADMINISTRATIVE TREATMENT OF PULMONARY PHTHISIS

(with an Analysis of the Results of the First Year of Compulsory Notification in Glasgow).

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REPORT ON THE ADMINISTRATIVE TREATMENT OF PULMONARY
PHTHISIS⁽¹⁾ (WITH AN ANALYSIS OF THE RESULTS OF THE
FIRST YEAR OF COMPULSORY NOTIFICATION IN GLASGOW).

PART I.

The object of the following Report is to place before the Corporation some aspects of the extent and distribution of Pulmonary Phthisis in Glasgow which have been disclosed by Compulsory Notification. When these are of a nature to afford a basis for administrative suggestions, and are on a sufficiently large scale to warrant them, this has been attempted. The analysis is confined to the cases registered during 1910, and takes no cognisance of many administrative questions concerning the control of Tuberculosis generally which would naturally have come under review in a Report dealing with the whole subject. So, also, on the aspect of the question associated with the conditions of occupation I have withheld observation until the material collected is sufficient in volume to give conclusions any weight.

Nor has the occasion been considered convenient to discuss the suitability of the present Tuberculosis Dispensaries for the work they undertake, or the adequacy of the staff of nurses engaged in home visitation.

Considerations of brevity have compelled many of the statements to be made somewhat dogmatically, and the conclusions have been summarised in the later pages.

In order to throw the results of Notification into some relief, reference is first made to our knowledge of the distribution of the disease before Notification became compulsory.

OUR KNOWLEDGE OF CONSUMPTION BEFORE COMPULSORY NOTIFICATION.

This may be summarised as follows:—

(1) That Phthisis prevailed as a cause of death under the same conditions that tended to produce a high death-rate from other causes, so that wards or districts of the City with an excessive general death-rate had also a high death-rate from Phthisis.

(2) That its distribution had a definite relation to the economic conditions of the family as measured by house-room, and reached its maximum incidence in houses of one apartment.

(3) That in common with experience elsewhere the incidence of the disease varied with occupation, and was especially heavy on unskilled workers and labourers generally.

(4) That the sanitary and social improvement of the last fifty years had been associated with an even greater reduction in the death-rate from Phthisis and diseases of the lungs generally than in that of all other forms of disease taken together.

Taking Census periods, the death-rate from Phthisis in 1870-2 was 420 per 100,000 against 189 in 1900-2—a reduction of 55 per cent. In the same periods the ratio from other diseases of the lungs (including Pneumonia) fell from 718 to 456—a reduction of 36·5 per cent.; while the death-rate from all

(¹) See Footnote page 62.

other diseases fell from 2,033 to 1,473—a reduction of only 27·5 per cent. In the year 1910 the rate from Phthisis was 67·6 per cent, lower than the corresponding rate for 1870-72; while the reduction in the rates from other diseases of the lungs and from all other causes was equal to 58·2 per cent. and 37·5 per cent. respectively.

GLASGOW—DEATHS AND DEATH-RATES FROM PHTHISIS, RESPIRATORY DISEASES,
AND ALL OTHER CAUSES AT CERTAIN PERIODS.

PERIOD.	DEATHS.			DEATH-RATE PER 100,000.		
	Phthisis.	Other Diseases of the Respiratory System (including Pneumonia).	All other Causes.	Phthisis.	Other Diseases of the Respiratory System (including Pneumonia).	All other Causes.
1870-2, - -	2,004	3,427	9,700	420	718	2,033
1880-2, - -	1,624	3,136	8,147	318	613	1,593
1890-2, - -	1,355	3,303	8,954	240	584	1,583
1900-2, - -	1,441	3,477	11,218	189	456	1,473
Per cent. decrease since 1870-2, -	—	—	—	55·0	36·5	27·5
1910, - - -	1,070	2,354	9,970	136	300	1,271
Per cent. decrease since 1870-2, -	—	—	—	67·6	58·2	37·5

The number of deaths in this table are taken throughout from the Registrar-General's reports and the rates for 1910 are calculated on the census population, 1911.

(5) That the hospital accommodation available for Phthisis had undergone a considerable change during the latter portion of the period referred to, the tendency being in an increasing degree towards excluding it from the general hospitals. On the other hand, the proportion which Phthisis forms in the medical admissions to Poor Law Hospitals, &c., is an increasing one.¹

(6) That the death-rate from Phthisis is higher, and the rate of reduction slightly lower, among males than among females in Glasgow. In the ten years ending 1908 the male rate was reduced by slightly over 14 per cent., and the female by 15 per cent.

(7) That when the experience of Glasgow was compared with that of the larger towns in England it was found that "the death-rate from Phthisis among males in Glasgow is below that for London, Liverpool, Manchester, and Salford, but the rate for females, although less than the local rate for males, is in excess of that of any of the larger English towns named, although female labour in Glasgow is relatively less than in many of them," and the opinion was expressed that this difference was related to our tenement system of house building.²

¹ See Memorandum by Medical Officer of Health on the Administrative Treatment of Consumption, November, 1908.

² See Annual Report of Medical Officer, 1908, page 107.

THE RESULTS OF NOTIFICATION.

The Cases Registered.—The cases of Phthisis registered during the year 1910 numbered 3,590. Of these, 3,205 were notified in terms of the Act, and 385 were ascertained from other sources to be afterwards noted. The attack-rate per thousand of the population might thus be stated at 4·5, but it is to be remembered that the cases registered during the first year included many persons whose illness had begun earlier.

I.—*Source of Notified Cases*—

1. Occurring in private practice,	1,308
2. Occurring in public practice—	
(a) Poor Law cases at home addresses, ...	181
Do. do. from Hospitals and Poorhouses, ...	897
Do. do. at Dispensaries,	93
	— 1,171
(b) Charitable Dispensaries and Infirmaries, ...	636
Corporation Dispensaries,	90
	— 726
	— 1,897
Total notified,	3,205

II.—*Source of Information in Cases not notified*—

(a) From Admission and Dismissal Sheets of Poor Law Institutions,	100
(b) From Port Local Authority,	1
(c) From Military Authorities,	2
(d) From Death-cards only,	198
	— 301
Total Cases enquired into,	3,506
(e) Deaths registered in 1910 before enquiries began,	84
Total Cases registered,	3,590

Deaths among Registered Cases.—Of the 3,308 cases registered during life, 836 died during the year, and if we add to both the 282 deaths of the persons above noted, whose illness was only known to us after the death had been registered, the total number of deaths from the disease during the year would number 1,118, which represents a fatality-rate within the year equal to 31 per cent. of the cases registered.

Proportion of Unnotified Cases among Deaths registered from the Disease—The deaths just noted include all those which are known to have occurred among persons whose illness was registered during the year, although in some cases they had removed from the City before death occurred. Of the deaths registered within the City, 75 per cent. were of persons notified as suffering from the disease during life, and considering that notification was only introduced at the beginning of the year this must be regarded as fairly satisfactory. Moreover, the experience of 1911, so far as it has gone, suggests that the proportion of cases proving fatal before notification is now considerably reduced.

Place of Residence at Time of Registration.—In every case when a home address was given this was visited, and if the patient could be definitely located he was regarded as a “home” case, even although at the time of notification he was under treatment in an Institution. On this basis the

following statement is made, the proportion of the total cases receiving Institutional treatment being deferred for subsequent notice:—

Cases traced to home addresses,	2,477
„ at home, but not visited at request of medical attendant, ...	9
„ where only known address was an Institution,	804
„ not found at address given (mostly from Poor Law Institutions and Charitable Dispensaries),	216
	3,506

The Cases Notified.—The foregoing figures refer to the total number of cases registered during the year, while the following Table and observations refer to those only who were notified under the Act:—

NOTIFICATIONS.	Private.	Public.	Total.	Percentage Public.
Primary,	1,308	1,897	3,205	59·2
Multiple,	160	838	998	83·9
	1,468	2,735	4,203	65·1
Percentage Multiple to Primary Notifications in each Group,	12·2	44·2	31·1	...

The persons notified numbered 3,205, for whom 4,203 notifications were received, so that 998 or 24 per cent. of the total notifications were multiple, and referred to persons already notified. Further, 2,735, or 65 per cent., of the total notifications received under the Act were from public sources. Of the primary notifications, 59 per cent. were public, and this proportion increased to 84 per cent. of the multiple notifications.

Early in the year it became manifest that the majority of the duplicate notifications from "public" sources referred to persons in receipt of Poor Law Relief, and this led to an arrangement with the Clerks of the Parish Councils whereby all persons suffering from the disease, who were admitted to or dismissed from Poor Law Institutions, were intimated weekly.

The risk of multiple notifications was anticipated when the disease was included within the Notification Act, and influenced the decision to limit its adoption to a period of three years. It suggests a need for amending the Act. By an Order of the Local Government Board for England, issued in 1908, all cases of the disease coming to the knowledge of Poor Law Authorities must be intimated to the Medical Officer of Health.

THE HISTORY OF MULTIPLE NOTIFICATIONS.*

Of the 3,205 primary notifications, 1,308 were received from private medical attendants, and 1,897 were from public sources, such as Poor Law and Charitable Dispensaries. Of the former 160 and of the latter 608 were notified more than once from sources similar to those sending the primary notifications, the rates of multiple notifications being equal to 12 per cent. of the cases occurring in private practice and 32 per cent. of those occurring otherwise.

Moreover, 230 persons, or nearly 18 per cent. of those who were originally notified by private medical attendants, subsequently obtained advice, and were again notified, from both Charitable and Poor Law sources.

* See Table II. of Appendix hereto.

I have elsewhere¹ discussed the economic significance of Pulmonary Phthisis, and the drift of no inconsiderable proportion of persons who were originally under the care of a private medical attendant to some form of Charitable or Poor Law Medical Relief is well illustrated in our present experience.

The number of primary notifications and their sources were:—

From private Medical Attendants,	1,308
„ Poor Law Dispensaries,	1,171
„ Charitable „	636
„ Corporation „	90
	3,205

We have seen that, of those originally under the care of a private medical attendant, 160 were again notified by other practitioners in private practice, and 230 by the Medical Officers of the Charitable or Poor Law Dispensaries. Of these latter, 66 went to Charitable Dispensaries, and 142 to the Poor Law Dispensaries. 22 others became patients of a Charitable Dispensary in the first instance, but thereafter sought Poor Law Relief.

In a similar way, of the 636 originally notified from Charitable Dispensaries, 85 subsequently applied to other dispensaries of a like character, but 123 went direct to Poor Law Institutions.

Putting the figures together they indicate in a very direct manner the economic dependence of the consumptive. Of the total notifications received, 65 per cent. were ultimately obtained through charitable or rate-aided sources, 44 per cent. of them being from Poor Law sources alone.

Age Distribution.—This information was obtained in 2,419 cases, as follows:—

Ages.	Cases.	...	Ages.	Cases.
— 5 years.	77	...	— 35 years.	601
— 10 „	152	...	— 45 „	451
— 15 „	143	...	— 55 „	279
— 20 „	231	...	— 65 „	90
— 25 „	365	...	65 + „	30
	968			1,451
2,419				

THE AVERAGE DURATION OF ILLNESS IN FATAL CASES.

In 896 of the cases proving fatal within the year, the duration of illness was noted. It is of value only as indicating the date of the onset of symptoms which arrest attention, usually because they interfere with work or well-being.

In this sense the average duration at several age periods varied from 8 months in children under 5 years to 2 years in late adult life, and there is a gradation between these extremes which suggests that the later the advent of the disease the less rapid is its course.

Attention has elsewhere been drawn to the importance of early diagnosis in children.

It is frequently stated that when the disease becomes clinically recognisable it has already passed beyond the early or first stage, but there is some reason for thinking that this is true rather of the recognition of definite physical lesions than of loss of body weight and fluctuations in temperature, which can only be ascertained with precision when patients are under continuous medical supervision.

¹ See Transactions of Edinburgh Conference on Tuberculosis, July, 1910.

Sex Distribution and Place of Residence.—At the time of registration 623 males and 181 females were in Institutions—mostly those of the Poor Law—and had no other address which could be verified, while 1,327 males and 1,150 females were housed as follows:—

SIZE OF HOUSE.	NUMBER.	
	Males.	Females.
1 Apartment, 6.16 =	245 207,164	287 245,239} = 471
2 Apartments, 18.15 =	537 732,546,	526,606,481, = 1613
3 " 56.7 =	167,230,140	149 174 109 = 432
4 " and upwards, 31.9 =	94 120 105	71 83 73 = 227
	<u>3214</u>	<u>3043</u>
Total at Home,	1,327	1,150
In Institutions,	623	181
Not found,	104	112
Total,	2,054	1,443
		3,497
Add Cases not enquired into, ...	...	9
		<u>3,506</u>

It will be noted that the number of females notified from one-apartment houses is greater than of males, and the explanation would appear to be partly due to the fact that men more readily than women seek institutional relief in prolonged illness, and that while a consumptive husband has ready access to a Poor Law Hospital, similar facilities may be denied to the consumptive wife and other dependants of an able-bodied man.

This would also appear to explain the contrast between the number of male and female consumptives in institutions, where the relationship is as 7 to 2, compared with 7 to 5 among notified cases.

COMBINED TABLE OF SEX AND NATIONALITY OF HOME CASES.

Country of Birth	Males.	Females.	Total.
Scotland,	1,099	961	2,060
Ireland,	146	131	277
England,	45	35	80
Russia,	18	14	32
Elsewhere—Abroad,	19	9	28
	<u>1,327</u>	<u>1,150</u>	<u>2,477</u>

No deduction can be made from these figures regarding racial proclivity until the actual number of the population among which they are occurring has been ascertained.

Is Phthisis essentially a Disease of Town Life?—Whenever information of a precise character could be obtained, a record was made of the birth-place of the patient and his parents. This threefold information could be got

with regard to 2,477 patients, and the following groupings can be made:—

	No. of Times	Comparative Number.
(1) Where patient and parents born outwith city, ¹ ...	977	(6·1)
(2) " " born within, parents outwith city, ...	648	(4·1)
(3) " " and parents born within city, ...	432	(2·7)
(4) " " and mother within, father outwith city, ...	261	(1·6)
(5) " " and father within, mother outwith city, ...	159	(1·0)

The numerical relationship here existing between the extremes is as 6 to 1, and for the intermediate groups may be stated as 4, 2½, and 1½. It may be that this relationship is solely an accident of observation, and would be repeated in any survey of the whole population which endeavoured to co-relate any other physical feature to place of birth.

That is, were information available regarding the birth place of the parents and children in all the families now resident in Glasgow, it might show that the number of those in which all the members were born beyond the boundary was as 6 to less than 3 of those in which all the members had been born within it.

But, on the other hand, the relative incidence on immigrant and city-born families raises the question whether the former are more liable to contract Phthisis on first exposure to the conditions of town life than the latter, who may be regarded as having regained a certain degree of resistance. It may be asked whether the figures indicate some selective action which is being exercised by the conditions of town life on immigrants? Or do they mean that, in the pressure of competition the immunity or resistance to disease of the immigrant families is impaired to a greater extent than in those who have emerged with some degree of success from the struggle, and have obtained a certain economic independence such as is indicated by the birth of a second generation of city dwellers? This view is, I think, in some degree supported by group (5) of the above Table, which shews that the smallest number of patients occur in families where the father has been born within the City and the mother outside.

Moreover, of the cases occurring in town-bred families, almost one-third (31 per cent.) were housed in one apartments, whereas only 18 per cent. of the immigrant families were so housed, and nearly 29 per cent. occupied houses of three apartments and upwards, compared with barely 21 per cent. in the families born within the City. The immigrant families were therefore better housed than the native families, and their apparently greater liability to disease would seem to be a further expression of the reduced resistance which the change from rural to urban life imposes.

THE HOUSING OF THE CONSUMPTIVE.

The house populations of the recent Census are not yet available, and no rates of incidence can be calculated.

But, in a general way, the social groupings of the disease may be expressed on the basis of the 1901 Census:—

	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.
Percentage of Population occupying Houses of, ...	13·7	45·8	19·9	17·9
Percentage of Notifications of Phthisis occurring in Houses of, ...	21·5	54·1	16·4	8·0

¹ In 107 of the cases forming this group the illness began before the family came to Glasgow, but the difference this makes in the relationship between Groups (1) and (5) is only reduced to 5·5 to 1.

CASES OCCURRING IN HOUSES REGULATED BY STATUTE.

The results of this analysis may thus be summarised:—

	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Ticketed,	203	160	3	—	366
Farmed-out, ¹	13	9	1	—	23
Let in Lodgings, ¹ ...	—	—	—	3	3
Not included in above, ...	320	1,174	416	185	2,095

¹ Many of these are also ticketed.

This analysis does not include the former housing accommodation of "institutional" cases, *where no home address could be verified*, and to this the small number of cases occurring among persons resident in "farmed-out" houses and those let in lodgings is no doubt due.

DEFECTS IN VENTILATION AND OTHERWISE IN HOUSES IN WHICH
CASES OCCURRED.

In a recent report (on Insanitary Areas) I adopted the phrases "back to back" and "through and through" as descriptive of conditions existing in houses which impede or help ventilation, and the phrases as here used have a similar meaning.

Note was also made of the situation of the bed occupied by the patient, whether enclosed or not, the lighting of the house, the lighting and ventilation of the common lobby leading thereto, and the presence of dampness in the floor or walls. Details of these were recorded in 2,477 houses, and may be summarised as follows:—

In One-apartment Houses.—The difficulty of effective ventilation in these houses need not be emphasised, although it is often overlooked. In the best houses of this type door and window are on opposite walls. Between this and the worst form, where the three channels of air movement—the door, the window, and the chimney—approach each other, there are many degrees of defective ventilation, and few one apartments wholly escape them. In addition to this, 62 had enclosed beds; in 144 the lighting was only "fair;" and in 132 it was poor.

The houses of larger size can be grouped according to whether through ventilation was or was not possible in them:—

BACK TO BACK HOUSES.

	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Number,	565	29	—	594
„ with enclosed beds,	98	5	—	103
Lighting and ventilation of common lobbies—				
(a) Good,	357	18	—	375
(b) Fair,	112	7	—	119
(c) Bad,	96	4	—	100

THROUGH AND THROUGH HOUSES.

	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Number,	773	376	202	1,351
„ with enclosed beds,	69	25	6	100
Lighting and ventilation of common lobbies—				
(a) Good,	665	364	202	1,631
(b) Fair,	83	12	—	95
(c) Bad,	25	—	—	25

In addition to the defects here noted, dampness was found affecting 70 houses, and in 86 the lighting was defective. 107 of the patients resided in back lands.

Number of Contacts.—Contact as here used is limited to the persons living in the same household as the consumptive, and information has been collected in respect of 2,477 cases.

Living in association with those cases were 10,363 persons, yielding an average of 5.1 persons per house. The household of the consumptive is thus slightly more numerous than the average for the City.

Of the total above stated, 485 children and 881 adults were associated with 532 cases in one apartments; 1,953 children and 3,932 adults were associated with 1,338 cases in two-apartment houses; 414 children and 1,730 adults were associated with 405 cases in three-apartment houses; and 121 children and 847 adults were associated with 202 cases in houses of four apartments and upwards; in all, 2,973 children and 7,390 adults were associated with 2,477 cases.

THE SLEEPING ACCOMMODATION OF CONSUMPTIVES.

In one sense this involves a closer and more continuous contact than is considered in the foregoing paragraph, but it lacks the more obvious forms of mediate contact associated with the common use of drinking vessels, &c.

In this sense the contacts of the sleeping hours form a section which may be separated out from the 10,363 contacts just alluded to.

We may, first, however, set aside the number provided with—

(a) *Sleeping Accommodation in Separate Rooms.*—In 773 cases the patient had a sleeping room to himself, 345 being in two-apartment houses, 244 in three-apartment houses, and 173 in houses of four apartments and upwards. In 11 instances the patient was the sole occupant of a one-apartment house.

(b) *When Patient occupies a Separate Bed in a Room also occupied by others.*—In 538 cases the patient occupied a separate bed in a room used also for sleeping purposes by other members of the family. These other members collectively numbered 1,244, or rather more than 2 persons per patient. Of these contacts, 433 were associated with 168 patients in one-apartment houses; 714 were associated with 319 patients in two-apartment houses, or rather less on an average than 2 persons per patient; and 89 were associated with 45 patients in three-apartment houses.

(c) *When Patient slept in Bed also occupied by other Persons.*—In the case of 1,166 patients this was the only available form of sleeping accommodation, 353 occurring in one-apartment houses, 674 and 116 in houses of two and three apartments respectively, and 23 in houses of four apartments and upwards.

With these 1619 persons were associated, in the sense that they occupied the same bed; the 353 patients in one-apartment houses sleeping with 523 other persons; 674 patients in two-apartment houses sleeping with 924 other persons; the 116 patients in three-apartment houses sleeping with 143 other persons; and the 23 persons in houses of four apartments and upwards sleeping with 29 other persons.

Structural Character of the Sleeping Accommodation.—The commonest form of sleeping accommodation in the smaller dwelling-houses is the recess bed, where three of the sides are enclosed and the fourth is open. This type is unsuitable for a consumptive patient, as its structure renders circulation of air impossible.

In many houses a still greater degree of enclosure of the bed space is found, giving rise to the varieties "press bed" and "set in bed." In the "set in" variety the access of air is hindered by more or less partial enclosure of the fourth side of the bed space, while in the "press" type the bed is concealed by day by a door or curtain.

The extent to which beds of this type were found in use has been inquired into by the nursing staff, and the following statistics refer to the period from June 1st, 1910, to May 19th, 1911. The types of bed in use and their occupants on the first visit of the nurse, were noted, as follows:—

Type of Bed.	OCCUPIED BY—					Total.
	Patient alone.	Patient and another.	Patient and two others.	Others only.	Unused.	
Press,	17	1	0	34	9	61
Set-in,	13	13	3	16	4	49
	30	14	3	50	13	110

It will be seen that 47 patients were found occupying these enclosed types of bed, in 17 of these cases along with other members of the family. In 50 instances these beds were being used by other members of the family, and in 13 houses the beds were unused. Thus, where such beds exist, they appear to be in common use.

THE POSITION OF THE PATIENT IN RELATION TO THE WAGE-EARNING CAPACITY OF THE HOUSEHOLD.

The answers grouped under this heading were obtained in reply to questions directed to ascertain the social position of the patient and his relationship to the earning capacity of the household.

The information is available for the 2,477 home cases, 1,086 of whom were parents and 1,060 other members of the family, while 331 were lodgers.

I. *Parents*—

- (a) *Families without children*.—In 165 families without children 89 husbands and 76 wives were affected.
- (b) *With children*.—In 871 families with children 434 husbands and 437 wives were affected.
- (c) *When one parent dead*.—In 10 cases the patient was a widower, and 24 were widows with children.
- (d) *With no dependants*.—In 16 instances the patient lived alone.

II. *When Patients were other Members of Families*—In 1,060 cases the patient was other than the parent, 83 being children under school age, 277 at school, and 700 at work.

III. *Lodgers*.—In 331 cases (206 males and 125 females) the patient was a lodger, 43 being in 1-apartment houses, 178 in 2-apartment houses, 63 in 3-apartment houses, and 47 in houses of 4 apartments and upwards.

In 254 cases, all of whom were males, the patient was the sole wage earner. In 18 other cases in males, the wife was the wage-earner in 14, and the mother in 4, while in 11 cases a consumptive daughter was supported by her mother.

So far as is known—in 54 cases, 46 of whom were males and 8 females, the families were in receipt of outdoor parochial relief.

In all cases an effort was made to ascertain the wage-earning capacity of the household, but the information proved so variable that no attempt can be made to summarise it. The subject, however, is further referred to in a special enquiry conducted in Dalmarnock and Calton Wards.

History of Phthisis in Families.—The family history of consumptive patients was inquired into.

In 32 per cent. there was a history, either in the present or preceding generation, of the disease in other members of the same family, but this is probably considerably short of the actual.

Deaths of Notified Cases from Causes other than Phthisis.—During the year, 27 persons known to be suffering from Phthisis died from other causes. Some of these died from chronic diseases co-existing with Phthisis, others of acute disease due to other causes.

Patients "lost sight of".—Many patients are migratory in their habits, and it was inevitable that a proportion of these cases should be lost sight of. The following table gives the numbers of these, and the reason for their disappearance from observation:—

Of 2,477 cases residing at home, 206 passed out of observation for the following reasons:—

Removed, and not traced before end of year, ...	89
Gone to country,	16
Gone abroad,	19
Gone to England or Ireland,	23
Gone to other towns in Scotland,	59
	<hr/>
	206
	<hr/>

of whom 115 were males and 91 females.

Of the 89 who were lost sight of through removal to unknown addresses, 23 were from one-apartment houses, 50 from two-apartment houses, 12 from three-apartment houses, and 4 from houses of larger size. This represents a percentage of the cases occurring in the several-sized houses of 4, 3·7, 2·9, and 1·9 respectively. Several have been renotified during 1911.

Frequency of Change of Address.—It has just been stated that, of the persons who passed out of observation during the year, 89 were lost sight of because of a change to unknown addresses. Taken by itself, the number seems a comparatively large one, but is in reality not so when considered in relation to the number of Phthisis patients who change their address during the course of their illness.

In many cases this frequent migration would appear to be another illustration of the economic exigencies of the family life of the consumptive.

	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Total Number of Cases,	532	1,338	405	202	2,477
1 change in address, ...	177	365	105	39	686
2 changes ,, ...	44	81	15	2	142
3 ,, ,, ...	11	11	2	—	24
4 ,, ,, ...	2	2	3	—	7
Total persons, ...	234	459	125	41	859
Total changes, ...	306	568	153	43	1,070

The table may be read thus—of 532 cases in one-apartment houses, 177 changed their address once, 44 twice, 11 three times, and in two instances each family changed four times—in all, 234 consumptives occupying single apartments made 306 changes, 459 occupying two apartments made 568 changes, and 859 made in all 1,070 changes. Elsewhere the disinfection which follows this is discussed.

Institutional Treatment.—In all, 1,182 of the 2,477 cases registered at home were treated for varying periods in institutions, as follows:—

	Males.	Females.	Total.
In Poor Law Hospitals, ...	487	332	819
„ Sanatoria, ...	187	72	259
„ Infirmaries, ...	71	33	104
	745	437	1,182

In addition to the 819 Poor Law cases with a home address, 816 others were treated in Poor Law Institutions, and had no other address which could be verified. These two groups represent 46·6 of the cases registered.

PART II.

Procedure following Notification.

On the introduction of Notification and the establishment of the Dispensaries, Dr. M'Gregor was appointed physician to one of them, and instructed to exercise a general supervision of the whole movement, but in particular to direct the work of the nurses in their home visitation. The detailed knowledge of the work thus acquired has become invaluable to the Department, and this section of the Report, together with Parts III. and IV. have been substantially prepared by him.

When notification has been received of the occurrence of a case at a home address a visit is paid by the Epidemic Inspector, whose duty it is to obtain certain prescribed information.

He further arranges for such disinfection as may be required, indicates what preventive measures are desirable, and informs the relatives that his visit may be followed up by that of the nurse.

The decision to supplement the Inspector's visit by those of a nurse depends upon this preliminary report, and is based on the principle that the nurse's visits should be paid only to patients to whom she may be useful.

It is not considered necessary to visit those who are under the care of a medical attendant, or to dwellers in lodging-houses, or where hardship might result from the publicity incidental to visitation.

Many patients at first offered objection to visitation, but this group is now a relatively small one, and will be considered subsequently.

Home Visitation.—Duties of the Nurses.—As home visitation is considered one of the most important practical methods for the control of Phthisis, the various functions of the Phthisis Nurse may be considered in some detail. For the purpose of this visitation four nurses were appointed, and these made, in all, during the year, 8,262 home visits to 1,348 patients, and attended 429 dispensary consultations. The City was divided into five districts, in each of which is situated a Tuberculosis Dispensary, where patients attend for advice and treatment. Each dispensary forms the base of operations for its own area, whose patients are thus brought under the guidance of the same physician and the same nurse. The nurse attends each meeting of the dispensary in her own district, prepares the patients for examination by the physician, hears the advice given, and receives directions in regard to individual cases. She thus gains more accurate knowledge of the condition of the patients under her care, and obtains the physician's advice in regard to further efforts on their behalf. Consumptive patients vary greatly in their degree of infectivity, some excrete few bacilli, others again excrete many, and it is of importance that a knowledge of the infectivity of the individual case should be in the possession of those who undertake its control.

One of the objects of the medical examination is to ascertain the degree of infectivity present, and so to give greater precision to the work of prevention. It is worthy of remark as bearing on the value of the dispensary that the nursing staff find they have a firmer control over the home behaviour and hygiene of dispensary patients than over those who do not attend it.

In her home visitation the nurse attends chiefly in an advisory capacity. She is to scrutinise the habits of the individual patient, and advise accordingly. She has a duty both to the patient and to the relatives—she is to teach the patient how not to infect, to give instructions as to the disposal of the sputum, and to impress upon the relatives the risks entailed by carelessness in its disposal. She is to correct any hygienic error in the habits of the patient, both personal and domestic, and advise generally.

She aims at securing, if possible, separate sleeping accommodation for the patient. This, however, is often an impossibility. The relatives must be apprised of the infectious nature of the disease, and how to guard themselves against infection; they must be warned to be alert as to their own condition so as to secure early recognition of incipient disease. Parents are encouraged to study the health of their children, so that the transference of infection may be avoided or may not pass unrecognised. Late recognition is a too frequent feature of the disease in children. Oral advice is reinforced by printed instructions.

Not the least important result of visitation is the effect on neighbouring families. A district becomes familiar with the presence of the nurse, curiosity is aroused, and knowledge of the object of her message spreads.

As already stated, the nurses made 8,262 home visits during the year to 1,348 patients, an average of rather over 6 visits per patient.

The number of patients receiving home visits at any given time may be illustrated by the figures for November, 1910:—

Receiving 3 visits per week,	...	...	...	...	12
" 2 " " "	...	...	...	...	25
" 1 visit per week,	...	...	...	...	81
" 1 " in 2 weeks,	...	...	...	...	125
" 1 " in 4 " "	...	...	...	...	313
Total under visitation at one time,	...	...	...	...	556

The house distribution of the total cases visited was as follows:—

Size of House.	Males.	Females.	Total.	Per Cent.
1 apartment,	156	179	335	25
2 apartments,	416	410	820	61
3 " "	85	85	170	12
4 " and up,	12	11	23	2
	<u>663</u>	<u>685</u>	<u>1,348</u>	<u>100</u>

Principles of Visitation.—The general principle has been based upon the policy of securing the advantages of supervision to as many notified consumptives as possible consistent with the avoidance of undue intrusion or interference. The fact that a minimum amount of friction has arisen is a tribute to the tact with which the patients and their relatives have been approached by the inspectors and nurses.

The number of visits paid to each individual case will, of course, vary with circumstances, but visits are made in accordance with the following general rules:—

Bed-ridden cases are visited at least once a week, or oftener; if there are bed-sores, every second day. If greater nursing attention is required, the people are instructed to obtain the services of a District Nurse. While the duties of the Phthisis Nurse are mainly advisory, many of the bed-ridden patients require some actual nursing, involving a considerable expenditure of time. Where a nurse has several bed-ridden cases in her district, the frequent visits required interfere with her other duties, and the nursing staff have neither time nor facilities for this work, whereas the District Nurse is well equipped for this purpose.

If the patient is attending the dispensary regularly, a visit may be paid once a fortnight or three weeks, depending on the domestic habits and number of contacts, &c. If the patient is in comfortable circumstances, the house clean, and instructions being attended to, a visit may only be paid at longer intervals.

Examination of Contacts.—The early diagnosis of disease is one of the aims of successful dispensary work, and it falls to the nurse in her daily visits to

observe suspected cases among the members of the patient's family, and refer them for examination to the local dispensary.

Disinfection.—She arranges for the periodic washing of infected clothing of the patients under her supervision, and notes any change of address or removal of the patient in order that the vacated apartment may be disinfected.

Disinfectants (Cyllin) for use in the home are freely supplied—a boon widely taken advantage of and keenly appreciated. The nurse arranges for their distribution where advisable, and indicates their proper use.

She also impresses on relatives the importance of notifying any proposed removal of patient or change of address. Willing co-operation in this has been extended by many patients and their relations, who make special visits to the dispensary to inform the nurse, or by sending a post-card to the Office. In May and November it is the custom for the nurses to make special surveys of their districts, in order to anticipate changes of address. Considerable difficulty, however, has been experienced in securing prompt disinfection of the smaller houses with short "lets" where the population is migratory. Here a not inconsiderable number are lost sight of, in spite of the fact that it is to them that the most frequent visits are paid.

Attitude of Patients and Relatives to Compulsory Notification and Visitation.—Compulsory notification, involving, as it does, some change in the habits of the individual, might well have caused unnecessary hardship, and so created an antagonism which would have defeated the objects aimed at. It was thus of importance to observe how far popular opinion was prepared for the inclusion of Phthisis among the notifiable diseases. Although in some directions the introduction of the scheme was followed by some misunderstanding as to its precise meaning, no serious misinterpretation of its objects resulted. The steps taken in dealing with the disease must take cognisance of social relations, and it was therefore of the first importance that the right meaning be read into the words "Infectious Disease," as applied to Phthisis, and that the public should not regard consumption "infectious" in the unqualified sense in which the term is applied to other infectious diseases. It is clear that any such interpretation might operate hardly on the relationship between employer and employed, and we have been asked by an employer whether he ought not now, in the interests of his employees, to dismiss a consumptive worker.

Home visitation entails a certain measure of publicity, and many were afraid of the consequences of such publicity as visitation by a nurse entails. It was anticipated that the action of the authorities would accentuate the fear of the infectious nature of the disease among their friends and lead to social disabilities, the severance of social ties, or interference with freedom of intercourse. For these reasons it sometimes happened that the nurse was refused admission, or was requested to visit as seldom as possible.

Similarly, the worker was afraid of his co-workers getting to know that he was consumptive or suspected, or that his employers might get to hear that he was affected. This attitude, however, is not much in evidence among the poorer classes. Among them cases are notified with great readiness. As a rule they welcome the visits of the nurse, and are grateful for such advice and assistance as she can offer, and in general endeavour to do as they are instructed, as far as their circumstances will permit. Our experience is that among these patients visits are rarely resented, even although the people may profit little by advice which is often in opposition to their prejudices or fixed habits.

The fears above expressed have now been to a large extent allayed, and no great difficulty has been experienced in realising the object of the scheme to get into friendly touch with as many notified cases as possible.

Late Recognition by Patients of the Nature of the Disease.—From the point of view of prevention, it is admittedly in the interests of the patient and his relatives that the diagnosis be disclosed as early as it is made, as adequate precautions cannot otherwise be taken. A very considerable period often elapses between the onset of the disease and the recognition of its nature by the patient. One reason for this is that the beginning is insidious, or the early stages not sufficiently urgent to attract attention, and the patient comes under observation after the disease is well advanced.

Another important cause of delay is hesitation to tell the patient the true diagnosis, even when the disease is recognised. Thus it may happen that, when the patient is approached after notification, it is found that he is ignorant of the nature of his illness. The nature of consumption is such that it requires considerable fortitude to accept a diagnosis fraught with grave consequences, and it is natural that the medical attendant, having regard to the consequences of his decision and the temperament of the patient, should approach the diagnosis in ambiguous terms. Many are only made aware of their condition when the disease is advanced, and some, even when dying, persist that they are not consumptive.

Again, the inspectors or the nurses, on making their visits, are frequently told that the patient is unaware of the nature of the illness, and are therefore requested not to make any further visits.

When opposition to visitation was met with in cases in which it appeared that the advice and services of a nurse would be useful, some inquiry was made into the reasons of the objections, and the desire to conceal the diagnosis from the patient was found to be the chief.

Necessitous Cases—Charitable Aid.—The social circumstances of their patients are specially inquired into by the nurses, who are thus in a position to bring necessitous cases into touch with whatever agency, philanthropic or Poor Law, is deemed suitable to the particular case.

At the dispensaries, also, patients are informed how they may obtain material aid appropriate to their condition and circumstances.

It is the custom to refer necessitous cases (unless they clearly come under the scope of the Poor Law) and cases who require assistance for special purposes to the Charity Organisation Society or its branches.

The assistance given has been of two kinds—aid in securing admission to institutions and home assistance; and the society, being in co-operation with various philanthropic institutions, has freely used its knowledge and interest for the benefit of patients referred to it for advice and assistance, *e.g.*, in assisting admission to the various sanatoria and country homes. It has also occasionally enabled poor patients to obtain residence at a sanatorium by providing them with the necessary clothing. Where home assistance has been thought necessary and the case a deserving one, the application has always been sympathetically considered. The nature of the assistance has been varied, and has comprised food, *e.g.*, milk and eggs, for the patient, often for considerable intervals, or until admission to an institution, blankets, clothing, and monetary assistance.

In all, 99 cases were referred to the Charity Organisation Society, of whom 79 were assisted (26 being children sent to country homes), the remainder—20—being refused as undeserving.

Examples of Cases assisted by the Charity Organisation Society:—

*S. M'D. (female, *et. 19*).*—This girl was clothed and sent to a home in Lanark for two weeks. She benefited so much by her stay there that she was boarded out in the country for two months. Came home, restarted work, and has kept well all winter.

J. M'D. (*female, at. 28*).—Supplied with underclothing and blankets. It is proposed to send this patient to the country if the report of Dispensary Physician is favourable.

J. C.—Clothing for Bridge of Weir Sanatorium.

Mrs. P.—Clothing for Lanfine Home.

Mrs. L.—Milk and food—outdoor relief from the Society for the Relief of Incurables.

J. D.—Temporary food and milk, and clothing for Bellefield Sanatorium.

A. M'G.—Clothing for child for Bridge of Weir, obtained through Poor Children's Clothing Scheme.

J. D. and J. M.—Food and milk granted to husband while he was waiting for admission to Bellefield Sanatorium. Month's rent paid, and outfit for Bellefield supplied.

W. R.—Clothing for Bridge of Weir Sanatorium for Mrs. R.

R. J. and M. J.—Line for Lenzie Home and outfit for Bellefield granted.

J. M'I.—Outfit for Bellefield granted. Assisted with rent, and clothing given to children.

J. E.—Line for Lenzie Home for son. A.—a daughter—was referred to, and helped by employer by increased wage.

G. F.—Line for Lenzie Home.

M. C.—Milk for child M. (temporary). Parish case.

J. R.—Milk and food (temporary while father idle) given for child R.

T. M'D.—Child M. recommended for Prestwick Home, and admitted.

J. C.—Child M. recommended for Prestwick Home.

A. A.—Clothing granted for Mrs. A. to go to Dunoon Home.

W. L.—Loan granted for clothing for Bellefield; now being repaid.

A. S.—Milk for baby and help with rent.

J. K.—Situation in country found.

F. C.—Line for Lenzie Home granted for Mrs. C.

M. M'F.—Line for Lenzie Home granted.

W. M'I.—Line for Lenzie Home granted.

Despite all this, however, there is a vast amount of unrelieved distress. A considerable proportion of patients belong to families exceedingly poor at all times, and often crippled in their resources or reduced almost to destitution by the occurrence of Phthisis in a wage-earner. Adequate treatment for the patient becomes an impossibility, the resisting power of contacts is reduced, and the family is unable to provide the material accessories of prevention. Children are often found sharing a bed with the consumptive, as a separate one cannot be provided.

PART III.

The Work of the Dispensaries.

The Tuberculosis Dispensary is designed to serve a twofold purpose—(a) to advise and, as far as possible, treat those who have no medical attendant otherwise, and (b) to examine those who, from their symptoms or association with consumptive patients, are suspected to be themselves consumptives.

It is convenient, therefore, to separate those who have attended the Corporation dispensaries during the year into two groups:—

I. Those previously notified by practitioners.

II. Those sent or presenting themselves for examination and diagnosis.

An analysis on these lines will allow certain important facts to emerge, *e.g.*, the stage of the illness at which patients come under observation, the pro-

portion in which the diagnosis can be verified, and the extent to which patients avail themselves of the presence of a special dispensary in their midst.

Of 829 patients, 489 had been previously notified, and 340 attended for examination and advice. The sources of these will be given subsequently. Of the 340, 80 were found to be definitely consumptive, and those added to the already notified cases make up 569 total notified cases of Phthisis attending the dispensaries.

These groups will be analysed separately:—

GROUP I.—*Notified Cases* (i.e., 489 by General Practitioners, and 80 by Dispensary Physicians).

The source of notifications of these cases illustrates the class of patients to whom these dispensaries appeal:—

NOTIFIED CASES—SOURCE OF NOTIFICATION.

	Males.	Females.	Total.
Private,	90	86	176
Poor Law—Adm. and Disin. Sheets,	50	42	92
Charitable Dispensaries,	105	101	206
Corporation Tuberculosis Dispensaries,	36	44	80
Infirmaries,	3	2	5
School Board (Medical Officer),	5	4	9
Prison (Medical Officer),	1	—	1
	290	279	569

The Table shows that 31 per cent. of the total had been notified by private practitioners; 14 per cent. were Poor Law notifications; while 36 per cent. were first notified from Charitable Dispensaries, thus indicating a considerable *transference of patients both from the general practitioner and general dispensaries to the special Tuberculosis Dispensaries*. The analysis further demonstrates the fact that the great bulk of the patients attending are in circumstances which lead them to seek free medical aid.

The social condition of dispensary patients is also reflected by their housing condition, an analysis of which is here given:—

NOTIFIED CASES—HOUSING.

	Males.	Females.	Total.
1 apartment,	78	101	179
2 apartments,	177	155	332
3 apartments,	33	22	55
4 apartments and up,	2	1	3
Total,	290	279	569

Expressing these figures as percentages, 31·4 per cent. were drawn from one-apartment houses, 58·3 per cent. from two-apartment houses, and 9·6 per cent. from three-apartment houses, while only 3 patients came from still larger dwellings.

Age and Sex.—These are shown in the following Table:—

Age Groups.	Males.	Females.	Total
0 - 5	13	11	24
5 - 15	73	58	131
15 +	204	210	414
	290	279	569

This classification also shows that 23 per cent. were children of school age—a feature of the work of the dispensaries which must be regarded as a hopeful one.

Physical Condition of Patients attending the Corporation Dispensaries:—In some cases the presence of Phthisis could be distinctly excluded after patients had been kept some time under observation. In others the evidences of active disease were uncertain, even on prolonged observation.

Also in a third group the dispensary proved of great service in helping towards a recognition of the stage of the disease at which patients had come under observation. These several results are here shown:—

TABLE SHOWING PHYSICAL CONDITION OF NOTIFIED PATIENTS ATTENDING CORPORATION DISPENSARIES DURING THE YEAR.

	Males.	Females.	Total.
Phthisis, { Early,	76	53	129
Phthisis, { Intermediate,	77	72	149
Phthisis, { Advanced,	73	80	153
	226	205	431
Doubtful, and kept under observation, ...	33	43	76
Not Phthisis,	31	31	62
	290	279	569

The proportion of cases ultimately excluded from the 489 notified cases is not inconsiderable (12 per cent.), and if we add those in whom the presence of the disease was doubtful (15 per cent.), the suggestion is that about one-fourth of the cases notified are either not Phthisis or are doubtfully so in the proportions here given.

It is obvious that we are here in the presence of a very serious administrative problem, which gains in importance when the social condition of so many of the patients and the number in receipt of Poor Law relief are remembered.

Going over the records of the Bacteriological Department for several years, it is found that about 1,400 samples of sputum are submitted annually from patients whose symptoms and clinical condition suggest the occurrence of Phthisis to the mind of the practitioner in attendance, and yet in whose sputum it is only possible to recover the bacillus of tubercle in about 33 per cent. of the samples.

But while the recovery of the tubercle bacillus from the sputum has at least a definite significance, and may to some extent determine the opinion which may be entertained regarding the degree of infectivity present, its absence—even on repeated examination within limited intervals—is not equally conclusive in the opposite direction.

Stage of the Disease when Treatment Undertaken:—The data obtained from the visits of the inspectors and nurses allow of a rough grouping to be made into such categories as “at work,” “unable to work,” “bed-ridden,” &c. More precise data can be obtained from the dispensaries’ records, although these are obtained from a limited and arbitrarily selected group of cases. The proportions can only be applied, therefore, with certain limitations, and not to those under the care of the general practitioner.

As regards the dispensaries, however, this enquiry is of importance, as one index of successful dispensary work is an increasing proportion of early cases brought under medical notice. In interpreting those figures bearing on stages of illness, however, it must be remembered (*a*) that in the first year of work an unduly large proportion of patients in the later stages will present themselves, (*b*) that the dispensary practice is almost entirely confined to the class where recognition of illness is usually much delayed, and (*c*) that a considerable number do not attend till some time after notification. This is particularly the case with the wage-earners, who are either unable or reluctant to leave their work for the time necessary to visit the dispensary, until alarmed by the urgency of their symptoms. There is also an unhappy conviction among some persons that the presence of Phthisis brings discredit on the family.

Late recognition in children is also noticed, since Phthisis is often a late sequel of some other disease, *e.g.*, measles or whooping-cough, from which the child has imperfectly recovered. The onset is insidious, and the mother will explain that the child has had a cough as long as she can remember.

Most of the patients have attended with great regularity. This is, in part, due to their anxiety to keep themselves informed of their own progress, to the desire for advice in regard to the management of new personal or home conditions as they arise, and in part to the influence of the nurse. The attendances are maintained until the patient is too ill to leave home, and patients often continue to attend beyond the time when their condition and symptoms are such as to require rest and attention at home. The hesitation to seek advice and the reluctance or inability to take advantage of measures which might have arrested the disease in its early stages is paralleled in the later stages by the difficulty (often insuperable) of suiting their circumstances to their physical condition. Their responsibilities, especially in the case of married women, urge them to continue an active life far beyond their strength. Many patients continue attending a dispensary who should be in bed.

DEATHS OF NOTIFIED DISPENSARY PATIENTS DURING THE YEAR.

88 of the 569 notified cases (*i.e.*, 15 per cent.) died during the year. These are given in age groups in the following table:—

Age Groups.	Males.	Females.	Total.
0 - 5	—	4	4
5 - 15	7	6	13
15 +	35	36	71
	42	46	88

RELATION OF NOTIFIED DISPENSARY PATIENTS TO POOR LAW AND OTHER
HOSPITALS AND SANATORIA.

The number of persons attending Tuberculosis Dispensaries who were admitted during the year to Poor Law and other Institutions for the treatment of Phthisis is given in the following table:—

Institution.	Males.	Females.	Total.
Total patients attending, ...	290	279	569
Poor Law,	110	88	198
Other Institutions, ...	29	10	39
Total admissions,	139	98	237

35 per cent. of the patients were inmates of a Poor Law Sanatorium during the year, while barely 7 per cent. of the total were admitted to other sanatoria.

The various institutions to which patients were admitted include Bellefield Sanatorium, Bridge of Weir Sanatorium, Lenzie Convalescent Home, Lanfine Home for Incurables, Victoria Infirmary, &c.

The comparatively small number of patients referred to sanatoria is to be explained by (a) the scarcity of suitable cases, and (b) the fact already alluded to that the poverty of the patients renders them more suitable applicants for admission to Poor Law Institutions.

GROUP II.—The second group of dispensary patients consists of those attending for purposes of examination and diagnosis.

This class comprises those asked to present themselves by the nurse in the course of her visits, or by the doctor at the dispensary, who may request the attendance for examination of other members of the family of the consumptive; suspected school children referred from the schools in the neighbourhood of the dispensary; others who have come of their own accord, or at the suggestion of patients already attending, or sent by sanitary inspectors, or by the workers of the Charity Organisation Society.

The total number of these patients was 340, of whom 80, or 23·5 per cent., were found to be Phthisical, and have been included in the foregoing analysis of the notified Phthisical patients. The source of this group is interesting. Some were sent by School Medical Officers, others were suspected contacts, some came of their own accord, or were sent by neighbours, while still others had been advised by various charitable societies.

In the case of children of school age, information regarding the physical condition and ability to attend school is forwarded in each case to the School Board. The children are also examined at the dispensary from time to time, if necessary, or referred to other institutions if examination reveals some other disease requiring medical attention. This co-operation with the School Board, by which suspected or ailing children can be at once examined, is a valuable assistance in the policy of seeking out tubercular disease in children.

The dispensary also forms one of the channels through which suitable cases are brought to the notice of those in charge of the admission of children to the various country homes. The usual procedure is to refer these children to the Charity Organisation Society workers who have rendered invaluable assistance in this way to contacts with consumptives, or to ailing children not definitely affected, *i.e.*, in the condition often described as pre-tubercular.

PART IV.

The Home Conditions and Circumstances of Consumptive Patients in the poorer Districts of the City.

Under this heading are given the data collected during a detailed medical study of the home life (as far as it can be presented by figures) of the consumptive in the poorer districts of the city. Two wards were selected, in which there were at home and under visitation by the nurses at the date of the enquiry 138 cases, consisting of 73 males and 65 females. 29 of these were children of school age (5-14), 4 were under and 105 were over school age. They were distributed according to size of house as follows:—

	1 Apartment.	2 Apartments.	3 Apartments.	Total.
Males,	18	46	9	73
Females,	20	38	7	65
	38	84	16	138

i.e., 27 per cent. lived in one-apartment houses, 60 per cent. in houses of two apartments, and 13 per cent. in three-apartment houses.

Type of House.—Of the two-apartment houses, one-third were of “back-to-back” structure, the remainder having through-and-through ventilation. Of the three-apartment houses, all except two had through ventilation.

The lighting in each case was noted as “good,” “fair,” “poor,” or “very poor.”

In 90 cases (65 per cent.) the lighting was “good.”

In 35 cases (25 do.) do. do. “fair.”

In 6 cases the lighting was “poor.”

In 5 cases the lighting was “very poor” or “dark.”

The difference in degree of lighting among the various classes of house is shown in the following Table:—

	1 Apartment.	2 Apartments.	3 Apartments.
Good,	11	63	16
Fair,	20	15	—
Poor,	4	3	—
Very poor,	3	3	—

Thus all the three-apartment houses and the great majority of the two-apartment houses were well lit, while in the majority of the one-apartment houses the lighting could only be described as “fair.”

The significance of this is clear when we consider the effect of sunlight on the tubercle bacillus.

The Standard of Cleanliness observed.—In 54 per cent. of cases the houses were “clean,” and “very clean” in about one-third of these; in 17 per cent. the state of cleanliness was “fair;” while in 28 per cent. the conditions

could only be described as "dirty" or "very dirty," this description applying to 25 per cent. of the two-apartment houses and to 42 per cent. of the single-apartment houses.

Persons who are careless in the matter of cleanliness of dwelling are likely to be equally indifferent in endeavouring to control infection.

Ventilation.—Note was also taken whether the windows were open or closed, as indicating to what extent advantage had been taken of the advice given.

The weather throughout the course of the enquiry was uniformly warm and bright, with every inducement for freely admitting fresh air.

The windows were noted as "closed," "open wide," "open," "open a few inches."

	1 Apartment.	2 Apartments.	3 Apartments.	Total.
Open wide,	3	21	6	30
Open,	9	25	9	43
Open a few inches,	13	20	1	34
Closed,	13	18	0	31

Thus, in 22 per cent. of the houses the windows were closed, widely open in the same percentage; in 24 per cent. they were found open a few inches only; while in 31 per cent. they were intermediate between these two degrees. The greater indifference of the inhabitants of the single-apartment houses is again obvious, in one-third of whose houses the windows were closed. In only one-third were they open more than a few inches.

The extent to which the pawning of household articles prevailed was also ascertained as far as possible. In 52 cases pawning had been resorted to either habitually or occasionally.

Pawning, ...	{	Constant,	16
		Occasional	36
Total,			52

In over one-third of the cases there had been traffic with the pawnshop, habitual in at least 30 per cent. of these instances. In several cases the articles trafficked had included personal and bed clothing belonging to the patient. Sickness had reduced many to this extremity.

Relationship to Poor Law and Charitable Institutions.—27 males and 15 females had been treated in Poor Law Hospitals for varying periods, 8 of them more than once. Of the 27 males, 3 had been in general hospitals and 2 had been in sanatoria prior to admission to one of the Poor Law Institutions. Of the 15 females, 1 had been in a sanatorium before going to a Poor Law Hospital and 1 in a convalescent home.

Of the remaining males, 5 had been in general hospitals, 5 in sanatoria; of the females, 3 had been in general hospitals, 2 in sanatoria, and 3 in country homes.

Expressed as percentages, 50 per cent. of the males and 37 per cent. of the females had had institutional treatment of some kind, the proportions treated in Poor Law Institutions being 37 per cent. and 23 per cent. respectively.

PART V.

Summary and Suggestions.

What use are we to make of this increased knowledge of the circumstances under which consumption is occurring?

Despite the magnitude of its volume, many hopeful features with regard to the future have been disclosed by the foregoing analysis. Within the lifetime of little more than the present generation the death-rate from the disease has become reduced by almost two-thirds. In relation to population not more than 40 persons now die from this cause for every 100 who died 40 years ago.

Moreover, its rate of decrease is greater than that of other diseases of the respiratory organs, so that the reduction is to be regarded as a substantial one, and not to be explained altogether by a simple transference of the cause of death from one class of disease to another. Chiefly, however, it is to be observed that both Phthisis and other diseases of respiration show a rate of decrease which is considerably greater than that of all other diseases taken together, and this difference suggests the operation of some cause not contained within the general sanitary improvement of the period. What this is may be matter for conjecture, but the relatively greater prevalence of the disease in the first generation of families as town dwellers suggests that town-bred populations may acquire a tolerance or resistance to the disease which affords some ground for thinking that its final extinction is practicable.¹

When due allowance, however, is made for all this, Phthisis and the other forms of Tubercular diseases still constitute a problem which by common consent is deemed to be an urgent one. For the present we must confine our consideration to Phthisis alone, which contributes 8 per cent. of our annual death-rate, and 31 per cent. of the deaths from diseases of the lungs.

PROPORTION OF CASES SEEKING CHARITABLE OR POOR LAW RELIEF.

If we select for observation some of the main features disclosed by notification, probably the gravest, and that which I think will first arrest attention, is the rapidity with which the disease compels its victim to seek help beyond the power of the family resources to supply. Evidence of this pressure reaches us first from the direction of medical relief, and we know that 44 per cent. of the notifications were received from the Poor Law Officers, and 21 per cent. more from the charitable dispensaries, while during the year 47 per cent. of the total cases registered were for some time in Poor Law Hospitals.

We can indeed follow the steps by which these stages are reached in the history of the multiple notifications related on p. 6, &c. Fully 17 per cent. of those who were able to obtain the advice of a private medical attendant in the first instance were compelled to seek some other source of relief before the close of the year. Most of them went direct to the Poor Law, some reached it through the charitable dispensary.

And so, with regard to 19 per cent. of these who first came under observation through the charitable dispensaries, this proved but the prelude to obtaining Poor Law relief.

It may be suggested that all such cases are notified, while some of those able to obtain private medical relief are not. Even so, however, I scarcely think the number of such cases escaping notification would greatly alter the proportion here stated, and this impression is supported by the house distribution of the cases.

¹ See pages 8 and 9 *ante*, and also page 112 Report of Medical Officer of Health for Aberdeen (1909) where a similar difference in incidence has been observed.

Sleeping Accommodation.—The information with regard to the sleeping accommodation of the consumptive is similar in its significance. Families requiring free medical relief in sickness are not likely to be amply supplied with the other requirements of healthy living. And so we found that, of the 2,477 "home" cases, only 773, or 31 per cent., had a separate sleeping room, 538, or 22 per cent., slept in a separate bed but in the same room with 1,244 other members of their families, and 1,166, or 47 per cent., occupied the same bed as 1,619 other persons.

Nothing can be said at the moment regarding the occurrence of what could be called secondary infections in the groups thus severally exposed to varying degrees of infection; indeed, the proportion of cases which might be ascribed to direct infection is relatively small in those coming under observation, and does not suggest a high degree of infecting power in the majority of cases. But the significance of the foregoing figures depends on the fact that they represent a definite number of families, many of whom have tubercular antecedents, living under conditions similar to those which have already prepared the way for an attack in some of their members. Nor is the suggestion to provide the patient with a room for himself even in a two-apartment house always practicable, without incurring the risk of mixing the sexes and probably of overcrowding the apartments they are to occupy during sleeping hours.

Inadequacy of Family Income to meet the demands of prolonged Illness.—In a sense this must be a result of prolonged wasting disease of any kind affecting the bread-winner of a family, and the results of the enquiry which is detailed on p. 27 hereof might readily find a parallel in other diseases than Phthisis. Its special bearing in the present circumstances is due to the fact that the prolonged underfeeding and defective housing which it implies for so many of the affected families mean ultimately the preparation of a soil such as the tubercle bacillus requires for its growth.

In many cases, indeed, the family of the consumptive quite as much, at least, as the consumptive himself, stands in need of such assistance as might be found in homes in the country to which children could be sent during those periods of persistent anæmias or recurring catarrhs, which so frequently precede, if they do not predispose, to the development of Phthisis.

It should be stated that the figures given on p. 27 (Section on Home Conditions) are the unverified statements of the patient or his family, but in the circumstances under which the information was obtained I believe them to be substantially accurate, and in any case they are quite in accord with what we have already seen in the paragraphs which precede this.

Displacement of Phthisis from General Hospitals.—Next there falls to be noted the effect of the displacement of phthisical patients from the wards of the general hospitals. The question is not a new one, although recent attention to Phthisis has brought it into prominence. But the policy of the general hospitals in excluding Phthisis cases would sooner or later have compelled attention to the hospital requirements of the consumptive, quite apart from the importance which in recent years has been ascribed to sanatorium treatment and isolation.

It is not the object of the following comparison to suggest any criticism of the policy of the general hospitals. I believe it was well advised, but it is necessary to refer to it in order to explain why, within the period referred to, it became exceedingly difficult to find bed accommodation for the disease, until the more recent policy of the Poor Law Authorities and the provision of sanatorium beds at Bellefield, Bridge of Weir, and Lanfine in part relieved the want.

In the period 1880-84, the number of cases of Phthisis admitted to the Royal and Western Infirmaries averaged annually 604, and constituted 15 and 16 per cent. respectively of their medical admissions.

Ten years later the Victoria Infirmary had been opened, and in the five years 1890-94 the numbers treated in the three general hospitals had fallen to an annual average of 423, and formed from 8 to nearly 12 per cent. of their medical admissions. In 1907 the total number of admissions from Pulmonary Phthisis fell to 166, and formed barely 3 per cent. of the total medical admissions to the Royal and Western, and 5 per cent. to the Victoria.

Against this may be put the 236 beds provided in the sanatoria at Bridge of Weir, Bellefield, and Lanfine, although it may be urged that the area from which the admissions to these institutions are drawn extends beyond Glasgow, and even beyond the West of Scotland.

THE WORK OF THE PARISH COUNCILS.

In this connection it is also necessary to note the ready response which the Parish Councils have made to the altered views regarding the hospital treatment of Phthisis, which is shown in the increasing proportion of such cases among their medical admissions. The amalgamation of the former parishes of the City and Barony makes a comparison of the admissions during the last 30 years somewhat uncertain, but in the united areas now contained within the Parish of Glasgow between the years 1899 and 1907 the number of cases of Phthisis admitted rose from 656 to 1,488, representing an increase from 10 to 15 per cent. of the total medical admissions.

In the Parish of Govan, on the other hand, where the comparison can be established over a longer period, the average annual admissions from Phthisis, in the years 1880-4 were only 35, or 3·5 per cent. of the total medical admissions, against 375, or 20·8 per cent. of the corresponding admissions in the year 1907.

With regard to these facilities, however, it must be remembered that admission is governed by the standard of Poor Law Administration, and has no relation whatever to the degree of infectiousness in individual cases. That is, the question which they must determine is not one primarily of preventing the spread of disease, but of affording a particular kind of relief to *de facto* paupers.

The Housing of the Consumptive.—Details of the structural defects noted in the houses of consumptives are introduced into several of the preceding sections (see pp. 10 and 11).

I have had, however, to deal with the question of housing generally in a report on the insanitary areas of Glasgow, which is now being issued, and it is unnecessary here to refer to it further, save to restate an opinion, which gains, I think, fairly wide acceptance, that unless the movement for the reduction of consumption begins on the basis of reform in the conditions of housing, time will be lost and disappointment result in any movement which proceeds on the assumption that sanatoria can do for the consumptive what fever hospitals accomplish for other infectious diseases.

A simple illustration is afforded by contrasting the after-history of a patient dismissed from a sanatorium with that of one dismissed from hospital after an attack of Typhus Fever or Smallpox. In either of the latter cases he may return to the same conditions as those in which he contracted his attack, and the chances are definitely against him recontracting the disease. But when a phthisical patient in like circumstances returns from a sanatorium with his disease "arrested," as the phrase is, and his general condition improved, the chances are that re-exposure to the circumstances which led to his attack will induce a recurrence of it. The function of a sanatorium and of a fever hospital find no stronger contrast than in this. I believe poor food and indifferent housing are among the most powerful individual factors in the production of Phthisis.

"In cases which improve or remain stationary in the early stage," writes one of the dispensary physicians, "I advise them, where it is possible, to get occupation in the country, even if they should have only a bare subsistence for a year; but most of them return to the old conditions with disastrous results. Even fairly well-to-do patients in most instances return to the old state of affairs and relapse."

A wide diversity of opinion may reasonably be entertained regarding the solution of the various problems indicated in the foregoing summary.

It were easy to sketch a scheme which would meet the requirements did one discard existing administrative machinery. It will probably prove sounder policy to consider where existing machinery fails, and whether it can be developed to meet the new requirements.

In any case we shall gain by attempting to define as clearly as may be the field which the prevention of Phthisis should cover.

We have seen that 47 per cent. of the patients were in receipt of Poor Law Relief, and that 22 per cent. in addition obtained medical advice at the voluntary dispensaries.¹

In over 2,400 cases at home less than a third (31 per cent.) have separate sleeping apartments, over 500 sleep in the same room, and over 1,100 share the same bed, with over 1,200 other persons in one case and 1,600 in the other. I believe there could be no clearer evidence that reconstruction of the consumptive family is demanded with quite as great urgency as provision for the patient himself.

I leave aside the question whether any or much of this pressure on house room could be relieved by rearranging the family budget so as to ensure the provision of a larger house. In some few cases relief of this sort has been possible, usually, as we have seen, with the assistance of the Charity Organisation Society and other philanthropic agencies. But the number of cases so relieved must always be small; and one cannot, I think, escape the conviction that effort must be made to get the contacts of these families, and particularly the children, either wholly away from their surroundings, or by the provision of country homes and open-air schools give them such periods of healthy living during the year as will increase their resisting power to the disease to which they are prone.

Some authorities endeavour to meet the difficulty by grants in aid of rent for the additional room required, but the home seems more capable of serving the double purpose above alluded to.

Several objectives thus emerge which require separate consideration—I mean the patient, his family, and his economic status, especially as affecting the food supply of the household. This last is so clearly a part of the general social problem that its discussion falls outside the scope of this Report. But the part which it plays is a dominant one, particularly, I believe, during childhood and adolescence.

Dealing first with the consumptive patient, it would, I think, materially hasten a true effort to grapple with the problem if we regarded Consumption less frequently as a disease which may require isolation than as one which demands some permanent alteration in the habits of life.

To the question what one expects a sanatorium to do for the consumptive there may be many answers.

The parallel with the fever hospital which is so frequently advanced is wholly true only in this—that both are places of isolation. The discharged fever patient leaves the hospital with a degree of immunity which in most cases will protect him against recurrence. His disease is self-limited. But

¹ In all, 44 per cent. of the total Notifications were from Poor Law sources, and 21 per cent. from Charitable Dispensaries; but 47 per cent. of the total persons were ultimately treated in Poor Law Hospitals, and 22 per cent. attended Charitable Dispensaries.

the duration of Consumption is not so defined or in any sense limited, save by an alteration in the resisting power of the tissues, and the capacity to acquire this varies with the individual. A life spent in a sanatorium is conceivable, but it means something quite different from isolation in a fever hospital during the infective period of an eruptive fever.

There is a sense, however, in which sanatoria may prove invaluable. Pathology taught us many years ago that Tubercle of the Lung could be, and with fair frequency indeed was, recovered from. On the other hand, an attack may develop and prove fatal under what would appear to be the most favourable external circumstances. In a way these extremes illustrate alternately the success and the failure of the tissues of the body to resist the action of the toxins which the tubercle bacillus produces in the blood. The object of all treatment is to increase this tissue resistance, and this is a function of the sanatorium, but the after problem for the consumptive is how to maintain it at a high level.

Hospitals for Consumption.—We have seen that the exclusion of consumptives from the general hospitals helped to determine a current towards Poor Law Institutions. This much I think is shown in the figures at my disposal.

But the conditions of admission thereto are determined by the principles of Poor Law Relief, and the accommodation which is available for the breadwinner, who is himself the patient, may be denied to his wife and children in like circumstances, although in these cases the Clerks of the Parish Councils have exercised a liberal discretion which deserves acknowledgment.

Even so, however, the bed accommodation is greatly below what is required, and the need for providing additional accommodation is emphasised by the work which is carried on at the Tuberculosis Dispensaries.

One of the purposes of these institutions is to sift tuberculous patients from non-tuberculous, and to separate among those of this latter class the patients suffering from Phthisis from those who have tuberculosis in other forms. Also it was hoped that the dispensaries would help towards the recognition of the early case when sanatorium treatment might be of value.

How far they have succeeded in the first object has been already shown. In 12 per cent. of the notified cases attending them the suspicion of tuberculosis of the lungs could after continued observation be definitely set aside. But in other 15 per cent., consisting largely of anæmic children with recurring bronchial catarrhs or persistent cough, some of them from families in which Phthisis had existed, others with a history of indifferent recovery from Measles or Whooping-cough, while the designation "Phthisis" was doubtful, the suspicion of tuberculosis was spread broadcast over their whole clinical history. Many of these are probably in the true "pre-tubercular" stage (although the name misleads), and require to be kept under observation for considerable periods as suspected cases. On the other hand, the search for early cases of declared Phthisis in adults has not been very satisfactory.

With regard to the suitability of an individual patient for sanatorium treatment, however, it is to be observed that the advocates of auto-inoculation attach less importance to the extent of the physical lesion present than to the power of the tissues to respond to the specific stimulus of the bacterial toxin. To estimate this implies continuous observation for a period and under conditions which for many patients can only be found in the wards of a hospital.

There has thus emerged in our review of existing conditions some indication of the provision which a fully developed movement against the disease would provide:—

(1) A hospital for consumptives—

- (a) for the determination of such cases as would probably benefit by regulated treatment in a sanatorium; and
- (b) for isolation when this was required.

(2) Sanatorium accommodation for those found suitable under (1) (a).

(3) Country homes, with which might readily be associated open-air schools for "pre-tubercular" children of the type referred to on p. 32.

(4) Home treatment, either without or after Sanatorium treatment, with such help as may be required in the form of an additional bed, blankets, or food.

None of these suggestions are new. All of them, and many others, fill the literature of Consumption, but notification of the disease has disclosed the extent of the requirements in our own case.

The Sources of Relief.—It is scarcely necessary to repeat that the first great step—the basis indeed of the whole movement—lies in the adoption of a policy, continuously in operation, of thinning out overbuilt residential areas, and of making deliberate effort to improve the ventilation and lighting of houses when these are defective. Without this I doubt if any permanent benefit is to be expected from any or all of the other methods taken together. For this work the Local Authority alone is responsible.

A Hospital for Consumptives.—By what Authority is this to be provided? The question here, as I apprehend it, is not as between two rating Authorities—the Local Authority and the Poor Law—but concerns itself rather with discovering which Authority is best equipped to accomplish the work. Also it should be asked whether there is any part of the field for which one is better equipped than the other.

It may be urged that the Local Authority has a certain power of compulsion—with regard to isolation, for example; or, again, that the Poor Law has a certain power to select the recipients of its relief—to refer them, that is, to their parishes of domicile, a power which is denied to the Local Authority.

We have seen, on the one hand, that some 800 or so of our primary notifications had reference to persons who had no "home address," and, on the other, that our lodging-houses and places of like character but of smaller size appear to have relatively few cases of consumption. The inference is obvious, indeed it is beyond the region of inference, and may be established by a survey of the weekly admission and dismissal sheets, with which the Clerks of the Parishes supply us. The "institutional" case of the Poor Law—the case without a home address—is either homeless or an inmate of a lodging-house or house of similar class, and if we view the argument for compulsory isolation in this light, we are launched into the whirlpool of controversy which the Poor Law Commission Report has created. There are many things in the life of the consumptive pauper of this class besides his disease which require administrative action on lines which a Public Health Authority as at present constituted cannot supply, and the last use of a consumption hospital is to make it solely a place of detention.

But there are persons who meanwhile seek relief in a Poor Law hospital, and many others who abstain, for whom a hospital for consumptives is required, in the first place, because it could provide treatment for a condition which may be infectious, and would at the same time enable greater effort to be made to deal with the disease administratively. Most of them are householders, or the dependants of householders, and this part of the field might, I think, quite reasonably be undertaken by the Local Authority.

Sanatoria.—The provision of sanatoria by the Municipality, like the scope of the reformed Poor Law, cannot, I think, be further discussed with advantage at the moment.

Proposals to amend the one and provide the other are before the country, and until the limits of both are known the number of consumptive persons

filling up the interval between those for whom the National Insurance Scheme makes provision and those for whom the Poor Law may provide cannot be determined.

But the provision of hospital beds, such as I have indicated, would in time show the direction in which the next step could with most advantage be taken.

Country Homes and Open-Air Schools for "Pre-Tubercular" Children.—The object of these has been already explained. Much help has been obtained through the agency of the Fresh Air Fortnight Homes for Poor Children, but the duration of the stay requires to be prolonged, and the educational requirements of the children kept in view. Were such a Home established, the School Board, and the Managers of the Voluntary Schools, might be invited to co-operate to the extent at least of providing teachers. Otherwise, we are in some danger of increasing the overlapping which is at present so obvious.

Home Treatment.—In many cases the patient desires to be treated at home, and when the conditions are suitable no objection may be urged. But difficulties occur of the kind already described.

We have seen some illustrations of the help which is being afforded by the Charity Organisation Society, and other philanthropic agencies, but there is room for expansion of the work as supplementary to the other provisions I have described.

I desire to acknowledge the sustained interest which has uniformly been shown by the Dispensary Physicians in promoting the usefulness of this branch of the work, and the services of Mr. Jones in handling the enormous increase in the clerical work of the Department which notification of the disease has entailed.

A. K. CHALMERS,

Medical Officer of Health.

Sanitary Chambers,
Glasgow, 27th October, 1911.

APPENDIX—TABLE I.

GLASGOW, 1910.—TABLE SHOWING NUMBERS OF CASES OF PHTHISIS REGISTERED, ARRANGED
ACCORDING TO SIZE OF HOUSE AND SOURCE OF NOTIFICATION.

SOURCE OF NOTIFICATION.	NUMBER OF CASES.						
	1 Apart.	2 Aparts.	3 Aparts.	4 Aparts. and up	Institutions.	Not Found.	Total.
Private Practice,	168	662	279	157	9*	33†	1,308
Poor Law—							
Home Addresses,	56	97	18	1	2	7	181
Dispensaries,	7	11	2	...	59	14	93
Institutions,	66	93	2	6	639	91	897
Admission and Dismissal Sheets,	27	43	4	1	8	17	100
	156	244	26	8	708	129	1,271
Charitable—							
Dispensaries (Institutional), ...	38	86	17	2	3	19	165
Dispensaries (Not Institutional),	98	171	42	12	17	20	360
Institutions (Infirmaries, &c.), ...	14	49	2	4	33	9	111
	150	306	61	18	53	48	636
Corporation Dispensaries,	22	58	10	...	...	...	90
Death Cards,	36	67	27	19	34	15	198
Port Local Authority, ... ..	...	...	...	1	...	...	1
Military Authority, ... ..	...	1	1	...	...	...	2
CITY,	532	1,338	404	203	804	225	3,506

* Hotels and Models.

† Includes 9 cases "not visited."

APPENDIX—TABLE II.

STATEMENT SHOWING NUMBER AND SOURCE OF PRIMARY NOTIFICATIONS, ARRANGED ACCORDING TO SIZE OF HOUSE, WITH NUMBER AND SOURCE OF MULTIPLE NOTIFICATIONS IN EACH GROUP.

	1 Apt.	2 Apts.	3 Apts.	4 Apts. and up.	Institutions.	Not Found.	Not Visited.	Total.
Primary Notifications—Private,	168	662	279	157	9	24	9	1,308
Multiple Notifications—								
Private,	24	92	34	8	1	1	...	160
Charitable Dispensaries,	10	32	17	6	1	...	...	66
Poor Law,	36	88	12	4	2	...	...	142
Charitable Dispensaries, then Poor Law,	1	15	5	1	...	...	...	22
	71	227	68	19	4	1	...	390
Primary Notifications—Charitable, ...	150	306	61	18	53	48	...	636
Multiple Notifications—								
Charitable,	18	43	5	4	12	3	...	85
Poor Law,	46	54	8	2	9	4	...	123
	64	97	13	6	21	7	...	208
Primary Notifications—Poor Law, ...	129	201	22	7	700	112	...	1,171
Multiple Notifications—								
Poor Law,	41	45	8	1	289	16	...	400
Corporation Dispensaries,	22	58	10	...	...	...	...	90
Total Primary Notifications,	469	1,227	372	182	762	184	9	3,205
Total Multiple Notifications,	176	369	89	26	314	24	...	998

The information obtained regarding cases notified during 1911 has been analysed in a similar manner. It is unnecessary, however, to publish full details, but certain items of information are given below for which it is desirable to provide a continuous record.

Before inserting these details, however, a summary is introduced to show the position as at 1st January, 1912, of the cases registered during the two preceding years:—

Cases registered during 1910,				3,506
	1910.	1911.	Total.	
Less—Died,	1,145	425	1,570	
Removed and not traced,	89	175	264	
Removed from Glasgow,	117	84	201	2,035
	<hr/>	<hr/>	<hr/>	<hr/>
	1,351	684		
	<hr/>	<hr/>		
Cases registered during 1910 under observation at 31st December, 1911, ...				1,471
Cases registered during 1911,				2,326
Less—Died during the year,		688		
Removed and not traced,		88		
Removed from Glasgow,		87	863	
		<hr/>	<hr/>	
Cases registered during 1911 under observation at 31st December, 1911, ...				1,463
				<hr/>
Total cases remaining under observation,				2,934
				<hr/>

Since compulsory notification was introduced, 5,832 cases have thus been registered by the Department. Of the cases registered during 1910, 1,570 died by the end of 1911, while 465 more had either left the City or had been lost trace of at the end of the year.

Of the 1911 cases, 688 died during the year, while 175 others had passed from observation.

There thus remain about 3,000 cases (2,934), which is the first indication we have had of the number of persons in the population recognisably suffering from pulmonary phthisis at a particular time.

Cases Registered during 1911.—As shown above, the number of cases registered during the year 1911 was 2,326. Of these, 2,026 were notified in terms of the Infectious Disease (Notification) Act, 1889, while 300 were ascertained from other sources as shown below.

I. Source of Notified Cases—

1. Occurring in private practice,			1,018
2. Occurring in public practice—			
(a) Poor Law cases at home addresses, ...	199		
Poor Law cases from hospitals and			
poorhouses,	184		
Poor Law cases at dispensaries, ...	86		
	<hr/>	469	
(b) Charitable dispensaries and infirmaries, ...	448		
Corporation dispensaries,	91		
	<hr/>	539	
		<hr/>	1,008
			<hr/>
Total cases notified,			2,026
			<hr/>
Carry forward,			2,026

Brought forward, 2,026

II. *Source of information in cases not notified—*

(a) From admission and dismissal sheets of Poor Law Institutions,	207
(b) School Medical Officers,	11
(c) Port Local Authority,	1
(d) County Medical Officer,	1
(e) From death cards only,	80
	300
Total cases registered,	2,326

Deaths among Registered Cases.—In cases where the first information regarding the occurrence of the disease was obtained from the death registers enquiry was made at the medical practitioner certifying the death regarding the omission to notify, and the explanation given in the majority of cases was that the doctor certifying the death had only seen the patient a day or two before death, and had reason to believe that notification had already been made by some other party. The omissions to notify during 1910 numbered 198, but fell to 80 during 1911, which is equal to 7 per cent. only of the total deaths occurring.

Of the total cases registered during the year, 688 died before its close. This represents a fatality-rate within the year of almost 30 per cent., and supports the suggestion that the number of phthisis cases living in the population at a given time is about 3,000, while the average annual number of deaths somewhat exceeds 1,000.

Place of Residence at Time of Registration.—When a patient is notified from a home address this is visited, and if he can be definitely located the patient is regarded as a “home” case, even although at the time of notification he is under treatment in an institution. The results of these enquiries may be summarised as follows:—

Cases traced to home addresses,	1,936
Cases at home but not visited at request of medical attendant,	8
Cases where only known address was an institution,	272
Cases not found at address given (mostly from Poor Law Institutions and charitable dispensaries),	110
	2,326

Public and Private Notifications.—The figures given in the foregoing summary refer to the total number of cases registered during the year, while the following Table refers only to such cases as were notified under the Act:—

Notifications.	Private.	Public.	Total.	Percentage Public.
Primary,	1,018	1,008	2,026	49·8
Multiple,	247	693	940	73·7
	1,265	1,701	2,966	57·3
Percentage multiple to primary notifications in each group,	24·3	68·7	46·4	...

Age Distribution of Cases Registered.—This information was not obtained in 14 cases at home addresses; in 270 cases which were under treatment in institutions; in 110 which were not found; and in 8 which were not visited at the request of the medical attendant. There thus remained 1,922 cases whose age distributions are as follows:—

Ages.	Cases.	Ages.	Cases.
- 5 years,	78	- 35 years,	480
- 10 "	102	- 45 "	371
- 15 "	115	- 55 "	204
- 20 "	193	- 65 "	81
- 25 "	268	+ 65 "	30
	756		1,166
1,922			

Housing Accommodation of Patients.—At the time of registration, 230 males and 42 females were under treatment in institutions—mostly those of the Poor Law—and had no other address which could be verified; while 1,028 males and 908 females were housed as follows:—

SIZE OF HOUSE.	Number.		Total.
	Males.	Females.	
1 apartment,	207	245	452
2 apartments,	546	481	1,027
3 "	170	109	279
4 " and up,	105	73	178
Total at home,	1,028	908	1,936
In Institutions,	230	42	272
Not found,	53	57	110
	1,311	1,007	2,318
Add cases not enquired into, ... ..	...	...	8
Total cases registered, ... ..	...	...	2,326

Institutional Treatment.—Of the cases registered during the year, 1,224 received institutional treatment, and the following summary indicates the nature of this:—

Patients from	Poor Law Institutions.	Sanatoria.	General Hospital.	Total.
1 apartment houses,	249	18	17	284
2 do.,	383	84	51	518
3 do.,	43	45	9	97
4 do., and up,	22	25	6	53
	697	172	83	952
Patients under institutional treatment at time of registration (mostly Poor Law), ... ..	...	...	...	272
				1,224

It thus appears that about 53 per cent. of the phthisis patients notified receive institutional treatment in one form or another.

ATTENDANCES AT DISPENSARIES.

492 consultations were held throughout the year at the five dispensaries for consumption conducted by the Corporation. 1,258 patients attended for the first time, while these and other patients who had been in attendance in 1910 made 10,202 subsequent visits. The attendances at each dispensary were as follows:—

Dispensary.	No. of Consultations.	Primary Attendance.		Re-visits.		Total Attendances.	
		Males.	Females.	Males.	Females.	Males.	Females.
Broad Street, -	97	216	251	1,627	1,947	1,843	2,198
Duke Street, -	100	81	89	1,016	866	1,097	955
St. Vincent Street,	97	48	72	387	1,143	435	1,215
Possil Road, - -	97	134	164	1,058	1,297	1,192	1,461
Nicholson Street, -	101	111	92	455	406	566	498
Total, - -	492	590	668	4,543	5,659	5,133	6,327
		1,258		10,202		11,460	

Of the 1,258 persons attending for the first time, 478 had been previously notified to the Department as suffering from pulmonary consumption, the source of the notifications of these having been as follows:—

Medical practitioners in private practice,	202
Poor Law dispensaries,	49
Poor Law hospital admission and dismissal sheets,	35
Charitable dispensaries,	166
Other institutions (infirmaries, &c.),	19
School Board,	7
	<hr/>
	478
	<hr/>

Of the 780 cases remaining who had not been previously notified, 274 had been in immediate contact with previous cases in their families, and of these the dispensary physicians subsequently notified 30 to be suffering from phthisis, or about 11 per cent. of the number of contacts examined. Of 506 other persons seeking advice at the dispensaries, 61 were also notified.

The 569 cases which had thus either been notified or were found at the dispensaries to be suffering from phthisis were classified as follows:—

Stage.	Notified Cases.	Dispensary Cases.
Early,	142	32
Intermediate,	116	36
Advanced,	110	21
Doubtful,	81	2
Not phthisis	29	...
	<hr/>	<hr/>
	478	91
	<hr/>	
	569	
	<hr/>	

Of these, 250 were subsequently admitted to institutions for treatment, 198 being to Poor Law Institutions and the other 50 to sanatoria.

Of the non-notified cases remaining, 486 were definitely regarded as not having phthisis, while 203 were still under observation at the beginning of 1912.

HOME VISITATION BY NURSES.

Of the cases notified during the year, 1,304 were visited at home by the nursing staff, while 119 cases notified in the previous year were also visited during the year for the first time. To these 1,423 cases and to cases under visitation at the beginning of the year the nurses made 10,273 home visits. In addition, each nurse on the staff attended the dispensary consultations held in her district.

The information summarised above gives a general outline of the work in connection with the treatment of consumption which the department is undertaking. A large amount of detail has been and is still being collected in regard to cases notified or under observation which will form the subject of a more extended report later.

OTHER FORMS OF TUBERCULOUS DISEASE.

The following Table contains the deaths and death-rates of the several forms of tuberculous diseases taken from the Registrar-General's classification:—

GLASGOW.—TUBERCULOUS DISEASES.—DEATHS AND DEATH-RATES PER MILLION in each YEAR since 1894.*

YEAR.	DEATHS.					DEATH-RATE PER MILLION.				
	Tubercular Meningitis.	Other Forms of Tuberculosis.	Tuberculous Diseases (Not Phthisis).	Phthisis.	All Tuberculous Diseases.	Tubercular Meningitis.	Other Forms of Tuberculosis.	Other Tuberculous Diseases (Not Phthisis).	Phthisis.	All Tuberculous Diseases.
1894	229	354	583	1,560	2,143	333	515	848	2,271	3,119
1895	229	398	627	1,584	2,211	329	572	901	2,276	3,177
1896	246	327	573	1,342	1,915	349	464	813	1,903	2,716
1897	266	341	607	1,434	2,041	372	477	849	2,006	2,855
1898	260	341	601	1,415	2,016	359	471	830	1,953	2,783
1899	240	406	646	1,454	2,100	327	553	880	1,981	2,861
1900	252	387	639	1,478	2,117	339	520	859	1,987	2,846
1901	238	458	696	1,392	2,088	311	599	910	1,821	2,731
1902	241	393	634	1,356	1,990	311	507	818	1,748	2,566
1903	235	424	659	1,342	2,001	299	539	838	1,705	2,543
1904	258	451	709	1,378	2,087	323	565	888	1,726	2,614
1905	245	409	654	1,233	1,887	302	505	807	1,522	2,329
1906	307	405	712	1,295	2,007	367	485	852	1,550	2,402
1907	390	446	836	1,314	2,150	460	526	986	1,550	2,536
1908	310	429	739	1,173	1,912	361	499	860	1,364	2,224
1909	297	419	716	1,178	1,894	341	480	821	1,351	2,172
1910	273	366	639	1,070	1,709	309	413	722	1,210	1,932
1911	253	388	641	998	1,639	322	495	817	1,272	2,089

Since the present classification of the "other forms" of tuberculous disease was introduced by the Registrar-General in 1883, a decrease in the death-rate therefrom amounting to 25 per cent. has occurred.

* From Registrar-General's annual reports.

GLASGOW, 1883-1911.—DEATH-RATES PER MILLION FROM TUBERCULOUS DISEASES
IN SEVERAL PERIODS, 1883-1911.

	AVERAGE ANNUAL DEATH-RATE.					Per cent. decrease in 29 years.
	1883-88.	1889-94.	1895-1900.	1901-1906.	1911.	
I. Phthisis,	2,849	2,319	2,018	1,679	1,272	55.4
II. Tubercular Meningitis, 405	} 1,090	387	346	319	322	} 817
III. Other forms of Tuberculosis,		685	497	510	533		495
All Tuberculous Diseases,	3,939	3,203	2,874	2,531	2,089	47.0

The deaths and death-rates from diseases of the tuberculous class other than phthisis for the several Wards, with the corresponding rates for 1903-1910, are shown in Appendix Table No. XXXV. As in the case of phthisis, there is considerable fluctuation in the rates for individual Wards from year to year, but it again falls to be observed that there is no relation between the incidence of phthisis and of the other forms of tubercle. The Wards with the highest phthisis death-rates preserve a fair correspondence with those in which the general death-rate is excessive, but no parallel can be drawn between the distribution of other tuberculous diseases and phthisis itself.

In order to obtain a wider view of the incidence of these other forms of tubercle, the following Table has been prepared, showing the average of the rates for the past nine years. On this average, Mile-end and Dalmarnock show excessive rates, while Calton, Whitevale and Townhead are also considerably in excess of the City mean.

GLASGOW, 1903-1911.—TABLE SHOWING AVERAGE RATE FOR EACH WARD
COMPARED WITH MEAN FOR THE CITY.

Ward.	Death-rate per Million.	Ward.	Death-rate per Million.
Mile-end,	1,386	Blackfriars,	1,000
Dalmarnock,	1,369	Govanhill,	951
Calton,	1,281	Sandyford,	913
Whitevale,	1,267	Gorbals,	899
Townhead,	1,256	Maryhill,	877
Springburn,	1,192	Dennistoun,	832
Hutchesontown,	1,158	Kinning Park,	796
Cowlairs,	1,154	Woodside,	766
Cowcaddens,	1,149	Langside,	440
Anderston,	1,143	Blythwood,	439
Broomielaw,	1,111	Park,	349
Kingston,	1,090	Pollokshields,	335
Exchange,	1,074	Kelvinside,	240
City,	1,024		

TUBERCLE IN MILK.

During the year 1911, 735 samples of milk were received from the Veterinary Surgeon for examination for tubercle. Of these, 535 were from country byres, 142 from town byres, and 58 from byres from which milk is supplied to the City Fever Hospitals.

Of the samples from country byres, 11, or 2.07 per cent., were found to be tuberculosis, while 1, or 0.66 per cent. from a town byre was also affected.

In marked contrast with both groups is the absence of tubercle in samples from the byres supplying milk to the Hospitals. As formerly stated, these herds are subjected to the tuberculin test, and the result obtained during the past three years is highly satisfactory.

Continuing the comparison of previous years, and excluding the samples drawn from herds supplying milk to the Hospitals, the comparison over a number of years may be shown as follows:—

Year.	Where Samples taken.	Number of Samples.	Number found Tuberculous.	Percentage.
1907	Railway Stations, ...	163	7	4.3
1908	Country Byres,	417	18	4.3
	Town Byres,	108	5	4.6
	Byres from which Hospital Milk obtained, ...	174	4	2.3
1909	Country Byres,	423	24	5.7
	Town Byres,	122	4	3.3
	Byres from which Hospital Milk supplied, ...	47	...	...
1910	Country Byres,	466	6	1.29
	Town Byres,	163	2	1.23
	Byres from which Hospital milk supplied, ...	46	...	...
1911	Country Byres,	535	11	2.07
	Town Byres,	142	1	0.66
	Byres from which Hospital milk supplied, ...	58	...	...

DISEASES OF ORGANS OF RESPIRATION.

The deaths from respiratory diseases, including croup, but excluding pneumonia, numbered 1,133, giving a rate of 1,444 per million. The deaths from pneumonia numbered 1,269, representing a death-rate of 1,618 per million. From both causes together the deaths numbered 2,402, and represented a death-rate per million of 3,062, compared with 2,843 in 1910. The death-rate from respiratory diseases for several periods per thousand of the population living has been:—

	Pneumonia.	Other Diseases of Respiration.	Total.
1881-90, ... ..	...	...	5.870
1891-1900, ... ..	...	...	4.993
1901-05, ... ..	...	...	4.141
1906,	1.657	1.770	3.427
1907,	1.934	1.676	3.610
1908,	1.860	1.741	3.601
1909,	2.046	1.987	4.033
1910,	1.494	1.349	2.843
1911,	1.618	1.444	3.062

The Ward distribution of the deaths from diseases of the respiratory system (including pneumonia) is shown in Appendix Table XXXVI., which contains, for convenience of reference, a column showing the combined death-rate from diseases of respiration and from pneumonia for 1911, as well as the total rate since 1903.

Taking the average rates for the years 1903-1911, the position of the several Wards in relation to the average rate for the City may be seen from the following Table:—

GLASGOW, 1903-1911.—TABLE SHOWING AVERAGE RATE FOR EACH WARD COMPARED WITH MEAN FOR THE CITY.

Ward.	Death-rate per Million.	Ward.	Death-rate per Million.
Broomielaw,	5,592	Sandyford,	3,450
Blackfriars,	5,211	Exchange,	3,151
Cowcaddens,	5,139	Maryhill,	3,143
Hutchesontown,	4,762	Woodside,	3,042
Calton,	4,635	Cowlairs,	3,039
Mile-end,	4,147	Kinning Park,	2,892
Gorbals,	4,122	Govanhill,	2,783
Dalmarnock,	4,052	Dennistoun,	2,018
Townhead,	3,751	Blythwood,	1,885
Anderston,	3,682	Park,	1,745
Kingston,	3,652	Langside,	1,393
Whitevale,	3,632	Pollokshields,	1,065
City,	3,568	Kelvinside,	973
Springburn,	3,553		

PNEUMONIA.

The deaths and death-rates from pneumonia in the several Wards, with corresponding rates for each year since 1906, are shown in Appendix Table XXXVII.

The highest relative death-rate was recorded in Broomielaw Ward, where it was equal to 3,555 per million persons living, as compared with 1,618 for the City as a whole. The rate was next highest in Blackfriars, Hutchesontown, Gorbals, and Kinning Park, where the rates were 2,957, 2,731, 2,321, and 2,102 per million respectively.

The following Table shows the variations in the death-rate in several periods since 1856:—

GLASGOW.—PNEUMONIA.—DEATHS AND DEATH-RATES PER MILLION IN SEVERAL QUINQUENNIAL PERIODS, 1855-1911. Compiled from the Detailed Annual Reports of the Registrar-General, except 1910 to 1911, which are taken from the Annual Summaries.

PERIOD.	Population.	No. of Deaths.		Total.	Average Death-rate per Million.
		Male.	Female.		
1856-1860, ... ..	...	...	...	...	1,576
1861-1865, ... ..	...	...	...	...	1,370
1866-1870, ... ..	...	...	...	...	1,312
1871-1875, ... ..	...	...	...	...	1,536
1876-1880, ... ..	...	...	...	...	1,409
1881-1885, ... ..	...	...	...	...	1,949
1886-1890, ... ..	...	...	...	...	1,724
1891-1895, ... ..	...	...	...	...	2,056
1896-1900, ... ..	...	...	...	...	2,029
1901,	761,925	898	626	1,524	2,000
1902,	762,789	1,125	723	1,848	2,423
1903,	763,654	970	708	1,678	2,197
1904,	764,521	969	837	1,806	2,362
1905,	765,389	979	746	1,725	2,254
1906,	780,192	959	714	1,673	2,144
1907,	781,080	998	777	1,775	2,272
1908,	781,969	969	729	1,698	2,172
1909,	782,860	1,053	854	1,907	2,439
1910,	783,785	...	...	1,375	1,754
1911,	784,680	...	...	1,419	1,808

NOTE.—For the annual numbers and rates before 1901 see Medical Officer's Annual Report for 1906, page 127.

PUERPERAL FEVER.

From the Table which follows, it will be observed that the case-rate from puerperal fever per thousand births, viewed over a number of years, is apparently increasing, although the case-mortality-rate shows a tendency to fall, more especially since 1906. This contrast would seem to suggest that the greater supervision of infant lives has led to the inclusion of a larger proportion of the puerperal fever cases occurring.

The death-rate from erysipelas also shows a decrease when compared in quinquennial periods, although it was slightly higher in 1911 than in the three preceding years.

PUERPERAL FEVER.—ERYSIPELAS.

Year.	PUERPERAL FEVER.				ERYSIPELAS.
	No of Cases Notified.	Case-rate per 1,000 Births.	Case-mortality per Cent.	Death-rate per Million Living.	Death-rate per Million Living.
1891	80	4.0	75.0	105	115
1892	63	2.8	68.3	64	84
1893	73	3.1	63.1	68	75
1894	64	2.8	54.7	51	83
1895	74	3.2	59.5	63	69
1896	105	4.4	53.3	79	55
1897	62	2.6	54.8	48	49
1898	71	2.9	53.5	52	40
1899	83	3.4	72.3	82	45
1900	78	3.2	74.3	78	32
1901	71	2.9	83.1	71	60
1902	90	3.6	55.5	51	51
1903	108	4.3	63.9	53	44
1904	89	3.6	66.3	53	53
1905	108	4.5	55.5	74	33
1906	119	4.8	48.7	69	62
1907	122	5.1	48.2	70	44
1908	119	5.0	47.9	66	29
1909	108	4.7	60.2	74	38
1910	113	5.1	56.6	72	34
1911	133	6.1	44.4	75	45

The Rates quoted above are based on data obtained from the Registrar-General's Reports.

INCIDENCE OF PUERPERAL FEVER IN RELATION TO NATURE OF ATTENDANCE AT BIRTH.

The operation of the Notification of Births Act now enables us to review the incidence of puerperal fever in some detail. Of the 133 cases of the disease registered last year, 44 had been under medical care from the beginning, while 89 were attended by mid-wives at the onset of labour, although in 35 of these medical assistance was subsequently obtained.

Placed in relation to the nature of the attendance, the incidence of the cases is of some importance, and may be shown as follows:—

Attended by	Births.	Cases.	Rate per thousand Births.
Doctors,	10,353	44	4.2
Midwives,	12,133	89	7.3
	22,486	133	5.9

Before accepting these rates as final, and more particularly before accepting the greater relative incidence of puerperal fever in cases attended by midwives as resulting from defective technique, it is necessary to remember that the midwives' practice is more frequently among the poorer classes and in the smaller houses, and that these are factors which, while incapable of express statement, must be taken into account when considering the difference in the incidence.

We still await the advantage which England derives from the Act of 1902, which places the midwives under regular medical supervision. A draft Bill has been prepared by the Society of Medical Officers of Health for Scotland, and has been introduced into Parliament.

The distribution of the cases throughout the Wards, and the nature of the attendance, are shown in Appendix Table XXXVIII.

Interval elapsing between Confinement and the Development of Puerperal Fever.—Here also there is a difference which is worthy of notice. Of the 44 cases medically attended, 25 occurred within the five days immediately following labour, whereas of the 89 cases attended by midwives the proportion during a similar period was 66, or 74 per cent. A Table showing the details follows:—

1913
GLASGOW, 1911.—TABLE SHOWING NUMBER OF DAYS ELAPSING BETWEEN CONFINEMENT AND DATE OF SICKENING FROM PUERPERAL FEVER.

How Attended.	Days.										Total.
	1	2	3	4	5	6	7	-15	15+		
Doctor,	23	17	11	10	1	3	4	7	5	81	
	5	5	4	3	8	3	2	11	3	44	
	25 62					19 19					
Nurse	21	10	7	7	3	3	2	12	9	74	
	20	11	13	14	8	4	7	9	3	89	
	66					23					
	48					26					
											133
											155

The following Tables also show the dates of sickening of those cases which ended fatally, the periods of sickening of these cases, and the number of days elapsing from the date of sickening till death:—

1913
PUERPERAL DEATHS.

GLASGOW, 1911.—TABLE SHOWING NUMBER OF DAYS ELAPSING BETWEEN DATE OF CONFINEMENT AND DATE OF SICKENING.

How Attended.	Days.										Total.
	1	2	3	4	5	6	7	-15	15+		
Doctor,	9	4	1	6	1	1	2	-	-	24	
	3	2	3	1	4	1	1	1	1	17	
Nurse,	7	4	3	1	3	2	1	1	-	22	
	10	4	6	7	...	...	1	3	...	31
	16	8	4	7	4	3	3	1	-	46	
	13	6	9	8	4	1	2	4	1	48	

1913.
GLASGOW, 1911.—TABLE SHOWING NUMBER OF DAYS ELAPSING BETWEEN DATE OF SICKENING AND DATE OF DEATH.

How Attended.	Days.									Total.
	1	2	3	4	5	6	7	-15	15+	
Doctor,	2	—	2	1	1	1	3	9	9	24
Nurse,	1	2	4	3	1	1	2	1	7	22
	3	2	6	5	5	3	4	16	13	46
	3	2	6	5	3	3	3	14	9	48

THE PREVENTION OF PUERPERAL FEVER.

During the year the prevalence and prevention of puerperal fever formed the subject of a discussion by the members of the Obstetrical and Gynecological Society of Glasgow, and the following extract is taken from the Report of their Proceedings, certain alterations, however, being introduced so as to include the figures for 1911:—

Dr. Chalmers prefaced his remarks on the present distribution of the disease in Glasgow as disclosed by notification, &c., by a reference to its history during the past twenty years.

1. THE PREVALENCE OF PUERPERAL FEVER.

Some of the previous speakers had suggested that the wider application of the principle of asepticism to midwifery practice had been associated with a reduction in the prevalence of the disease, but this could not be established by any apparent decrease in the number of cases notified.

With regard to the apparently increased prevalence in the last quinquennium, it might be suggested, and it was indeed his own view, that this was due simply to a more rigid interpretation of the Notification Act, since its operation had been reinforced by the Notification of Births Act and the attention which had been directed to the causes of infant mortality. This view, he thought, was supported by the obvious decrease in the case mortality during the same period, unless it was to be attributed to some alteration in the technique of treatment with which he was unacquainted. In these circumstances the contrast therefore between an increasing case-rate and a decreasing case mortality rather suggested that the greater supervision of infant lives had led to a larger proportion of puerperal fever cases being notified.

The figures showed in quite a definite manner the lack of any association between the prevalence of erysipelas and that of puerperal fever. The death-rate from the latter had not undergone any decrease at least during the past 20 years, whereas that of Erysipelas showed a fall which was indeed not only marked but so sudden as to suggest the introduction of some artificial factor in the middle of the nineties decade which he was unable to define.

2. ITS RELATION TO THE NATURE OF ATTENDANCE AT BIRTHS.

Since the introduction of the Notification of Births' Act, a specific enquiry had been made into the nature of attendance at birth in each case notified. Until the introduction of the Act it had always been difficult to get such information as enabled one to compare the occurrence of puerperal fever in the practice of the qualified practitioner with that of the trained and untrained

midwife, but this could now be stated in relation to the nature of the attendance at over 80,000 births in the following manner:—

PUERPERAL FEVER.—NATURE OF ATTENDANCE AT BIRTH.

YEAR.	Doctor Alone.	Midwife Alone.		Midwife, or Nurse followed by Doctor.	Total.
		Certificated.	Uncertificated.		
1908,	32	37	24	26	119
1909,	37	37	17	17	108
1910,	31	23	40	19	113
1911,	44	28	26	35	133
	144	125	107	97	473
Per cent., - - -	30·4	26·4	22·6	20·6	100
		69·6			

It thus appears that 30 per cent of the cases of puerperal fever occur in the practice of qualified practitioners when they are responsible for the attendance from the beginning, and as these cases occur in less than half the number of confinements, it is well to look a little more closely at the question. This is done in the following table:—

PUERPERAL FEVER.—CASES IN RELATION TO BIRTHS OCCURRING.

	Attended by Doctor.		Rate per 1,000 births.	Attended by Midwife.		Rate per 1,000 Births.
	Births.	Cases.		Births.	Cases.	
1908	9,215	32	3·4	11,270	85	7·5
1909	11,012	37	3·4	12,491	71	5·7
1910	10,399	31	3·0	12,446	82	6·6
1911	10,353	44	4·2	12,133	89	7·3
	40,979	144	3·5	48,340	327	6·8

This analysis makes it, I think, quite clear that puerperal fever is occurring in the practice of nurses and midwives at twice the rate which obtains in the practice of qualified practitioners when they have charge of patients from the beginning, and in my opinion the Obstetrical Society would be well advised, and also do a work of immeasurable assistance to parturient women to further the efforts which Local Authorities in Scotland and their Medical Officers of Health are making to have a Midwives Bill for Scotland placed on the Statute Book.

3. DURATION OF INCUBATION PERIOD IN THE TWO GROUPS OF CASES.

There are other aspects of the question which these two groups illustrate, and which are worthy of the closest attention from the members of the Society; I mean the interval which elapses between the confinement and the appearance of symptoms of puerperal fever, and which may be regarded as the period of incubation.

This, again, is shown in the following Tables:—

PUERPERAL FEVER AND INCUBATION PERIOD.—DAYS ELAPSING BETWEEN CONFINEMENT AND SICKENING.

CASES ATTENDED BY DOCTOR.										
YEAR.	DAYS.									TOTAL.
	1	2	3	4	5	6	7	-15	15+	
1908	8	9	5	4	1	1	3	1	...	32
1909	9	5	7	2	2	3	4	4	1	37
1910	6	4	7	2	6	...	...	5	1	31
1911	5	5	4	3	8	3	2	11	3	44
	28	23	23	11	17	7	9	21	5	144
	71 per cent.					29 per cent.				= 100 %.

CASES ATTENDED BY MIDWIVES.										
YEAR.	DAYS.									TOTAL.
	1	2	3	4	5	6	7	-15	15+	
1908	8	2	4	14	9	9	10	22	7	85
1909	10	6	8	10	5	5	5	20	2	71
1910	12	6	15	12	7	6	4	13	7	82
1911	20	11	13	14	8	4	7	9	3	89
	50	25	40	50	29	24	26	64	19	327
	59 per cent.					41 per cent.				= 100 %.

If we assume that infection implanted during delivery will manifest itself within a period of five days, then we have a suggestive contrast in the Table. 71 per cent. of the doctors' cases occur within this period, but only 59 per cent. of the midwives' cases. If one may put it this way, the infection occurring in the medical practitioners' cases is in almost three out of four cases contracted during labour, while in the practice of midwives it occurs about twice out of 4 times. In connection with the larger proportion of cases sickening after this period among the midwives' patients, it is fair to the midwives to remember that many of their patients are among the poorest of the

population, which means that their practice is largely amongst those who can only make very inadequate, and in most cases quite unsuitable, provision for conditions peculiarly prone to septic infection. But that so large a proportion of their cases should sicken after the first five days suggests, I think, that both patient and midwife must aim at a much higher standard of cleanliness with regard to person and clothing than is at present reached.

In relation to this, the Society might well help to remedy these conditions by promoting the formation of some Guild of Help which would enable the lying-in woman of the humbler classes among us to obtain such a standard of cleanliness both in person and equipment as has been made possible in Germany through the influence of the Women's National Association. There was a good deal of substantial fact behind the claim made by the Association just named, that no woman in Germany need be confined in circumstances prejudicial to her own health or the health of her child.

UNCERTIFIED DEATHS AND DEATHS WITHOUT MEDICAL ATTENDANCE.

In Appendix Tables XXXIX. and XL. the total deaths occurring during the years 1891-1900, and 1901-11, are stated, with the number and proportion uncertified and dying without medical attendance at all ages and under and over five years, together with a comparison of the proportions as affecting legitimate and illegitimate children under 1 and 5 years respectively, and in Table LX. of Appendix the numbers occurring in each class in the several Wards are given. Appendix Table LXI. gives corresponding information regarding the deaths occurring among members of Friendly Societies.

Certification.—At all ages, 1·4 per cent. of the deaths were uncertified, and 0·7 per cent. had no medical attendance. Under 5 years, however, 1·5 per cent. were uncertified, and 1·5 per cent. had no medical attendance. The greatest contrast is furnished by deaths occurring under 1 year. Among legitimate infants the proportion of those uncertified was 1·6 per cent., while among illegitimates it was 5·7 per cent. Of the legitimate children dying under one year, 44·6 per cent. were insured, an increase of 1·8 per cent. from last year, while among illegitimates the proportion is only 11·0 per cent., which represents a decrease of 1·1 per cent.

In the subjoined figures a comparison is established between the proportion of deaths uncertified in 1910 and 1911:—

NUMBER AND PROPORTION OF UNCERTIFIED DEATHS IN TOTAL DEATHS REGISTERED IN 1910 AND 1911.

	Under 5 Years.		Above 5 Years.		All Ages.	
	1910.	1911.	1910.	1911.	1910.	1911.
Total deaths,	4,543	4,806	7,928	8,092	12,471	12,898
Not certified,	60	74	88	105	148	179
Percentage,	1·3	1·5	1·1	1·3	1·2	1·4

RABIES.

During the year the police reported, under the Rabies Order, 1897, the Dogs Order, 1906, and the Importation of Dogs Order, 1901, that 177 persons had been bitten by dogs, in 13 of whom the injury inflicted was classified as "severe," while the remaining 164 were of a more or less trifling character.

The greatest number occurred in the month of August, and the lowest in February.

The numbers occurring in each month, as well as their character, are shown in the following Tabulation:—

Months.	Severe.	Trifling.	Total.	
January,	1	13	14	} 27
February, ... ..	...	3	3
March,	2	8	10	
April,	1	9	10	} 53
May, ... ..	...	24	24
June,	2	17	19	
July,	1	10	11	} 51
August,	1	25	26	
September,	2	12	14	
October,	9	9	} 46
November, ... ..	...	16	16
December,	3	18	21	
YEAR,	13	164	177	

GLANDERS.

Only one case of glanders among horses stabled in the City was reported to have occurred during the year. As usual, the employees in the stable were kept under observation, and all remained well during the probable period of infection except one, who developed boils in the right armpit. There was nothing clinically suggestive of glanders, and a specimen of pus examined microscopically showed only the presence of Staphylococci. A guinea-pig was also inoculated, with negative result.

ANTHRAX.

Intimations of the occurrence of Anthrax in animals were received during the year as follows:—

12th January, bullock, Moore Street Slaughter-house.

25th July, horse, Greenlaw Farm, Fenwick.

16th November, horse, Hodgkinson's Slaughter-house.

All the contacts in connection with the above cases were kept under observation during the probable period of incubation, but in no case did any illness arise. In the case of the horse, reported on 25th July, the hide only came to the City, but by the time enquiry was made regarding it it had been shipped abroad. In the other cases the usual precautions as to the cleansing and disinfection of the premises were taken.

PTOMAINÉ POISONING.

The attention of the Department was directed to what appeared to be the occurrence of poisoning in a mother and child after the consumption of tinned sardines. Portion of the contents of the tin was recovered, but the result of the examination for organisms of the food poisoning group was negative.

BACTERIOLOGICAL LABORATORY.

During the year, 5,086 specimens of morbid products were forwarded to the Laboratory, as compared with 4,929 in 1910. The specimens were submitted by 471 medical practitioners. Of these, 376 (accounting for 4,600 specimens) were in general practice within the municipal boundary, 28 (accounting for 119 specimens) were resident outwith the boundary, 60 (accounting for 273 specimens) were acting for public institutions, and 7 (accounting for 94 specimens) were connected with the Public Health Department.

It thus appears that about 95 per cent. of the medical practitioners engaged in general practice within the City availed themselves of the Laboratory for bacteriological diagnosis during the year, the average number of specimens received from each practitioner being about 11.

Dr. Buchanan tabulates the results of these examinations in the following manner, the figures for 1909 and 1910 being introduced for comparison:—

TABLE SHOWING THE NUMBER OF SPECIMENS RECEIVED FROM MEDICAL PRACTITIONERS FOR BACTERIOLOGICAL DIAGNOSIS DURING THE YEAR 1911, COMPARED WITH 1910 AND 1909.

MONTH.	DIPHTHERIA.			ENTERIC FEVER.			TUBERCULOSIS.			TOTAL.		
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.	1911.
January, -	172	184	252	55	64	88	97	146	139	324	394	479
February, -	223	177	196	80	70	69	119	139	184	422	386	449
March, -	188	177	222	90	78	47	152	167	218	430	422	487
April, -	190	149	178	56	45	50	130	162	172	376	356	400
May, -	144	182	167	48	42	41	150	164	212	342	388	420
June, -	202	187	192	54	34	34	127	160	156	383	381	382
July, -	138	157	139	44	38	59	69	91	103	251	286	301
August, -	188	164	180	48	54	68	95	101	119	331	319	367
September, -	223	190	207	110	88	76	99	127	130	432	405	413
October, -	336	353	247	84	79	44	104	150	165	524	582	456
November, -	270	299	268	86	84	57	115	157	148	471	540	473
December, -	185	267	241	69	51	61	115	152	157	369	470	459
TOTAL, -	2,459	2,486	2,489	824	727	694	1,372	1,716	1,903	4,655	4,929	5,086
Positive result obtained in -	28.3%	31.7%	31.2%	27.4%	26.1%	25.07%	34.6%	33.3%	32.3%	30.07%	31.4%	30.8%

It will also be observed that a positive diagnosis was obtained in an average of about one-third of the diphtheria and tuberculosis specimens, and about one-fourth of the enteric fever specimens

TABLE SHOWING THE TOTAL NUMBER OF SPECIMENS FROM SUSPECTED CASES OF DIPHTHERIA, ENTERIC FEVER, AND TUBERCULOSIS ANNUALLY SENT TO THE LABORATORY FOR BACTERIOLOGICAL DIAGNOSIS BY THE MEDICAL PRACTITIONERS OF GLASGOW SINCE THE INAUGURATION OF THIS WORK ON 1ST JANUARY, 1900.

Year.	Diphtheria.	Enteric Fever.	Tuberculosis.	Total.
1900, - -	353	543	351	1,247
1901, - -	438	1,048	565	2,051
1902, - -	712	807	847	2,366
1903, - -	997	1,014	932	2,943
1904, - -	928	853	1,010	2,791
1905, - -	980	771	1,024	2,775
1906, - -	1,357	663	1,212	3,232
1907, - -	1,357	613	1,238	3,208
1908, - -	1,694	863	1,276	3,833
1909, - -	2,459	824	1,372	4,655
1910, - -	2,486	727	1,716	4,929
1911, - -	2,489	694	1,903	5,086
TOTALS, -	16,250	9,420	13,446	39,116

In addition to the routine bacteriological examination of those specimens from the Medical Practitioners of the City, 1,040 have also been examined from diphtheria contacts, and 750 from patients attending the tuberculosis dispensaries. These are detailed in the two following tables respectively.

(1) DIPHTHERIA CONTACTS.

The systematic examination of all persons in more or less intimate contact with cases of diphtheria (commenced in March, 1906) has been continued as far as possible. During the year the number of such contacts subjected to this method of examination amounted to 1,040, and the diphtheria bacillus was found in 138, or 13·2 per cent.

These positive contacts comprise two groups of persons—(1) those found, on careful examination, to have some departure from normal health locally (throat or nose) or constitutionally (anæmia or disturbance of pulse or temperature), and (2) persons showing no departure from perfect health either locally or constitutionally.

Year.	Diphtheria Contacts Examined.	Percentage Positive.
1906 (10 months)	322	10·5
1907	692	6·9
1908	841	9·2
1909	909	10·7
1910	1,067	11·4
1911	1,040	13·2

(2) TUBERCULOSIS DISPENSARIES.

In addition to the Bellefield Dispensary, which had been established in the Sanitary Chambers since the beginning of 1906, five tuberculosis dispensaries were instituted early in 1910 in different parts of the City.

During 1911 these institutions collectively have yielded 750 specimens of sputum for microscopical examination, as compared with 523 in 1910. The bacillus tuberculosis was found in an average of 35·7 per cent., which is fully 3 per cent. more than in the specimens submitted by the medical practitioners of the City generally from suspected cases of tuberculosis.

Month.	Broad Street.		Duke Street.		Oakbank.		St. Vincent Street.		Nicholson Street.		Bellefield (Sanitary Chambers).		Total.	
	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.
January, -	22	...	10	...	...	...	9	...	9	...	16	18	66	18
February, -	19	...	4	...	...	1	7	...	14	1	12	34	56	36
March, -	16	16	2	2	4	3	6	1	9	3	32	14	69	39
April, -	15	11	2	2	8	15	2	5	10	6	9	16	46	55
May, -	13	11	3	1	11	6	5	1	20	1	22	13	74	33
June, -	12	12	6	1	13	6	4	5	13	9	18	17	66	50
July, -	8	9	3	...	9	3	2	9	10	6	6	9	38	36
August, -	12	8	4	5	7	5	1	3	9	7	19	17	52	45
September, -	12	12	4	...	9	9	5	...	7	6	31	...	68	27
October, -	12	8	2	1	12	3	4	4	11	7	15	15	56	38
November, -	17	18	7	4	17	15	5	11	16	14	12	17	74	79
December, -	18	15	7	3	20	1	6	10	18	11	16	27	85	67
Totals, -	176	120	54	19	110	67	56	49	146	71	208	197	750	523
Positive result in	24·4%	28%	31·4%	42%	19·09%	28%	44·6%	31%	26·02%	27%	59·6%	64%	35·7%	42%

OPHTHALMIA NEONATORUM.

With the introduction of notification on 1st August, 1911, another disease has been added to those coming under systematic laboratory diagnosis. A special equipment has been provided to facilitate the taking of specimens from the affected eyes. Positive results were obtained in about 45 per cent., as the following Table shows, and already serve to indicate that the whole procedure cannot but exercise a beneficent effect in preventing loss of eyesight in infancy:—

	Pos.	Neg.	Total.
Medical Officer of Health—			
Before notification, March 3—July 31, - -	7	4	11
After do. August 1—December 31, -	15	20	35
Medical Practitioners—			
After notification, - - - - -	—	2	2
Total, - - - - -	22 (45%)	26	48

INVESTIGATIONS.

In addition to the specimen tabulated above, 1,209 of a miscellaneous nature were investigated for the Medical Officer of Health, the Sanitary Inspector, the Veterinary Surgeon, and Medical Practitioners within the City. These may be summarised as follows:—

Medical Officer of Health—(a) *Health Department—*

Enteric Fever—Serum Reaction (6), Search for Bacillus Typhosus in Urine (4), Dejecta (4),	14
Paratyphoid Fever—Serum Diagnosis,	1
Diphtheria—Eye Swabs (2), Virulence of B. Diphtheria (3), Milk (1),	6
Tuberculosis—Blood (1), Sputum (1),	2
Ophthalmia Neonatorum,	46
Scarlet Fever Outbreak—Swabs from Throats,	16
Food Poisoning—Crabs (1), Sardines (1), Food-stuffs (3), Dejecta (4), Blood (3),	12
Cerebro-spinal Fever—Naso-pharyngeal Swabs (6), Cerebro-spinal Fluid (1),	7
Bacterial Diagnosis—Swabs from Throats (3), Glanders (1), Pus (1), Bubo (1), Dejecta (4), Stomatitis (4), Nasal Discharge (1), Culture from Cow's Teat (1), Mucous Cast (1), Water (4),	21
Mange—Cat,	1
	— 126

(b) *Hospitals—**Belvidere—*

Diphtheria—Cultures (18), Swabs (4),	22
Enteric Fever—Blood (1), Dejecta (1),	2
	— 24

Carry forward, 150

	<i>Brought forward,</i>	...	...	...	...	150
<i>Ruchill—</i>						
Diphtheria—Cultures,	...	...	...	...	...	19
Enteric Fever—Fæces (1), Subculture (1),	...	...	...	...	...	2
Milk for Organisms,	..	...	...	...	...	1
						— 22
<i>(c) Bellefield Sanatorium—</i>						
Tuberculosis—Sputum,	...	...	...	...	...	64
<i>Sanitary Inspector—</i>						
Crustacea in Water (3), in Milk (1),	...	...	...	...	...	4
Insect Pest (ants) in House,	...	...	...	...	...	1
Standardisation of Disinfectants,	...	...	...	...	...	16
						— 21
<i>Veterinary Surgeon—</i>						
Milk from Country Cows with Disease of the Udder,	...	...	...	...	...	584
Milk from Town Cows with Disease of the Udder,	...	...	...	...	...	151
Tuberculosis—Tissue (9), Swab (1),	...	...	...	...	...	10
Anthrax—Feeding-stuffs,	...	...	...	...	...	10
Tissue for Organisms,	...	...	...	...	...	2
Cooked Meat for Organisms,	...	...	...	...	...	1
						— 758
<i>Medical Practitioners—</i>						
Enteric Fever—Search for Bacillus Typhosus in Urine,	...	...	...	...	...	3
Tuberculosis—Search for Bacillus Tuberculosis in Urine						
(44), Tissue (2), Pleural Fluid (3),	...	...	...	...	...	49
Bacterial Diagnosis—Urine (52), Pus (24), Sputum (7),						
Blood (6), Tissue (2), Swabs (5), Pleural Fluid (4),						
Dejecta (1), Gastric Secretion (1), Vomit (1),	...	...	...	...	...	103
Wassermann Test—Blood,	...	...	...	...	...	4
Serum Diagnosis—Paratyphoid Fever (5), Malta Fever (2),						
Bacillus of Gaertner (1),	...	...	...	...	...	8
Urine for Gonococci,	...	...	...	...	...	1
Do. Bilharzia Hematobia	...	...	...	...	...	6
Ophthalmia Neonatorum,	...	...	...	...	...	2
Sputum for Mercury and Tuberculosis,	...	...	...	...	...	1
Lead Poisoning—Blood Examination,	...	...	...	...	...	1
Pernicious Anæmia— Do.,	...	...	...	...	...	3
Cancer—Mucous Cast (1), Tissue (2), Sputum (1),	...	...	...	...	...	4
Hydatid Cyst of Lung—Sputum,	...	...	...	...	...	2
Meningitis—Cerebro-spinal Fluid,	...	...	...	...	...	3
Pneumonia—Sputum,	...	...	...	...	...	1
Vaccine for Chronic Bronchitis,	...	...	...	...	...	1
Urine—Test for Bile,	...	...	...	...	...	1
Insect Pest (ants) in House,	...	...	...	...	...	1
						— 194
						Total, 1,209

EXAMINATION OF RATS IN RELATION TO PLAGUE, 1911.

During the year 855 rats and 9 mice were brought to the laboratory and examined for plague, with negative results.

The following Table gives the numbers examined in relation to the places from which they were obtained, and in comparison to last year:—

Year.	From the City.	From Shipboard.	From Docks.	Total.	Plague Infected.
1911	93	647	115	855	—
1910	16	29	7	52	—

EXAMINATION OF LOCH KATRINE WATER AS DRAWN FROM THE LABORATORY TAP.

Month.	Average No. of Bacteria in 1cc. as estimated in gelatine plate at 20°C.	Bacillus Coli present (+) or absent (-) in			Other bacilli of the B. Coli family present (+) or absent (-) in		
		10cc.	5cc.	1cc.	10cc.	5cc.	1cc.
January, - -	30	-	-	-	+	+	+
February, - -	29.5	+	-	-	+	+	+
March, - - -	46.6	+	+	-	+	+	+
April, - - -	46.6	+	+	-	+	+	+
May, - - -	28	-	-	-	+	+	+
June, - - -	42.5	-	-	-	+	+	+
July, - - -	57	-	-	-	+	+	+
August, - - -	51.1	-	-	-	+	+	+
September, - -	59.5	+	-	-	+	+	+
October, - - -	58.1	-	-	-	+	+	+
November, - - -	55	-	-	-	+	+	+
December, - - -	78	+	+	+	+	+	+

Bacillus Enteritidis Sporogenes was absent in 10cc. and *Streptococci* in 50cc. throughout the year.

HOSPITALS AND RECEPTION-HOUSES.

AN ACCOUNT OF THE HOSPITAL ACCOMMODATION AVAILABLE FOR PERSONS SUFFERING FROM INFECTIOUS DISEASE (INCLUDING THE MEANS PROVIDED FOR THE CONVEYANCE OF SUCH PERSONS, AND OF THE HOUSES OF RECEPTION, WITH OBSERVATIONS ON THE FURNISHING, MAINTENANCE, ADMINISTRATION, AND ADEQUACY OF SUCH ACCOMMODATION, &c.).

(a) *Hospitals*.—Table LXII. of the Appendix contains a statement of the number of beds available for epidemic disease at various periods since 1865, with the relative proportion per thousand of the population.

Appendix Tables Nos. LXIII., LXIV., and LXV. show the duration and cost of treatment in Hospital.

(b) *Reception-houses*.—During the year, 145 contacts with infectious disease were accommodated in the Reception-houses, the details being shown in the following Table:—

Diseases.	Baird Street.	South York Street.	Total.
Smallpox, ... ..	...	...	...
Typhus Fever,	30	8	38
Enteric „	31	8	39
Scarlet „	3	4	7
Diphtheria,	1	3	4
Chickenpox,	4	6	10
Measles,	9	10	19
Whooping-cough,	15	...	15
Others,	13	...	13
Total,	106	39	145

REMOVALS BY PUBLIC CONVEYANCE OF PERSONS DEAD OF INFECTIOUS DISEASE.

Six permits were granted under the Glasgow Police (Amendment) Act, 1890, Section II., for the removal of the bodies of persons who had died from infectious disease. In each case the precautionary measures were adopted of requiring the body to be enclosed in a zinc shell, and the coffin to be sprayed with formaline.

INTERMENTS IN INTRAMURAL BURYING-GROUNDS.

In accordance with the recommendation of the Corporation suspending the resolution of the Police Commissioners, of date 10th July, 1876, to permanently close the intramural burying-grounds as places of sepulchre, 8 permits were granted, 7 of which were for the High Church Burying Ground, and one for the Gorbals.

FRESH-AIR FORTNIGHT, EASTPARK COTTAGE HOME, AND T.S. "EMPRESS."

During the year the lists of children selected for admission to the Homes in connection with the Glasgow United Evangelistic Association were submitted by the convener of that organisation for inspection, and those children residing in tenements found to be infected were refused for the time being.

The homes of all children admitted to Eastpark Cottage Homes for Infirm Children were also visited and reported on, as were also the homes of boys belonging to Glasgow granted leave of absence from the training ship "Empress."

SECTION III.

GLASGOW PORT LOCAL AUTHORITY.

SUMMARY OF WORK DURING 1911.

2,167 vessels from foreign parts passed the Boarding Station at Greenock for the Customs Port of Glasgow during the year 1911. This represents an average of 6 vessels per watch of twenty-four hours. The greatest number of vessels boarded in any single watch was 14.

Of these vessels, 468 had called during the voyage at foreign ports which were infected within the meaning of the Cholera Order.

Table A shows the vessels classified under the following groups:—

Group "A" shows the *arrivals from foreign*, as understood by the officers of H.M. Customs.

Group "B" includes all vessels trading with *infected ports*, and reaching the Clyde direct or through home ports, but with foreign cargo on board.

Group "C" includes vessels from infected ports reaching the Clyde *light* or with out-going cargo on board.

Group "D" includes vessels from foreign non-infected ports reaching the Clyde direct or coastwise.

Vessels included under groups "B" and "C" totalled, during the year, 468, all of which were boarded under Article 8 of the Cholera Order; while the 1,699 vessels in Group "D" were from non-infected ports, and were boarded in order to ascertain whether infectious disease existed on board.

The Table shows further the number of arrivals in each month of the year in the several groups, as also the number of crews and passengers.

TABLE A.—NUMBER OF SHIPS ARRIVING FROM FOREIGN PORTS—YEAR 1911.

MONTH.	(A) H.M. Customs.	FROM INFECTED PORTS.						Total of B and C.			(D) From Non- Infected Ports (with or without Cargo).			TOTAL.		
		(B) With Foreign Cargo.			(C) Light or with Outward Cargo.											
		Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.
January,	131	17	1,122	3	21	1,005	3	38	2,127	6	144	4,400	915	182	6,536	921
February,	124	15	1,138	...	13	727	...	28	1,865	...	134	3,792	816	162	5,657	816
March, -	129	11	864	48	14	763	...	25	1,627	48	146	4,853	948	171	6,480	996
April, -	142	15	1,201	5	20	1,040	8	35	2,241	13	146	5,895	1,072	181	8,136	1,085
May, -	149	16	1,095	16	23	1,136	7	39	2,231	23	153	6,145	3,143	192	8,376	3,166
June, -	136	19	1,551	25	21	943	8	40	2,494	33	145	5,888	3,994	185	8,382	4,027
July, -	140	22	1,220	20	19	1,050	20	41	2,270	40	139	6,012	5,119	180	8,282	5,159
August, -	138	19	948	8	21	1,022	24	40	1,970	32	144	5,525	2,146	184	7,495	2,178
September,	124	24	1,693	...	20	1,124	3	44	2,817	3	133	5,457	1,987	177	8,274	1,990
October, -	143	25	1,390	11	24	1,197	8	49	2,587	19	157	6,825	2,209	206	9,412	2,228
November,	133	20	1,363	7	24	1,230	9	44	2,593	16	135	5,293	1,656	179	7,796	1,672
December,	122	24	1,569	3	21	1,029	2	45	2,598	5	123	4,303	3,321	168	6,901	3,326
TOTAL,	1,611	227	15,154	146	241	12,266	92	468	27,420	238	1,699	64,307	27,326	2,167	91,727	27,564

The following comparison is of interest as showing the yearly number of persons forming the crews and passengers:—

Year.	Ships.	Crews.	Passengers.	Registered Tonnage of Vessels Boarded.
1905, ...	2,010	75,468	13,156	3,365,302
1906, ...	2,063	79,773	17,822	3,562,703
1907, ...	1,997	80,212	21,744	3,661,807
1908, ...	2,096	81,050	22,917	3,814,630
1909, ...	2,081	82,037	16,826	3,908,700
1910, ...	2,183	88,013	16,683	3,940,291
1911, ...	2,167	91,727	27,564	3,997,318

In Table B particulars are given as to the nationality of the 2,167 ships shown in Table A and their crews.

On 1,666 British vessels there were 62,495 seamen of British nationality, with a proportion of European seamen, and 19,769 seamen of mixed nationality, mostly Asiatics.

On board the 501 vessels of foreign nationality were 9,463 foreign seamen.

TABLE B.—NATIONALITY OF SHIPS AND THEIR CREWS, 1911.

Nationality.	Ships.	Crews.
British,	1,666	62,495
Natives of India,	(On British Ships),	16,709
Chinese,	do.,	2,790
Malays,	do.,	95
Arabs,	do.,	84
West Africans,	do.,	17
West Indians,	do.,	18
Italians,	do.,	14
Spaniards,	do.,	18
Norwegians,	do.,	24
Norwegians,	282	4,767
Swedish,	34	601
Spanish,	72	1,634
French,	26	687
German,	27	495
Austro-Hungarian,	15	407
Italian,	9	235
Russian,	7	107
Greek,	3	71
Danish,	18	331
Dutch,	8	127
Chinese,	(On German Ship),	1
Totals,	2,167	91,727

Table C shows the arrivals of Table A, grouped according to whether they arrive direct from foreign or coastwise, their nationality, registered tonnage, and motive power.

Vessels coming coastwise are usually in water-ballast or partly loaded with outgoing cargo, occasionally also with part inward cargo.

TABLE C.—NUMBER, CLASS, AND TONNAGE OF VESSELS BOARDED AT TAIL OF THE BANK, 1911.

Voyage.	Nationality.	Class.	No. of Vessels.	Registered Tonnage.
Direct,	British,	Steam,	824	1,562,821
		Sailing,	6	2,698
	Foreign,	Steam,	229	225,613
		Sailing,	20	28,783
Coastwise,	British,	Steam,	831	1,974,203
		Sailing,	5	3,985
	Foreign,	Steam,	244	191,983
		Sailing,	8	7,232
			2,167	3,997,318

DISEASES ON CLYDE-BOUND SHIPS.

108 cases of infectious disease occurred on vessels bound for Glasgow, and boarded at the Tail of the Bank, during 1911. Of these, 15 were either convalescent on arrival or had already been landed at other Ports, the vessels being disinfected by the Port Local Authorities there, while two cases had died at sea, where the bodies were buried. In each case disinfection was carried out on arrival in Glasgow.

Of the 91 cases found on board ships on arrival, 36 were removed to Belvidere or Ruchill Hospitals. The remainder were sent to their homes by special ambulance, or with suitable precautions. A few cases which could be received into general hospitals, *e.g.*, beri-beri, tubercle, and trachoma, were sent to the Western and Victoria Infirmaries.

Particulars of these cases are to be found in the following pages.

Eight deaths occurred, including the two buried at sea, but no report has been received of the termination of some of the 15 cases landed at other ports.

TABLE D.—RETURN OF INFECTIOUS DISEASES ON BOARD SHIPS BOUND FOR THE PORT OF GLASGOW, 1911.

Diseases.	Total Number of Cases.	Cases Found on Arrival.	Cases Dealt with in other Ports.	Cases Sent to Hospital in Glasgow.	Deaths.
Cholera,	2	...	2	...	...
Plague, ... ..	...	...	...	...	...
Smallpox,	3	2	1	2	...
Enteric Fever,	10	8	2	7	1
Scarlet Fever,	1	1	...	1	...
Measles,	2	2	...	2	1
Chicken-pox,	3	1	2	1	...
Pertussis,	6	6	...	1	...
Diphtheria,	3	3	...	3	...
Erysipelas,	4	4	...	4	...
Phthisis,	25	21	4	1	2
Beri-beri,	9	8	1	2	...
Trachoma,	8	8	...	...	...
Dysentery,	2	1	1	...	...
Diarrhœa, with temp.,	8	6	2	3	2
Pneumonia,	7	6	1	...	1
Glandular Swellings or Abscesses,	3	3	...	3	...
Parotitis,	1	1	...	...	...
Cerebro-Spinal Fever,	2	1	1	1	1
Java Fever,	1	1	...	...	...
Scabies,	1	1	...	1	...
{For Observation, or {Surveillance,	4	4	...	4	...
	3	3	...	...	...
Totals,	108	91	17	36	8
		17			
		108			

CHOLERA.

The reports of the Local Government Board concerning Cholera have been received, and the precautions enjoined by the Cholera Order carried out in the case of all vessels from infected ports.

The recurrence of Cholera in Europe during 1911 seemed to have commenced with the summer months, and continued in severe epidemic form until about November. The disease was most prevalent along the seaboard of Italy, Austria, Turkey, and the Black Sea litoral. Marseilles was seriously infected—a matter of grave importance to our home ports, as so many homeward-bound ships call there with cargo and take away drinking and ballast water.

Two cases had been removed from vessels earlier in their voyage, but early enough to make detention here unnecessary.

PLAGUE.

No case of plague was reported as having occurred during the voyage on any vessel entering the Port during the year, but one case occurred subsequent to the arrival of a vessel in harbour and after she had been dry-docked. The circumstances of the case were communicated to the Local Government Board and the Local Authority in the following Report:—

REPORT REGARDING THE OCCURRENCE OF A CASE OF PLAGUE ON BOARD THE S.S. "CITY OF BENARES."

On the afternoon of Tuesday, 30th May, 1911, the Assistant to the Port Surgeon of the Ellerman's City Line telephoned the Sanitary Office requesting the removal to hospital of a Lascar seaman, named Eusaph Boodhoo, then on board the s.s. "City of Benares," as suffering from "typhoid fever or plague (1)."

The ship was at this time in dry dock at Govan undergoing extensive repairs, which had been rendered necessary through her having been in collision with another vessel while coming up the river on 13th May.

On receipt of the notification patient was removed to Belvidere Hospital, and on the following day, while attending a Conference on the Prevention of Destitution in London, I was advised by wire of the occurrence and of the suspicion which was entertained regarding the nature of the illness.

Reaching Glasgow on the morning of 1st June I saw patient shortly after arrival. On the previous evening the glandular swellings on the right groin had been punctured hypodermically and film preparations had been prepared.

Clinically the symptoms were similar to those we had become familiar with on previous occasions as associated with severe plague of bubonic type, and none of the medical staff who had similar experience entertained the slightest doubt as to the nature of the illness. It remained, however, to demonstrate its transmissibility to animals by the production of the characteristic features of the disease in them.

Meanwhile enquiries were instituted on lines which will be afterwards described with the object of ascertaining, if possible, the source of the infection.

History of Illness.—Patient was member of a crew of 79 native seamen, who, with several European officers, remained by the ship while in the Graving Dock. In addition to these, over 100 workmen were engaged in the repairs while she lay in the Graving Dock.

Symptoms would appear to have set in on the evening of Sunday, 28th May, but patient was not seen medically until the following day, and, as has been said, it was 30th May before his medical attendant began to suspect the character of the disease he was dealing with. The symptoms, however, as described by the Port Assistant Surgeon, were sufficiently characteristic. He described patient as having an anxious expression with considerable tenderness on pressure over the glands in the right inguinal region, which were felt to be enlarged. He lay with both thighs flexed on the abdomen, and pain could be elicited by pressure over the right costal region, although there was no history of vomiting. The development of the clinical history after admission to hospital is related in Appendix I., which is taken from the Ward Journal of the hospital.

History of Voyage.—Before relating the history of the voyage it should be noted that the ship reached the Clyde from the Mersey on May 13, was in collision coming up the river, but was able to complete her voyage, and same day arrived at Berth No. 21, Queen's Dock, where she lay for three days. On May 16 she was transferred to No. 1 Graving Dock, Govan, on the south side of the river. Patient's sickness did not begin until May 28, that is, on the fifteenth day after the ship had reached the Clyde.

On her admission to the Graving Dock the repairs necessary required the removal of a large part of the plating of the vessel from the keel upwards on the port side forward, and with this repair there was associated the dismantling of the refrigerating chamber used for preserving the food of the crew and passengers. This much is stated here, because the extensive character of the repairs before the sickness began and the nature of the work necessary would of themselves have driven rats from the ship had there been any on board on reaching the Clyde. On this point, however, the European officers are quite definitely of opinion that no rats

had been seen, and, indeed, that none were left on board after the vessel had undergone a process of disinfection by a "Clayton" machine at Marseilles during the homeward voyage. One further point of importance may be stated here on the testimony of the European officers, viz., that the patient had not been ashore in Glasgow, save at the dock latrine, until his illness developed.

The voyage of the vessel may be shortly told. She left Glasgow on 11th February, and went *via* Liverpool, Port Said, Suez, and Bombay to Kurrachee. The return voyage began on 8th April, and the vessel reached Port Said on 19th, and Marseilles on 25th of the same month. She had remained at Bombay for ten days, and at Kurrachee for fourteen days, but left Suez and Port Said on the day of arrival. She also remained in Marseilles for three days, and during this time the holds were disinfected by a "Clayton" machine.

The officers of the ship were uncertain whether the "Clayton" had been used to introduce sulphur vapour or carbon-monoxide, but the former would seem the more probable, as the officers stated that it smelt badly, and an incident, to be afterwards described, suggested to them that the pungent character of the gas in use drove one rat to seek shelter on deck under the cover of a steam pipe.

Leaving Marseilles on 28th April, the vessel arrived at Liverpool on 5th May, crossed to Birkenhead on 9th May, and left for Glasgow on 12th May.

None of the crew were allowed to go ashore at Port Said or Suez, and they were only allowed on the wharf at Marseilles.

Question of Rat Infection.—As has been stated, the extensive character of the repairs, which were in progress at the time patient sickened, was sufficient to have driven any animals from the ship. The officers, moreover, were of opinion that after the application of the "Clayton" machine at Marseilles, when about one dozen animals were killed, no others were seen during the subsequent part of the voyage.

During the repairs, however, the mummified body of a rat was discovered under the casing which formed a channel on the main deck, through which steam pipes were led from the boilers to the winches in the after-part of the ship. The theory of the officers was that the rat had sought refuge there from the fumigation at Marseilles. I hesitate to accept this theory, because within a couple of yards from the spot where the rat was found there was a gap at one part of the casing which would have allowed the animal to escape had it been so minded. Although I know of no fact which would support the view that the animal in question was in reality a sick rat which sought the heat and shelter of the pipe-casing, this seems to me a more likely explanation of the incident than that it was driven to one form of death in order to escape another, especially as a way of escape lay between them.

This mummified rat was discovered on the day Boodhoo's case was notified, but its body had been disposed of with the rubbish from the refrigerator before we were aware of its discovery.

In pursuance of the general enquiry, special attention was directed to the condition of the rats in the Graving Dock, and also in the neighbourhood of her berth at Queen's Dock, but the number obtained was small and the results negative.

The following is a list of the species and the situations from which they were obtained:—

Species.	Ship.	Graving Dock.	At Berth 21, Queen's Dock.	Elsewhere (specifying place).
Black, -	...	6	...	...
Brown, -	...	9	...	1, Berth 24, Queen's Dock. 1, 50 yards east of ship's berth. 1, Berth 2, Queen's Dock. 1, Berth 29, Queen's Dock. 2, Stobercross Quay. 1, Berth 3, Queen's Dock.
Total, -	...	15	...	7

Patient's Sleeping Quarters.—The natives were accommodated in two main divisions below the main deck aft, the port side being devoted to the accommodation of the native firemen, and the starboard side to that of the seamen, among whom patient was included. In addition, there were several smaller rooms occupied by the native barber, serangs, &c., while below, and reached by a ladder, was the food store-room, which again had the lazarette for reserve stores below it. Prior to the occurrence of the disease the store-room proper had been cleared of its material and repainted, while after it occurred the lazarette was cleared of its contents and disinfected. There was no obvious trace of rat excrement, and no displaced rice, while all the bags were intact.

No rats were found after disinfection.

It will thus be seen that at the time of the sickness the ship was probably under quite exceptional conditions with regard to freedom from rats, the only one discovered being the dead animal already mentioned.

In the quarters, however, there were fleas (*pulex irritans*) and beetles—one of the former and 14 of the latter being used for inoculation purposes, but without result (see Appendix II.).

Disinfection.—The native quarters, store-room, and lazarette, aft, were fumigated with sulphur-dioxide gas from 11 a.m. till 3 p.m. on 2nd June. All bedding was steam-disinfected at Belvidere Wash-house on 3rd June. The native seamen's body clothing was washed and steam-disinfected at Belvidere Wash-house on 3rd June. All straw palliasses were destroyed by fire on 3rd June. The native water-closets at the Dry Dock at Govan were hosed out twice daily, and sprinkled with chloride of lime once daily.

Supervision of Crew.—The crew were medically examined daily till 11th June, while the ship was visited twice daily till 15th June, and once daily till 4th July. She left the Graving Dock for No. 25 Queen's Dock on 19th June, and sailed for Eastern ports *via* Birkenhead on 4th July, no other illness having occurred. On arrival at Berth 25 and until she sailed the ropes were tarred and the gangways whitewashed.

Examination of Rats.—This engaged a good deal of attention, and effort was made, with the co-operation of the Clyde Navigation Trust, who had previously appointed a rat-catcher for their own purposes, to secure as many as possible for examination. The results, however, were disappointing as to number and negative as to result. Twenty-six rats in all were examined, 3 of which belonged to the species *M. Decumanus* and 23 to *M. Rattus*—all were negative. Neither were any fleas found on the rats, a circumstance which is apparently due to the fact that all were killed by trapping, and several hours would have elapsed before their recovery for examination.

During an early inspection of the ship a flea (*P. Irritans*) was found by one of us, and a mouse inoculated with an emulsion made therefrom, but the results were entirely negative, as were also the results of similar experiments with 9 beetles, which were reduced to an emulsion and inoculated. Two more fed on bread soaked in an emulsion of *B. Pestis* and an inoculation with an emulsion of these beetles promptly killed a guinea-pig. Three more beetles similarly treated, but washed prior to inoculation, gave negative results. A copy of the Bacteriologist's Report thereon is appended, and forms Appendix II. hereof.

Source of Infection.—No other illness suggestive of plague had occurred during the voyage, and the problem would appear to be to explain an infection which became operative only after the ship had been a considerable time away from plague-infected ports and a fortnight in harbour. The evidence of rat infection on board is quite inconclusive. The body of an animal was discovered subsequent to the date of patient's sickening, and was disposed of before the cause of its death could be enquired into. On the one hand, an undoubted case of human plague occurs, and on the other, the presence of rat infection is suggested only by the fact that a single rat had been found dead. There was, moreover, an absence of flea bites on the

patient, but there was above patient's umbilicus a papule, which is referred to in Dr. Johnston and Dr. Buchanan's Reports which are appended.*

Here the question would appear to be whether we should regard this as primarily a simple sore on which a specific inoculation was afterwards grafted, or as in reality the site of a true primary infection. In either case, however, one must assume continuance of infection in clothing, and so the papule in question comes to have some significance as being the channel through which the patient acquired his infection.

Some effort was made to discover whether the sickening coincided with or followed shortly after the occurrence of the Mohammedan Sunday; and it will be observed that it occurred within 48 hours thereafter. Following this line of suggestion, the next question to be answered has regard to the survival of flea infection through successive generations or the survival of the Pest Bacillus in dead fleas in clothing. With regard to this latter, there is a suggestive statement by Dr. D. T. Verjbitski, of the Laboratory of the Emperor Alexander I., and of the Imperial Institute of Experimental Medicine at St. Petersburg, to the following effect:—"In the case of linen and other fabrics soiled by crushing infected fleas and bugs on them, or by the fæces of these insects, the plague microbes can, under favourable conditions, remain alive and virulent during more than five months."

This statement occurs in the Report by the Advisory Committee on Plague Investigations in India, issued in *The Journal of Hygiene*, May, 1908, and it seems better than any fact within our knowledge to suggest at least an explanation of the isolated case of plague infection with which we are dealing. At the end of Dr. Verjbitski's article there appears the following statement:—"This may explain how the clothes of people, who have died of plague, may transmit infection even months after their possessor's death."

Viewing the facts of Boodhoo's illness as we know them, in the light of these extracts from Verjbitski's researches, it would appear not unreasonable to assume that infection reached him through some article of clothing which had been worn for the first time, during the present voyage, on the Mohammedan Sunday preceding his sickening, and that this clothing retained infection in the manner suggested and reached him through the umbilical sore.

A. K. CHALMERS,
Medical Officer of Health.

Sanitary Chambers,
Glasgow, 15th August, 1911.

APPENDIX I.

CLINICAL HISTORY.

Eusaph Boodhoo, 25 years. S.S. "City of Benares." Vacc. Born Calcutta.

Admitted to Belvidere Hospital, 30th May, 1911, 4.30 p.m.

Patient became ill on Sunday, 28th instant, there being sickness and vomiting and abdominal pains. No further history obtainable. On admission—
Temperature, 104·8; pulse, 132; respirations, 30.

It thus appears that patient is in the third day of illness.

Patient is manifestly seriously ill. He cannot speak English intelligibly

There is a bubo in R. groin. No superficial redness and no fluctuation. The corresponding glands in L. groin are enlarged and tender. The vertical set of inguinal glands is not affected on either side.

* See also "History of the Progress of Plague in the Bombay Presidency from September, 1906, to June, 1909," page 104, where the following occurs:—

"There was nothing characteristic about the lesion. It was usually a small ordinary looking papule on a slightly inflamed base, with a little serum at its apex and partly covered by a scab. In some cases a hair was found growing through the centre, and it seemed to be merely an inflamed hair follicle which had been scratched."

Lungs: no percussion dulness. Fine rales and rhonchi in both backs—no signs of consolidation—the nature of the rhonchi and rales points to a fine bronchitis. No sputum.

Tongue tends to be dry, pink, furred.

Heart: nothing special to be noted—sounds rapid. Second sound predominant. No murmurs.

Urine: trace of albumen.

No ulcers or sores of any kind on upper or lower extremities.

No urethritis. No sores of any kind on genitalia.

Immediately above the umbilicus there is a small livid papule.

The glandular swelling in R. inguinal region was pierced with the needle of an hypodermic syringe, and a drop or two of blood-stained fluid withdrawn. On examination this revealed a large number of bacilli giving an appearance rather like that of a diplococcus, there being marked polar staining with a thin unstained (or faintly stained) central septum. Some of the bacilli, however, show a septum of fair length which is quite definitely stained, and separates two well-stained extremities; the bacilli thus presenting an appearance markedly resembling that of *B. Pestis*. The bacilli are Gram. negative.

2 p.c. salt agar slope tube inoculated.

31st May, 1911.—During the day patient was delirious and somewhat violent about 4 p.m., and again at 8 p.m. (gland punctured), requiring to be held down in bed.

Serum Anti-pestoux (Institut Pasteur; date 1901) 100 c.c. injected into cellular tissues in front of abdominal wall. Also gr. $\frac{1}{4}$ morphine given hypodermically.

This morning the papule alluded to in yesterday's note was seen to have become distinctly larger, there being an area of infiltrated skin about $\frac{1}{4}$ inch diameter. The centre of this area has broken down, leaving an ulcerated surface.

1st June, 1911.—Patient had a good night after the hypodermic injection, and slept for about five hours.

Pulse 148, irregular in force, and to a slight degree in rhythm weaker than yesterday.

Respirations 50, and not laboured. Temperature at 10 a.m., 102.

The glands in R. groin show a bigger swelling than 24 hours ago; the overlying skin is now pink; there is a tendency to oozing from the puncture-wounds when the dressing is removed, and there is no fluctuation. The glands in L. groin are much as yesterday. There does not seem to be any swelling of the deeper inguinal or of any abdominal glands; axillary, cervical, and vertical inguinal glands do not seem to be enlarged.

Heart sounds not so good as yesterday. Second sounds predominant.

Lungs: no percussion dulness. In both backs below line of spine of scapula there are adventitious sounds. Fine inspiral F. crepitus (bronchiolitis) in R. back in interscapular space; fine inspiratory rhonchi with coarse expiratory snore at base. On L. side coarse bubbling rales, with rhonchi at L. base.

Urine 1020, acid, orange, turbid, definite but not abundant albumen. No Fehling reduction; diazo reaction positive.

Knee jerks present; plantar reflex not obtainable (skin of soles very thick), cremasteric reflex absent—abdominal reflex present.

Tongue tends to be dry, slightly furred, pink.

Bowels have not moved since night before last (when they were moved by enema).

5.30 p.m.—Patient is obviously failing now; very restless; pulse extremely poor—has taken food fairly well. Yersin's anti-plague serum (Lister Institute; date 1911) 240 c.c. given intravenously into L. median basilic vein.

8 p.m.—Patient now pulseless; seems to be struggling; has at times tonic spasms of R. arm and forearm, the movement taking the form of over-complete supination. Respirations number 62, and are very laboured. Lungs: there is flatness of percussion at R. base, and there seemed to be tubularity of R.M. here in addition to occasional snoring rhonchi and fine inspiratory crepitus, but physical examination was difficult on account of the restlessness of patient. At L. base there were numerous bubbling rhonchi. Yersin's anti-plague serum 120 c.c. (date 1907) given intercellularly into R. thigh, and 80 c.c. into L. thigh.

Strychnine gr 1/20 subcut.

9.30 p.m.—Patient is now obviously moribund; struggling for breath; extremities cold; sweat on brow; tonic spasms of neck muscles, in addition to those of right arm.

9.45 p.m.—Death.

N.B.—No growth has taken place on the salt agar slope tubes which were inoculated 48 hours ago.

ALEX. JOHNSTON,
Medical Superintendent.

Belvidere Hospital,
Glasgow, 14th July, 1911.

APPENDIX II.

BACTERIOLOGICAL REPORT.

REPORT ON CASE OF SUSPECTED BUBONIC PLAGUE IN LASCAR SEAMAN FROM S.S. "CITY OF BENARES."

Eusaph Boodhoo, æt. 25. Sickened on 28th May; admitted to Belvidere Hospital on 30th May; died on 1st June.

The following interim note was submitted on 1st June, 1911, reporting the presence in the bubo of a bacillus having the morphological characteristics of *Bacillus Pestis* :—

"At Dr. Wright's request I visited Belvidere yesterday evening, 31st May, 1911, accompanied by Drs. Reid and Wilson, and obtained specimens from bubo of Lascar seaman, Eusaph Boodhoo, æt. 25, of the 'City of Benares,' recently arrived from Kurrachee, and presently occupying Graving Dock. The patient shows a well-marked right inguinal bubo of the oblique chain of glands, with some œdematous swelling of the surrounding tissues, and also some enlargement of the corresponding left inguinal chain—the separate glands of which are distinctly palpable.

"*Microscopic Examination.*—Film preparation of sanguinolent fluid withdrawn from the bubo by hypodermic syringe show a large number of bacilli characteristic of *Bacillus Pestis*, and give the staining reactions of this organism.

"*Inoculation Experiments.*—Two guinea-pigs were inoculated subcutaneously with the bubonic fluid, and this morning the same material, after 9 hours' incubation—resulting in a great proliferation of the bacilli—was inoculated into two mice.

"The further progress of the experiments will be reported in due course."

The patient died on 1st June, and the following is the record of the *post-mortem* examination conducted by me at Belvidere Hospital on 2nd June within 24 hours of his death:—

The body is that of a well-developed, well-nourished Lascar.

Immediately above the umbilicus there is a scabbed ulcer 0.5 cm. in diameter, with a broad, slightly raised, livid marginal zone extending 1.3 by 2 cm.

The inguinal region on both sides shows a swelling in the form of a rounded ridge in the line of Poupart's ligament diffusing into the surrounding tissues. The swelling is distinctly more prominent and widespread in the right inguinal region; it is homogenous, and its margins shade off into oedematous surroundings. In the swelling on the left side a chain of enlarged glands is distinctly palpable. There is no enlargement of the axillary or cervical glands.

The heart is in a condition of firm contraction. Both ventricles contain *post-mortem* clot. The muscular tissue and the valvular structures are normal.

Lungs.—Both lungs are very firmly adherent by fibrous tissue. The lower lobe of the left lung is found on palpation to be partly consolidated, the consolidated parts being marked by dark-blue discolouration of the pleural surface with some hæmorrhage. On the diaphragmatic surface there is a similar patch of discolouration about 3 cm. in diameter, with hæmorrhage over its most prominent part. There are also some small hæmorrhagic areas on the other parts of the diaphragmatic surface. On section of the lung the upper lobe and the upper half of the lower lobe appear hyperæmic and oedematous, while the postero-inferior half of the lower lobe is in a condition of commencing consolidation. The discolouration already noted on the pleural surface is quite superficial. The right lung presents the same conditions, except that superficially the pneumonic consolidation is distinctly more advanced towards grey hepatisation. There is no evidence of tuberculosis in either lung.

There is no enlargement of the bronchial glands.

The spleen is greatly enlarged, soft, and uniformly dark in colour.

The liver is slightly enlarged, softer and paler than normal, and slightly suggestive of fatty infiltration, inasmuch as the periphery of the lobule is pale and the centre deep red.

The peritoneum appears normal, and there is no evidence of hæmorrhage on the peritoneal surface of large or small intestine.

The kidneys are both slightly congested, and on section show marked cloudy swelling.

The lumbar and iliac glands on the right side are enlarged and hyperæmic, and present a gradual increase in size downwards towards one which is about the size of a walnut just inside Poupart's ligament. The iliac glands on left side are similarly, but to a less extent, enlarged.

The swelling in the right inguinal region on removal "en masse" shows oedema and hæmorrhagic infiltration of the surrounding tissues. It measures 5 by 3.5 cm., and appears as a brownish mass mottled with hæmorrhages and yellowish areas of necrosis. Towards the pubic end there are several smaller hæmorrhagic glands. The femoral glands on this side show no enlargement.

The swelling on left side is found to consist of a series of enlarged hæmorrhagic glands. Around these glands the tissues are matted, oedematous, and to a slight extent hæmorrhagic.

The bladder appears normal.

The Intestines.—The mucous membrane of the large intestine and the lower part of the ileum is hyperæmic. In the course of the jejunum there are several small areas of capillary hæmorrhage. There is no enlargement of the mesenteric glands.

The appendix is normal.

MICROSCOPICAL EXAMINATION.—Film preparations were made from the various organs and parts, and gave the following results:—

Right inguinal bubo: numerous bipolar Gram negative bacilli characteristic of bacillus pestis: the bacilli are more typically bipolar and less swollen and degenerated at the periphery as compared with the centre of the mass.

Left inguinal hæmorrhagic gland: the same bacilli are abundantly present, and also considerably degenerated.

Lungs: the pneumonic parts of both lungs show a large number of small Gram negative bacilli, varying in length and of less diameter than bacillus pestis. Many leucocytes are filled with them. Few bacilli of the pest type are seen.

Blood: no organisms, with the exception of a few putrefactive rods, are found in the blood either from the right or the left ventricle.

Spleen: the films give the same negative result as the blood.

Kidneys: bacilli, characteristic of pest and somewhat degenerated, are numerous.

CULTURAL TESTS.—These were made on blood agar plates, and growths, when obtained, were profuse after 48 hours at 37° C.

Right inguinal bubo: pure and profuse growth characteristic of B. Pestis.

Right iliac gland: profuse growth of the same organism.

Ulcer of abdominal wall above umbilicus (material taken by pipette from the deeper parts of the lesion by traversing the tissues from behind): very abundant pure growth of bacillus typical of plague.

Right lung: mixed growth of (1) organism characteristic of B. Pestis (scanty), and (2) the already mentioned small bacillus (abundant).

Left lung: no growth resembling B. Pestis: the small bacillus abundant.

Blood from heart: no growth.

Spleen: no growth.

BIOLOGICAL TESTS.—(1) Two guinea-pigs (551 and 552) were inoculated subcutaneously on 31st May with fluid obtained by aspiration from bubo, and died after four days with left inguinal bubo (site of inoculation), enlargement of the right inguinal and the axillary glands, hyperæmia of the subcutaneous tissues, enlargement of the spleen, and very minute yellow mottling of spleen and liver. A short bipolar Gram-negative bacillus appeared abundantly under the microscope and in films from bubo, blood, spleen, and liver: and cultures on blood-agar from the same sources yielded a greyish translucent growth.

(2) Two mice (552 and 554) inoculated subcutaneously on 1st June with a nine hours' culture from the patient's bubo were found dead on the morning of the 3rd and 5th June respectively with hyperæmia and œdema of the ventral subcutaneous tissues, surrounding hyperæmia of inguinal and axillary glands, especially of the left—the site of inoculation, and enlargement and hyperæmia of the spleen and liver.

(3) As controls of the preceding biological tests, the following inoculations were made on 3rd June with material obtained *post-mortem*:—

(a) Two mice (564 and 566) were inoculated with fluid from the right and left inguinal buboes respectively. The former was found dead within 48 hours, and the latter within 72 hours, with the characteristic appearances of plague.

(b) Two guinea-pigs (563 and 565) were inoculated respectively with the same material. The one inoculated with fluid from the right bubo is still living, whilst the other inoculated from the left bubo died within 72 hours with the usual signs of acute plague.

(4) To test the specificity of the bacillus as isolated in culture, a mouse (599) and a guinea-pig (598) were inoculated with a 48 hours' growth on agar. The former died within 48 hours, and the guinea-pig within 4 days, with all the evidences of acute plague.

In all these inoculation experiments material from the organs and parts of the animals yielded in microscopical preparations and in cultures a bacillus presenting the characteristic appearance of *Bacillus Pestis*.

ULCER OF THE ABDOMINAL WALL.—It may be noted that after a culture was made from this lesion the tissue was placed in a fixing solution. On mesial section thereafter it is found that the base of the ulcer is formed of soft reddish material with definite limitations like an abscess, and corresponding in extent to the livid zone mentioned in the *post-mortem* report. Microscopical examinations of the tissues are in progress, in view of the fact that the situation and appearance of this lesion strongly point to it as the probable site of inoculation.

In conclusion, I have to report that the morbid anatomy of the case, the microscopical and cultural findings, and the experimental tests provide a chain of evidence proving the disease bubonic plague.

R. M. BUCHANAN.

Public Health Laboratory,
June 12, 1911.

FLEAS AND BEETLES, "CITY OF BENARES."

EXPERIMENTAL INOCULATIONS.

2nd June, 1911,	562 Mouse,	Flea (<i>P. irritans</i> Dr. A.K.C.)	Emulsion in Bouillon.	Negative.
3rd " "	570 G.P.,	3 beetles from "City of Benares,"	"	"
3rd " "	571 "	3 beetles " "	"	G.P. died 19th June. Negative.
7th " "	586 "	3 beetles " "	"	"
14th " "	606 "	2 beetles fed on bread soaked in emulsion of <i>B. pestis</i> .	"	G.P. died 15th June; <i>B. pestis</i> found in blood.
26th " "	638 "	3 beetles fed on bread soaked in emulsion of <i>B. pestis</i> and washed.	"	Negative.

R. M. BUCHANAN.

Glasgow Public Health Laboratory,
14th July, 1911.

TRACHOMA.

The restrictions placed upon the emigration of persons suffering from trachoma has resulted in a very marked decrease in the number rejected at foreign ports within the last few years. In 1910 there were 21 cases, and only 8 in 1911.

Of these 8 cases, 6 were aliens returning to their own countries at the charge of the Shipping Companies, in terms of the Aliens Act, 1905, and two

were aliens who were resident in Scotland (Shotts) long enough to emigrate as Scottish emigrants. The details regarding these cases are subjoined:—

TRACHOMA.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1911				
March 5	S.S. "Cassandra"	St. John (N.B.),	1	Rejected Russian-Pole. Returning directly to Poland.
July 2	S.S. "Numidian"	Boston	1	An alien reject. Proceeding to Liverpool on way to Constantinople.
" 21	S.S. "Mongolian"	Philadelphia	2	Two alien rejected passengers. Returning to Constantinople.
Sept. 12	S.S. "Parisian"	Boston	2	Two alien rejects—Russian-Poles. Return to Shotts, from whence they emigrated.
Oct. 1	S.S. "Cassandra"	Montreal	1	Alien female "reject," aged 18 years. Returning to Galicia.
Nov. 24	S.S. "Numidian"	Boston	1	Alien male reject. Returning to his home in Poland.
			8	

PHTHISIS.

Twenty-five cases of pulmonary tuberculosis were noted during the year, as compared with 19 in the year 1910.

The 25 cases mentioned were distributed as follows:—*Deports*, 8; ordinary passengers, 8; members of crews, 9.

Of the *deports*, 6 were British and 2 alien; of the ordinary passengers all were British, and of the members of crews 5 were British, 2 were natives of India, and 2 were Chinese.

Of the total number, 21 were found on arrival at the Tail of the Bank. Of the remainder, 2 died, 1 was buried at sea, and the other, a Lascar, died in Hospital in Avonmouth; the third, also a Lascar, recovered there, and the fourth was landed at Londonderry. The cases of tuberculous disease in 1910 numbered 19; in 1911 they numbered 25. This increase of 6 cases seems a large percentage, and is confined to the group "members of crew." This group in 1910 showed 1 British, 2 French, and 1 native (of India) sailors affected. In 1911 the same group shows 5 British, 2 Chinese, and 2 native (of India) sailors affected.

PHTHISIS.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1911				
April 2	S.S. "Columbia"	New York	1	Irish female, steerage passenger. Landed Londonderry. Patient isolated; quarters, &c., disinfected.
" 3	S.S. "Numidian"	Boston	1	A fireman. Isolated on board. Convalescent on arrival. Home in Glasgow.
" 15	S.S. "Ionian"	"	2	Two British female passengers—one saloon, one steerage. Both landed in Greenock. One sent to Ireland and one to her home in Glasgow. Twelve years and one year respectively in America.
May 7	S.S. "Numidian"	"	1	Male, 2nd saloon, passenger. Left this country two months ago, and is returning voluntarily to home in Birmingham.
June 4	"	"	1	Deported male, 17 years. Left two months ago; returning to home in Glasgow.
" 5	S.S. "Moyune"	Java	1	Chinese fireman. Not isolated; to be removed in Glasgow.
" 12	S.S. "Cassandra"	Montreal	1	Deport, age 27 years. Nine months in America. Proceeding to home in Stirling.
" 18	S.S. "Grampian"	"	1	Deport, age 60 years. A few months only in America. Proceeding to home in Elgin.
July 16	S.S. "Parisian"	Boston	1	Saloon, male, passenger, age 51 years. Isolated in cabin, and proceeding to home in Stockport.
" 23	S.S. "Columbia"	New York	1	Steerage passenger, age 23 years. Isolated in ship's hospital. Three months in America. Returning to Kirriemuir.
Aug. 7	Barque "Codelia"	St. Johns	1	British ordinary seaman. Ten days sick.
Sept. 3	S.S. "Ionian"	Montreal	1	Steward, age 59 years. Home in Glasgow.
" 8	S.S. "Grampian"	"	1	Deport. Alien being sent home.
" 13	S.S. "Leslie"	Bombay	1	Lascar. To be removed to hospital in Glasgow.
" 30	S.S. "Pretorian"	Philadelphia	1	Consular 2nd saloon passenger, naval seaman. Isolated in ship's hospital. Proceeding to Chatham Naval Hospital.
Oct. 1	S.S. "Cassandra"	Montreal	2	A fireman and a steward. Both isolated in ship's hospital. Both proceeding to Glasgow.
" 7	S.S. "Grampian"	"	1	Deport, British. Home in Kirkcudbrightshire.
" 27	S.S. "Norman Monarch"	Cruz Grande	1	Chinese fireman. To be kept on ship in Glasgow.
" 15	S.S. "Caledonia"	New York	1	A steerage passenger. Died, and buried at sea.
" 29	S.S. "Ionian"	Montreal	1	Second saloon passenger. Three years ill. Returning to home in South Uist.
Nov. 6	S.S. "Athenia"	"	1	Deport, 2nd saloon, aged 21 years. One year in Canada. Returning to home in Dundee.
" 26	S.S. "Newby Hall"	Karachi	2	Two Lascars—a seaman and a fireman. One died in hospital, Avonmouth. One remained there in hospital under treatment.
			25	

ENTERIC FEVER.

Ten cases of enteric fever were reported or noted, with 1 death, as compared with a similar number in 1910 with no deaths. Those of 1911 occurred singly, with exception of one, whose temporary attendant on board ship developed the disease on his return to Glasgow.

ENTERIC FEVER.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1911				
Jan. 29	S.S. "Pretorian"	Boston	1	Stewardess, aged 50 years. Isolated, Belvidere Hospital. Home in Glasgow. No other cases notified on board.
Feb. 12	S.S. "Penwith"	Theodosia	1	Member of crew (donkeyman), aged 37 years. Isolated in his cabin. Removed to Belvidere Hospital.
" 25	S.S. "City of Sparta"	Calcutta	1	A steward. Removed to Denton Hospital, Gravesend. Quarters disinfected by Port Local Authority, London.
May 13	S.S. "City of Benares"	Bombay	1	A steward. Removed to hospital in Marseilles. Home address in Edinburgh. Disinfection of ship by Port Local Authority.
" 17	S.S. "Orcadian"	Buenos Ayres	1	Member of crew (donkeyman), aged 29 years. Isolated in a cabin for two days of illness. Removed to Belvidere Hospital.
" 20	S.S. "Grampian"	Montreal	1	A steward, aged 25 years. Landed and died in Gross Isle, Montreal. Ship disinfected by Port Local Authority.
" 27	S.S. "Corinthian"	Philadelphia	1	A fireman. Sickened on outward voyage, and was landed and sent to hospital in St. Johns. Ship disinfected, but a case (contact) occurred later on in Glasgow.
July 21	S.S. "Mongolian"	"	1	A fireman, aged 21 years. Isolated in ship's hospital. Removed to Belvidere Hospital for observation.
Aug. 12	S.S. "Newlands"	Quebec	1	A seaman, aged 16 years. Kept to his bunk in fore-castle. Sent to Belvidere Hospital for observation.
Sept. 9	S.S. "Saturnia"	Montreal	1	A cattleman, age 30 years. Isolated in ship's hospital. Removed to Belvidere.
Nov. 5	S.S. "Grampian"	"	1	A greaser, aged 33 years. Isolated in ship's hospital. Removed to Belvidere Hospital.
			10	One death.—Occurred in Canada.

BERI-BERI.

Nine cases of beri-beri were noted during 1911, no deaths, as compared with 3 cases in 1910 and 1 death.

The cases were sporadic, except, perhaps, in the s.s. "Chindwin," where 3 Lascar firemen, out of a native crew of 66, suffered.

The native crews (of India and China) are being more carefully selected, and their feeding more carefully regulated. In this connection I may add that the new vessels of the Clan Line appear to be having hospital accommodation provided for the isolation of infectious cases.

BERI-BERI.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1911				
Jan. 9	S.S. "Clan Mackinnon"	New York	1	A native fireman. Doing light work. Dealt with in Glasgow.
April 12	Barque "Rochambeau"	Poro and Queenstown	1	A seaman (French), sickened on voyage home. (There had been a death from Beri-beri on outward voyage). Patient going home to France.
June 5	S.S. "Moyune"	Java	1	A Chinese fireman removed to hospital.
Sept. 8	S.S. "Bhamo"	Rangoon	1	A native fireman. Sent to hospital, Glasgow
" 13	S.S. "Clan Leslie"	Bombay	1	A native seaman, aged 50, removed to hospital in Glasgow.
Nov. 25	S.S. "Imani"	Galveston	1	A native quarter-master. Kept in his own quarters. To be taken back to India.
Dec. 10	S.S. "Chindwin"	Rangoon	3	Three Lascar firemen. One fireman had recovered on arrival and two were sent to Western Infirmary.
			9	

DIARRHGEA AND DYSENTERY.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1911				
Jan. 8th	S.S. "Iberia"	Genoa and Sousa	1	An A.B., aged 42 years. Convalescent. Proceeding to home in Glasgow.
Jan. 19th	Brigantine "Fram"	Laguna	1	Boatswain. Removed to Plymouth Hospital, P.L.A., disinfected vessel.
April 18th	S.S. "City of Manchester"	Calcutta and Dunkirk	1	A native greaser. Convalescent.
May 15th	S.S. "Amatonga"	Bussorah Algiers and London	1	A native fireman, age 30 years. Reported for observation.
June 12th	S.S. "Mackinnon"	Rangoon	1	A Lascar fireman removed to hospital at Malta. Vessel disinfected.
Aug. 26th	S.S. "Clanshaw"	Bombay	1	Third officer of vessel. Proceeding to his home in Dundee. Was isolated on board and vessel disinfected in Glasgow.
Sept. 5th	S.S. "Tennyson"	Novorossisk	1	A British A.B., aged 40 years. Sent to Western Infirmary.
Sept. 8th	S.S. "Grampian"	Montreal	1	Alien girl child, 2nd class passenger, aged 4 months. Died and buried at sea.
Oct. 19th	S.S. "Amarapoora"	Rangoon	1	A native passenger removed to P.L.A. Hospital, Liverpool, and vessel disinfected.
Dec. 4th	S.S. "Cassandra"	Montreal	1	A steerage passenger. Proceeding to home in Glasgow.
			10	

PNEUMONIA.

Date.	Name of Vessel.	Where from.	No. of Cases.	Remarks.
1910				
Feb. 19	S.S. "Saturnia"	St. John (N.B.)	1	Alien steerage passenger. Isolated in ship's hospital. Removed to Western Infirmary.
" 21	S.S. "Clan Gordon"	Calcutta	1	Native Tindal. High temperature. Case went to infirmary in Glasgow.
Mar. 17	S.S. "Castalia"	Bombay and Liverpool	2	A baby passenger, 8 months old, died; buried at sea on 21st February. A native fireman; removed to Royal Southern Hospital, Liverpool, on 12th March.
May 14	S.S. "Clan Ogilvy"	Sydney	1	A sailor, aged 20. Sent to Western Infirmary, Glasgow.
June 12	S.S. "Ionian"	Montreal Quebec	1	An assistant steward. Treated in ship's hospital. Home address, Port Bannatyne, Rothesay.
Oct. 19	S.S. "Amarapoor"	Moulmein	1	A Lascar seaman, aged 30 years. Ordered to Western Infirmary.
			7	

SANITARY CONDITION OF VESSELS.

Tables E and F explain themselves. In Table E, among the 280 British steamships, there are included 22 cattle ships; and in Table F these again appear under the heading "Accumulations of Manure." Table F summarises the work of sanitary inspection of vessels under a classification intended to group the defects and nuisances discovered in a manner fitted to make a yearly comparison of the work done, and of the progress attained.

TABLE E.—NUMBER AND NATIONALITY OF VESSELS IN WHICH DEFECTS WERE FOUND DURING THE YEAR 1911.

Nationality.	DEFECTS FOUND ON—	
	Steam.	Sailing.
British,	280	2
Norwegian,	49	4
Spanish,	11	...
Austrian,	4	...
Swedish,	4	...
Danish,	3	1
French,	4	7
German,	15	...
Italian,	5	1
Russian,	1	1
Dutch,	2	...
Total,	378	16

TABLE OF DEFECTS AND NUISANCES.

The total number of defects and nuisances found on the vessels boarded during 1911 was 553, as compared with 640 in 1910, a decrease of 87.

This decrease is made up entirely by a lessening of neglect or filth nuisances. Both the defects and nuisances found are such as must reappear year by year, and are kept down by the vigilance of inspection. They are, however, not of a serious nature.

The reduction in the importation of cattle is responsible for 33 of the decrease. In 1910 there were boarded 55 cattle ships, and in 1911 only 22.

The structural defects remain much the same from year to year.

TABLE F.—DEFECTS OR NUISANCES FOUND ON VESSELS (BRITISH AND FOREIGN), YEAR 1911.

(a) DUE TO STRUCTURAL DEFECTS.		(b) TO REPAIRS REQUIRED.		(c) TO NEGLECT.	
Nature and Site.		Nature and Site.		Nature and Site.	
<i>Forecasts.</i>					
Insufficient heating, ...	1	Bogies broken, ...	10	Floors and woodwork dirty, ...	123
Do. lighting, ...	4	Ports broken and leaking, ...	33	Ship's gear stored in bunks, ...	7
Do. ventilation, ...	6	Steam heater leaking, ...	11	Ventilators plugged, ...	4
Do. sleeping accommodation, ...	1	Overhead deck leaking, ...	41	Scuppers choked, ...	8
Do. seating do., ...	1	Doors off food lockers, ...	...	Repainting or lime-washing required, ...	9
Anchor chains uncovered, ...	1	Floors broken, ...	...	Verminous, ...	6
Scuppers too high, ...	...	Banks broken, ...	...	Food stored in bunks and forecastle, ...	6
No doors on food lockers, ...	...	Ventilators broken, ...	...	Drinking water barrel in forecastle, ...	11
Danger of fire from bogie, ...	...	Doors on bulkheads broken, ...	...	Do. tanks uncovered, ...	25
	...	Forecastle door broken, ...	2	Eat infested, ...	...
	...	Cabin door broken, ...	3	Bilges unclean, ...	...
	...	Anchor chain casing broken, ...	2	Pantry and storeroom dirty, ...	1
	...		...	Fore-peak smelling, ...	1
	...		...	General condition (dirty), ...	1
<i>Water-closets.</i>					
Insufficient accommodation, ...	4	Seats broken, ...	7	Pan or trough choked or foul, ...	106
	...	Ports broken, ...	2	Ship's gear stored therein, ...	9
	...	Trough or pan broken, ...	3	Gear stored in bathroom, ...	7
	...	Flush tank broken, ...	1	Scuppers choked, ...	20
	...	Floor broken, ...	1	Lime-washing or repainting required, ...	8
	...	Doors off or broken, ...	1		
	...	Urinal choked, ...	1		
	...	Plug broken, ...	3		
	...	Effluent leaking, ...	1		
	...	Bathroom basin broken, ...	1		
<i>Decks.</i>					
	...		...	Accumulations of manure, ...	22
	...		...	Do. rubbish, ...	10
	...		...	Galley dirty, ...	8
	...		...	Messroom dirty, ...	1
	...		...	Drinking water tanks uncleaned, ...	19
	...		...	Bilges uncleaned, ...	7
	...		...	Bathroom dirty, ...	11
	...		...	Do. scuppers choked, ...	6
	...		...	Do. food stored therein, ...	1
Total, ...	18		123		412

TABLE G—INSPECTION of VESSELS.

	1907.		1908.		1909.		1910.		1911.	
	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.
(a) Carefully inspected, ...	893	27	544	15	555	12	509	22	558	12
(b) Partially inspected, ...	1,003	20	1,470	22	1,433	26	1,571	31	1,511	26
(c) { Boarded but not inspected,	12	...	16	...	26	1	22	...	...	...
{ Hailed, do.,	18	...	6	...	4	...	9	...	25	1
(d) Not boarded nor hailed, ...	24	...	23	...	21	3	19	...	34	...
	1,950	47	2,059	37	2,039	42	2,130	53	2,128	39
	47		37		42		53		39	
Total, ...	1,997		2,096		2,081		2,183		2,167	

(a) and (b)—Carefully and Partially Inspected—are dependent on whether the vessel goes to anchor, or goes straight on to Glasgow.

(c) and (d) are dependent on weather and other accidental circumstances.

The following statement, showing the cost of the Port Local Authority for the year ended 31st May, 1912, is taken from the Annual Abstract of Expenditure and Revenue prepared by the Treasurer:—

EXPENDITURE.

BOARDING STATION AT PRINCES PIER, GREENOCK.—			
Salary to Senior Assistant to Medical Officer,	£330	0	0
Salary to Junior Assistant to Medical Officer,	285	0	0
Fees (£29 5s.) and Expenses (£19 15s.) of <i>locum tenens</i> during holidays of Medical Assistants,	49	0	0
Wages to Inspectors (two) of Ships and Crews,	225	18	0
Insurance of Employees under Workmen's Compensation Acts,	1	5	6
Wages (£23 2s. 6d.) and Board and Lodging Allowance (£9 6s. 10d.) to Inspectors relieving for holidays and sickness,	32	9	4
Uniform Clothing for Medical Assistants (£15) and Inspectors (£15 8s. 6d.),	30	8	6
Clyde Pilot Board—Contribution towards Upkeep of Steam Launch,	450	0	0
Rent of Site for Boarding Station (£10) and renewing lease (6s.),	10	6	0
Assessments and Insurance,	12	16	3
Heating (£5 11s. 11d.) and Lighting (£9 9s. 9d.),	15	1	8
Furnishings, Fittings, &c.,	12	8	5
Repairs to Boarding Station,	4	13	11
Office Cleaner's Wages,	23	8	0
			£1,482 15 7
GLASGOW HARBOUR.—			
Wages to Inspectors (two) of Ships and Crews,	£252	1	0
Wages to Inspectors appointed under Public Health (Regulations as to Food) Act, 1907,	222	6	0
Insurance of Employees (Partial) under Workmen's Compensation Acts,	0	18	5
Uniform Clothing for Inspectors,	11	7	1
Disinfectants, Bait, &c.,	2	15	7
Visits of Medical Officer to 15 Vessels to ascertain nature of cases of illness on board, at 42s.,	31	10	0
Removal to Epidemic Hospitals and Treatment of 46 Patients, at £8 12s. 6d. each (£396 15s.), and Hire of Ambulance (4s. 6d.),	396	19	6
Maintenance of Contacts in Reception Houses,	10	7	0
Interment Charges (six cases),	7	4	0
Bacteriological Examinations at request of Medical Officer,	24	15	6
Washing Clothing and Disinfecting Ships (57 at 15s. and 2 at 5s.),	43	5	0
			1,003 9 1
GENERAL AND ADMINISTRATIVE CHARGES.—			
Salary to Medical Officer of Health,	£50	0	0
Do. Sanitary Inspector,	50	0	0
Do. Veterinary Surgeon appointed under Public Health (Regulations as to Food) Act, 1907,	50	0	0
Do. to Clerk in Office of Medical Officer,	60	0	0
Office of Sanitary Inspector (Proportion of Expense),	19	18	7
Office of Clerk to Local Authority Do.,	30	0	0
Office of Treasurer, Do.,	30	0	0
Auditors' Fee,	10	10	0
Stationery and Newspapers (£4 11s. 5d.), Printing (£11 18s. 3d.), and Advertising Audit (£1 16s. 1d.),	18	5	9
Printing Minutes,	44	2	0
Telegrams and Postages,	5	5	2
Railway and other Travelling Expenses and Cab Hires,	40	17	11
Corporation of Glasgow, Tramways Department—Tram-Car Checks,	6	6	0
Do., Motor Garage—Hire of Motor Cars,	0	4	8
Expenses of Deputation attending in Oban the Thirty-Seventh Annual Congress of the Sanitary Association of Scotland,	7	7	9
Subscription to the Sanitary Association of Scotland,	1	1	0
Expenses of Deputations attending in London Meetings of the Association of Port Sanitary Authorities,	33	17	3
Annual Subscription to Association of Port Sanitary Authorities,	3	3	0
Corporation of Greenock, Public Health Department—Payment for half-year from Martinmas, 1911, in respect of which 6 beds are reserved in Craigieknowes Hospital for the accommodation of Patients,	36	0	0
Telephonic Communication—			
National Telephone Company—Exchange and Private Lines,	£20	15	0
Trunk Dues of National Telephone Company and Glasgow Post Office Telephone Service,	8	15	8
			29 10 8
Sundry Petty Charges,	8	1	3
			534 11 0
			£3,020 15 8

REVENUE.

Proportion accruing to the Port Local Authority of the Port of Glasgow for the year to 15th May, 1911, of the contribution of £15,000 payable under the Local Taxation (Customs and Excise) Act, 1890, towards the cost of Medical Officers and Sanitary Inspectors in Scotland,	£29	2	6
General Post Office—Royalty (6 years) for permission to use Telegraph Circuit between the Prince's Pier Office and River Pilot Station refunded, the National Telephone Company being liable,	0	6	0
CONTRIBUTIONS UNDER ARTICLE 6, SECTION IV., OF ORDER—			
Local Authority of the Eastern District of the County of Dumbarton,	10	0	0
Local Authorities of the Burghs of Glasgow, Govan, and Partick, for the remainder (£2,981 7s. 2d.) of the Expenses incurred by the Port Local Authority, in proportion to the Annual Value of the whole Lands and Heritages within their respective Districts, viz. :—			
Glasgow, on £5,977,249	2,594	15	10
Govan, on 481,878	209	3	9
Partick, on 408,602	177	7	7
	£6,867,729		£3,020 15 8

FOREIGN MEAT REGULATIONS.

The following Table gives the total quantities of food material landed in the Port of Glasgow during the year 1911, a percentage of which was examined under the Foreign Meat Regulations:—

<i>Beef.</i>		<i>Pork.</i>	
Quarters,	25,656	Carcases,	429
Rumps,	2,061 tierces.	Cuts,	1 barrel.
Mess,	5,046 "	"	3 bales.
Boneless,	14,219 boxes.	Mess,	2,729 barrels
"	6,212 bags.		
<i>Veal.</i>		<i>Sundries.</i>	
Carcases,	58	Sheep and Lamb Hearts,	39 bags or boxes.
Sides,	138	Offal,	97 " "
Quarters,	160	Hams and Sausages,	4 " "
		Bacon,	9 " "
		Lamb Tongues,	2 " "
		Pig "	25 " "
		Ox "	62 " "
		Ox Tails,	3 " "
		Pig Skins,	18 " "
<i>Mutton.</i>			
Carcases,	50,861		
Legs,	100 sacks.		
<i>Destroyed.</i>			
Beef (boneless),			105 boxes.
Do.,			24 bags.
Mess Beef,			3 tierces.
Ox Tongues,			10 cases.
Pig Tongues,			30 "

UN SOUND FOOD REGULATIONS.

The following Table shows the amount of food stuffs inspected during the year, and the amount destroyed:—

MEAT—	No. of Packages.	Tons.	Cwts.	Qrs.	Lbs.	Examined.
Fresh and frozen, ... ..	...	...	...	...	...	...
Preserved,	50,220	1,841	9	0	20	984
Sundries,	37	0	14	3	14	2
FRUIT—						
Fresh,	987,750	50,599	12	0	10	General.
Preserved—Dried,	72,105	1,425	14	3	0	1,083
Preserved—Tinned and bottled,	48,239	1,730	3	0	0	586
Nuts,	34,255	925	8	1	0	260
VEGETABLES—						
Fresh,	366,583	1,358	14	0	0	General.
		(770,772 bushels)				
Preserved—Tinned and dried,	14,644	425	6	2	0	247
PROVISIONS—						
Meal, flour, &c.,	1,474,714	102,367	2	0	0	General.
Butter, cheese, &c.,	130,194	6,270	11	1	0	2,910
Bacon, &c.,	54,964	13,904	7	0	0	1,147
FISH—						
Preserved and tinned,	12,643	393	11	3	0	266
SUNDRIES,	11,214	1,009	9	2	12	168
	3,257,562	182,252	4	1	0	7,653
		(770,772 bushels.)				

DESTROYED.

12 boxes bitter oranges, 40 cases currants, 2 crates fowls, 46 tins tinned meat, 68 crates bananas, 5 barrels pears, 18 cases melons, 298 cases pomegranates, 14 bags flour sweepings.

SECTION IV.

AN ACCOUNT OF THE HOUSE ACCOMMODATION OF THE
LABOURING CLASSES IN THE BURGH AND OF ANY
PROCEEDINGS UNDER THE HOUSING OF THE
WORKING CLASSES ACTS OR OTHERWISE.

(A) GLASGOW POLICE (AMENDMENT) ACT, 1890, SECTION 32.

No action has been taken under this Section since 1909, so that the summary of houses closed under the Section which appeared in the Report for last year may be repeated.

Representations were made under the Section from 1890 to 1904, and again in 1909, action in the years 1905-1908 and 1910 having been taken under the Housing of the Working Classes Acts.

Altogether, 916 houses were closed under Section 32 of the Local Act, their number, arranged according to size, being as follows:—

1-Apartment,	613
2-Apartments,	282
3-Apartments,	11
4-Apartments and up,	10
Total,	<u>916</u>

(B)—HOUSING OF THE WORKING CLASSES ACTS, 1890-1909.

On 23rd September, 1910, a representation was submitted to the Local Authority that 41 dwelling-houses forming the tenement at 77 Stewart Street, Cowcaddens, were unfit for human habitation, and a Closing Order was subsequently granted therefor. The owners appealed to the Sheriff, who, on 5th January, 1911, issued an interlocutor "quashing" the Closing Order. Thereupon the Sheriff, at the request of the Local Authority, submitted a special case for the consideration of the Court of Session, and on 21st December, 1911, the Court issued a judgment sustaining objections to the competency of the special case.

Pending this decision, no further representations were made, and consequently there only falls to be recorded the changes which took place during the year with respect to properties represented in 1910. Of these the following were demolished:—

TENEMENTS DEMOLISHED DURING 1911.

Ward.	Address.	Year of Representation.	Apartments.				Population.		
			One.	Two.	Three.	Four.	Adults.	Children.	Total.
10. Exchange, ...	15-19 Dempster Street, ...	1910	...	11	...	...	27	5	32
" ...	21-25 do., ...	"	...	11	...	...	5	1	6
			...	22	...	...	32	6	38

In addition to these demolitions, the property at 33-35 Green Street, represented on 28th May, 1910, was converted into business premises.

In the Report for 1910 two summaries were included, the one showing the results of the representations made in earlier years under the Housing of the Working Classes Act, 1890, one arranged according to year of representation, and the other containing similar information distributed according to Wards.

Since 1909 any action taken has been under the powers contained in the Housing and Town Planning, &c., Act, 1909, and a summary is now introduced to show the results of the representations made thereunder.

The position at 31st December, 1911, was as follows:—

SUMMARY OF REPRESENTATIONS DURING THE YEAR 1910, UNDER THE HOUSING AND TOWN PLANNING, &C., ACT, 1909, AS AT 31ST DECEMBER, 1911.

Number of representations submitted to Local Authority	
during 1910,	22
Properties demolished at 31st December, 1911, ...	8
Buildings closed at 31st December, 1911,	11
Converted into business premises,	1
Failed to obtain Closing Order,	1
Closing Order withdrawn,	1
	— 22

In compliance with an instruction of the Corporation, the following Reports were prepared:—

- (1) By the Medical Officer of Health on Insanitary and Obstructive Buildings in Congested Areas in the City, with suggestions for their improvement, and
- (2) By the Town-Clerk on the Provisions of the Existing Law under which the Corporation could deal with such Buildings.

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(1) REPORT BY THE MEDICAL OFFICER OF HEALTH.

On 13th October, 1910, the Corporation approved of the following motion, which had been proposed by Councillor Whitson and seconded by Councillor Cairns:—

“ That it be remitted to the Health Committee to consider and report as to the necessity (in the matter of public health), for the immediate removal, so far as this can be done under existing legislation, of all insanitary and obstructive buildings in congested areas of the City.”

The meeting of the Committee on Health, on 26th October, continued consideration of the subject-matter of the above remit pending reports being submitted by the Medical Officer of Health on insanitary and obstructive buildings in congested areas in the City, and by the Town-Clerk on the provisions of the existing law under which the Corporation could deal with such buildings.

The following Report has been prepared in compliance with the above resolution.¹

The plan adopted in its preparation was to select the Wards on the basis of their death-rates, and to exclude from detailed review those only in which the rate is always below that of the City as a whole.

A systematic survey of the selected Wards was thereafter made, and in this, as in the preparation of the Report, considerable care has been taken to present a reasonably complete statement of the character and distribution of the areas in which the conditions of housing can be regarded as prejudicial to health, either through defects in the houses themselves, or in consequence of their relation to other buildings, or owing to a combination of these circumstances.

Advantage has been taken of the Ordnance Sheets to prepare plans of many of the areas for illustrative purposes, and colour or shading has been used to indicate the intermingling of business premises with residential tenements.

In this way there has been brought together, from a wider area probably than any hitherto covered, information regarding the housing conditions in those portions of the City which most urgently need reform.

For convenience the Report has been arranged in three parts.

Part I. is mainly devoted to a description of the relationship of the Wards with high death-rates to the former Sanitary Districts of the City, and of certain defects in design which affect the internal lighting and ventilation of buildings irrespective of their situation. In Part II. the insanitary portions of the selected Wards are described; while Part III. contains a summary of the principal defects existing, and a consideration of the steps by which these may best be remedied.

¹ The preparation of the Report was begun immediately, but the occurrence of an adverse decision in an action under Section 30 of the Housing of the Working Classes Act, 1890, and consequent Appeal to the Court of Session, determined the postponement of its issue until the legal question had been decided.

PART I.

The Congested Areas.

The Municipal Wards have practically no sanitary history. They were adopted as units of administration so recently as 1903, while for fully thirty years prior to that date the place now taken by the Ward was supplied by what were called Statistical Divisions or Districts, which again were subdivisions of the ten Registration Districts into which the City was divided at the time of their formation. The history of sanitary progress during these years was reflected in the comparisons which from time to time were established between the several districts, and it is the object of this part of the Report to trace the influence of the most insanitary of these on the death-rates of the Wards of which they became part.

Only by some such means can we ensure continuity in the history of reform of our insanitary areas, and in the subsequent survey of the Wards these several districts contained within them have been described separately.

It will be convenient to begin with the Wards, as they are now better known than the disused districts, and, on the basis of the information accumulated since 1903, they may be arranged in three groups, as determined by the relationship of their death-rates to that of the City as a whole.

I.—Wards in which the Annual Death-rate always exceeds that of the City.—These are eight in number, viz. :—

Broomielaw,	Mile-end,
Cowcaddens,	Hutchesontown,
Calton,	Dalmarnock, and
Blackfriars,	Whitevale.

Of this group, the highest average death-rate of the seven years (1903-9) occurred in Broomielaw (24), and the lowest in Whitevale (19.5), while the City Rate was 18 per 1,000.

II.—Wards in which the Annual Death-rate occasionally exceeds that of the City.—These also are eight in number, and in the course of the seven years quoted their annual rates exceeded that of the City as stated in brackets after the name of each Ward :—

Anderston (6),	Sandyford (3),
Townhead (5),	Springburn (3),
Kingston (4),	Gorbals (2),
	Exchange (2),

while Kinning Park, which was only incorporated with the City in 1906, had a rate in excess of that for the City in two of the four years for which the rates are available.

III.—Wards in which the Annual Death-rate is always below that of the City.—These are ten in number, and include several of the wards on the periphery of the City, and some of those which include the best of the Sanitary Districts as existing before the extension of 1891. They are Dennistoun, Cowlairst, Blythswood, Park, Woodside, Govanhill, Langside, Pollokshields, Kelvinside, and Maryhill.

Relationship of former Sanitary Districts to Wards now having Annual Death-rates always or occasionally above that of the City.—The relationship of the Ward boundaries to those of the Sanitary Districts is in most cases quite arbitrary, but it is frequently possible to trace the effect which the most insanitary portions of the latter have had on the death-rates of the Wards within which they are now included.

To do this, however, we must have recourse to the position of the Sanitary Districts when they passed out of use at the beginning of the decade.

The Census of 1901 provided an opportunity of showing the improvement which had taken place in most of them subsequent to 1871. But it brought several into prominence by reason of the continued high death-rate which they presented. It showed that, while the death-rate for the City as a whole had decreased during the interval from 30·7 to 20·7 per 1,000, in three of the districts, viz. :—

Brownfield,
Cowcaddens, and
Port-Dundas.

these rates for 1901 were still greater than the City rate for 1871; and that in nine others :—

High Street, and Closes East and West,	Bridgegate and the Wynds,
Gorbals,	Laurieston,
Calton,	Barrowfield,
	Anderston and St. Enoch's Square,

the rates in some were in excess of the City rate ten years earlier, but in most were higher even than that of the City for 1881.

These twelve districts contained most of the insanitary portions of the City at the beginning of the decade, and the following table shows their distribution among the existing wards, which are arranged in groups according to the relationship of their annual death-rates to that of the whole City.

Former Sanitary Districts, with Annual Death-rates from 25 to 34 per 1,000 in 1898-1902.	Wards in which these Districts are now included.		
	Having Annual Death-rates always above City Rate.	Having Annual Death-rates occasion- ally above City Rate.	Having Annual Death-rate always below City Rate.
(1)	(2)	(3)	(4)
Brownfield,	Broomielaw,	—	—
Cowcaddens,	Cowcaddens,	—	—
Port-Dundas,	—	Townhead,	—
High Street and Closes East,	Whitevale,	—	Dennistoun.
Do. do. West,	Blackfriars,	Townhead,	—
Gorbals,	Blackfriars,	Gorbals,	
Calton,	Calton,	—	
Bridgegate and Wynds, ...	Blackfriars,	—	
Laurieston,	—	Kingston.	
Barrowfield,	(Dalmarnock, Calton, Mile-end,	— — —	— — —
Anderston,	Broomielaw,	Anderston, Sandyford,	— —
St. Enoch's Square,	Broomielaw,	Exchange,	—
... ..	Hutchesontown,*	Springburn,*	—
... ..	—	Kinning Park,*	—

* See notes in text.

It will be noticed that all save two of the worst of the old sanitary districts are represented in seven of the Wards which form column (2) of the table. The eighth Ward of this column (Hutchesontown) was formed out of the least sanitary portions of the former district of Hutcheson Square.

In a similar way six of the Wards in which the death-rates occasionally exceed the City rate, are shown, in column (3), also to include other portions of the districts forming column (1). Column (3) also contains Springburn and Kinning Park Wards, the former including Garngadhill and the area east of Castle Street and Springburn Road, which was formerly part of the districts of Springburn and the Barnhill portion of Possilpark and Barnhill.

On the other hand, that part of the former district of High Street and Closes (E), which is now included in Dennistoun Ward, has been in great part reconstructed under the City Improvement Act of 1897; thus ending the record of a district which, along with the adjacent districts of High Street and Closes (W), and the Bridgegate and Wynds, had at one time the highest death-rates of all the Sanitary Districts.

The remaining districts which had death-rates still above the City Mean in 1901 are included in one or other of the Wards already mentioned. Thus, the districts of St. Andrew's Square and Monteith Row are now included in Calton Ward, St. Rollox has been incorporated with Townhead; Greenhead and London Road are distributed among Dalmarnock, Calton, and Mile-end Wards, while the worst parts of Hutcheson Square are now in Hutchesontown and Gorbals Wards.

INTERNAL CONDITIONS PREJUDICIALLY AFFECTING HEALTH.

Before considering in detail the condition of the Wards forming columns (2) and (3) of the foregoing grouping, attention may here be directed to the existence of certain internal features of house construction which are prejudicial to the health of the inmates, quite irrespective of the character of the structure of the tenement, or its relation to surrounding buildings. Their importance in the present survey arises from the fact that, in one or other form, and in varying degree, they aggravate defects of situation in practically all the areas which are to be described, while their removal would considerably reduce the extent of reconstruction required in particular areas. They include such defects in design as are of the following character:—

(1) *Common lobbies which are defective in lighting and ventilation*, and which may be dealt with under Section 91 (2) of the Building Regulations Act, 1900.

(2) *Concealed beds*, which were prohibited in new buildings after the passing of the Building Regulations Act of 1892, Section 39, and became illegal in existing buildings five years after the passing of the Building Regulations Act, 1900 (Section 104).

(3) *Houses which are situated with relation to each other, so that functionally they are back to back*, although contained in one tenement.

As illustrating the first of these defects, I refer to Sketch (A),* which shows the floor plan of a corner land several storeys in height, with a central staircase, radiating from which is—

- (a) a lobby, 22 feet long, in one of the main axes of the building, leading to four apartments, having defective ventilation, and dependent for its lighting on the introduction of an occasional fanlight over the doors of some of the houses;
- (b) a lobby, 27 feet long, at right angles to the direction of lobby (a) giving access to 6 single apartments and one two-apartment house, and with similar defects in lighting and ventilation.

* Sketches and plans follow, page 154.

These are such obvious defects in structure that argument should be unnecessary to prove their unhealthiness. They afford the only access to the houses to which they lead, and form one of the principal channels of their air supply. Being without adequate lighting, they are almost invariably dirty. As has already been stated, they are also now illegal.

Back-to-Back Houses.—A more serious internal defect occurs, mostly in two-apartment houses, when one apartment is entered through the other, and both apartments have their windows on the same external wall. This feature is so frequently met with in the older two-apartment houses in Glasgow as to be almost characteristic of them. They present substantially the same obstacle to through ventilation which gained notoriety for the back-to-back house in England, and differ from it only in the fact that the wall separating the houses is a partition and not a main wall. Functionally, they are back to back in the sense that through ventilation, or, indeed, effective ventilation, is impossible.

An illustration of what is meant is afforded by the accompanying sketch (B). The upper floors of this building are reached by a spiral staircase, from which there projects across the middle of the tenement at each storey a lobby fully 20 feet in length, from which four houses, each of two apartments, enter. In each case the door of the house gives access directly to the kitchen. The room is entered through a door on the opposite wall of the kitchen, and the windows of both room and kitchen are on the same external wall. The partition which separates the houses on the same side of the lobby forms a solid obstruction to the through ventilation of both.

Sketch (C) illustrates an improvement on this condition, the kitchen and room face opposite directions, and through ventilation is possible through an internal lobby.

Sketch (D) illustrates an effort to provide through ventilation in a building which formerly contained internal windowless rooms, now removed. It is noteworthy as indicating an effort to provide through ventilation not of the best, but still of an improved type, for most of the apartments, save that of the small room marked with the letter X on the sketch, the ventilation of which, under the circumstances represented, is quite inadequate.

The Housing, Town Planning, &c., Act, 1909, Section 43, prohibits the erection of back-to-back houses when these can be regarded as distinct and separate buildings, although it permits the erection and use of a house containing several "tenements" in which the "tenements" are placed back to back, if the Medical Officer certifies that . . . they are so constructed and arranged as to secure effective ventilation of all habitable rooms in the "tenements," as the word is used in England.

It has just been shown that effective ventilation of rooms in houses so situated is impossible, and while proviso (b) of the clause which has been quoted would appear to restrict its application to houses erected after the passing of the Act, it would seem a not unreasonable inference that where the condition already exists such houses should, for the purpose of Section 15 of the 1909 Act, be regarded as not "in all respects reasonably fit for human habitation." The point is an important one legally, and I have returned to it in Part III. of this Report in considering the method by which overbuilt and otherwise defective areas may be dealt with.

Sleeping Apartments deficient in Free Space opposite Windows.—The Glasgow Building Regulations Act, Section 40, prescribes a certain free space in front of the window of every apartment used for sleeping purposes, and it was at one time believed that the operation of this clause would have the effect of closing all such apartments where the free space fell appreciably

short of the statutory requirement. It would appear from information supplied by the Master of Works to the Housing Commission that a survey in 1902 showed that 5,470 apartments were without the space required. He now informs me that a more recent survey shows the number still existing to be 3,079. Relatively few, I understand, have been closed by direct operation of the clause, so that in most cases the apartments have passed out of occupation for sleeping purposes for other reasons, that is either through demolition or conversion to other purposes.

An important issue, however, here emerges, for it would appear now to be held that the clause referred to regards the occupation for sleeping purposes of rooms failing to comply with the requirements of the section, as a police offence only, which may be compounded by a fine, and the apartment reoccupied for similar purposes. To this extent, therefore, the clause fails in the purpose which it was expected to accomplish.

Action of the Corporation during the past twenty years.—At this stage of the inquiry it may be desirable to summarise the results of the action of the Corporation during the past twenty years in regard to buildings unfit for habitation. These include the clearances effected under the 1897 Improvements Act, as well as those houses which were closed as unfit for human habitation under the Glasgow Police (Amendment) Act of 1890, Section 32, and under the Housing of the Working Classes Act, 1890, Section 30.

(a) Number of houses in areas cleared under the City Improvements Act, 1897—

Size,	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Numbers, ...	414	249	50	60	773

(b) Houses closed as unfit for human habitation under the Glasgow Police (Amendment) Act, 1890, Section 32 (till end of 1909)—

Size,	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Numbers, ...	613	282	11	10	916

(c) Houses closed as unfit for human habitation under the Housing of the Working Classes Acts, 1890-1909, Part II. Section 30 (1902-1910)—

Size,	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments and upwards.	Total.
Numbers, ...	792	710	31	6	1,539

PART II.

The Wards in which Congested Areas prevail.

In this part of the Report the congested areas in the Wards named in Columns 2 and 3 of the Table on Page 141 (Part I.) are described. It has not been printed, but the following paragraphs from the introduction will explain its general tenor:—

“ In the survey the several portions of the Old Sanitary Districts now contained in each ward were dealt with separately, and within these districts every

group of buildings contained within boundary streets was treated as a block. Regarding the block as a unit, attention was directed to the condition of the buildings with street frontages, and also to those erected in the back courts which they enclosed.

“As a general rule, demolition is recommended in the following circumstances:—

“(1) When a tenement is so planned or is in such a state of structural neglect that its defects are practically irremediable, or

“(2) When, being a back land, it obstructs the ventilation of the area, or the lighting and ventilation of front tenements, or is similarly obstructed by them or by other buildings, including business premises, in the interior of the block.

“The general question of obstruction by business premises of the ventilation of contained areas or of the lighting and ventilation of front premises has been reserved for consideration under Part III.

“The description of each Ward is prefaced by some details concerning its vital statistics, and in order to supply a standard for comparison corresponding rates for the City as a whole are introduced in a prefix.

“When the Ward rates are compared with those of the former Sanitary Districts, it becomes apparent that the wards have a greater diversity of sanitary condition than characterised the districts; they are less homogeneous, and their death-rates are always lower.”

PART III.

The Question of Procedure.

The principal defect in all the areas is that of over-building, and several types of this are readily distinguishable.

The streets bounding the areas are frequently straight, some are reasonably wide, and the tenements fronting them in some cases substantially built, although many present internal defects of the character described on pp. 142 and 143 of Part I. hereof.

It is when the use which has been made of the ground between the boundary streets is considered that the principal forms of overbuilding we have to contend with become apparent.

In most cases this results from the erection of buildings behind the tenements facing the boundary streets, in some it arises because the interval between parallel and adjacent streets is limited. In others, again, a building with a street frontage may project backwards into a contained area to a considerable extent beyond the line of the other buildings.

In the following illustrations a grouping of the principal types of overbuilding has been attempted:—

(I.) Sometimes the back buildings form a line of tenements of dwelling-houses along the main diameter of the area. Not infrequently, however, buildings originally erected and still largely used for this purpose now include a workshop or warehouse, or the site may be occupied by a saloon attached to a shop in a tenement fronting one of the boundary streets. Again, a building of the warehouse class may cover the whole depth of a feu from the street frontage backwards.

(II.) Another variety of overbuilding occurs when the interval between the boundary streets is large enough to admit the placing of the enclosed buildings in almost any position, so that no uniform pattern is traceable in the packing of the area.

(III.) Again, we have overbuilding produced or intensified where an area is penetrated or traversed by a street or lane of limited width, and buildings are erected on both sides of it.

(IV.) The simplest type of overbuilding occurs where the interval between the building lines of parallel streets is too narrow to carry a double row of tenements of the height to which some have been erected.

Illustrations of these several types of overbuilding may here be cited, although they do not include all the areas coming within the foregoing descriptions.

Of type (I.) there are areas on both sides of Carrick Street (Broomielaw), in the neighbourhood of Crown Street (Blackfriars), and between Marlborough Street and Greenvale Street (Mile-end), in Calton, between Millroad Street, Stevenson Street, Green Street, and Abercromby Street, in School Close, and Purdon's Court, Cowcaddens.

Type (II.) is well illustrated in the four blocks between King Street, Dale Street, Wallace Street, and Commerce Street, and it also occurs in the area bounded by King Street, West Street, Nelson Street, and Dale Street, Kingston.

The Milton and Muse Lane areas, Cowcaddens, illustrate Type (III.), the tenements on either side of the lanes forming rows of houses situated so as to form back tenements to those fronting parallel and adjacent streets of greater width. Richard Street and School Wynd, Anderston, and Wellington Lane, S.S., also present this form of overbuilding.

Type (IV.) is best illustrated in the buildings which lie between portions of the streets running parallel and adjacent to Piccadilly Street, Anderston, and in the neighbourhood of Water Street and Dobbie's Loan, Port-Dundas.

Between Clyde Street and Piccadilly Street, south of the Exhibition Hotel, there is a typical illustration of overbuilding, consisting almost wholly of front tenements. Reduced to measurements, the interval between the building line in Carrick Street and the streets running parallel to it on either side is approximately 165 feet, whereas the corresponding interval between Piccadilly Street and Clyde Street is only 80 feet, and between it and Cheapside Street 95 feet, while opposite tenement buildings vary from three to five storeys in height.

In all these cases the results are such as may be anticipated. Buildings so situated are mutually obstructive; there can be no effective through ventilation of the areas on which they have been erected, and the lighting of rooms on the opposed sides of tenements close to each other is defective. The only variation is in the degree to which both occur, and this is determined by the height and proximity of adjacent blocks.

These defects have long been recognised, and legislation has endeavoured to protect areas of ground contained within a surrounding wall of tenement houses from the erection of obstructive buildings. In particular, several sections of the Glasgow Building Regulations Act of 1892, which were replaced and extended by the corresponding Act of 1900, were intended—

(1) To secure the provision of openings in the line of front buildings on opposite sides of such squares in order to secure through ventilation of the area between, and

(2) To place a restriction on the character of the buildings which might be erected thereon.

These provisions, however, apply only to buildings erected after the passing of these Acts, whereas the present problem concerns the means which are available for getting rid of such as already exist. Nor do they affect conditions such as are illustrated by the Muse Lane and Richard Street areas, or the compression of building sites which has resulted from the limitation of the interval between Clyde Street, Piccadilly and Cheapside Streets, Anderston.

They fail also to meet such cases as are illustrated by the erection of warehouse buildings behind the tenements at the corner of Holm Street and West Campbell Street (see Plan), or, indeed, the erection of warehouse buildings at all, however obstructive they may be to adjacent buildings, provided they have a street frontage.

Their preventive action is thus in a sense limited in its scope, while they are not at all remedial in their operation.

For this we must look to other cognate Acts; and while it falls to the Clerk to advise the Committee regarding the legal procedure best adapted to remedy the conditions described, these vary so considerably in the several areas that it soon becomes apparent that the ultimate intention with regard to any particular area will to some extent determine the procedure taken to remedy the conditions existing therein.

It may be agreed that an area is overbuilt and that demolition of certain buildings within it is both desirable and necessary in order to ensure adequate ventilation and lighting of those which remain. Unless, however, the Corporation is able to control the use of such sites after they have been cleared, no improvement in the condition of the surrounding tenements may result. Section 34 of the Housing of the Working Classes Act, 1890, does, it is true, place certain restrictions on the erection of buildings on any site which has been cleared by an "order for demolition," but its application, when the demolition has been accomplished by agreement with the owner, is doubtful. When the back tenement at 34 Carrick Street was represented under the principal Act, together with an adjacent tenement formerly entering from 29 Brown Street, the owner of the latter removed the front as well as the back tenement at this address, and in their stead erected a six-storey warehouse building, extending the whole depth of the feu, and even more obstructive to the ventilation of the area than the tenements which had been removed.

There is a lesson in this failure to improve the condition of the remaining tenements. It was not, in this case, the legal provisions enabling the Local Authority to deal with houses unfit for habitation that proved inadequate, but the absence of power, in the circumstances which emerged, to prevent a more obstructive building from being erected in their place, and this in the long-run means the absence of a policy in dealing with such areas. Hitherto selective demolition of the worst buildings in respect of structure and situation has been aimed at, but experience has shown that it has only a limited utility even where it is successful, and that it may fail in circumstances where success would appear certain, as at 75 Brown Street and 50 Crown Street.

It must also be taken into account that the official standard of unfitness for human habitation is at the moment considerably in advance of that which is accepted in a court of law.

The back tenement at 75 Brown Street, already referred to, is, I believe, one of the worst placed in Glasgow. It was formerly surrounded on all sides by other buildings—its houses are of the back-to-back type formerly described, and kept in indifferent repair. Yet the Closing Order of the Court was limited to a single house, which had the window of one of its rooms 5½ feet from the turnpike of the front tenement.

It is a further disadvantage of this selective method that when tenements of dwelling-houses are intermingled with business premises in the same enclosed area the procedure adopted is not equally applicable to both. Compare, for example, the restricted definition of "dwelling-house" in Section 29 of the principal Act, as amended, with the application to "any building," which is obstructive, of the provisions of Section 38.

Apart from this, the intermingling of tenements of dwelling-houses with those occupied for business purposes further complicates the question of selective demolition, and of itself constitutes a difficulty which increases as the portion devoted to business purposes extends. Brownfield and the portion

of Anderston Ward which lies between Stobcross Street and the Clyde afford several illustrations of this.

West of Warroch Street; west, indeed, of Cheapside Street, the ground is almost exclusively occupied by public works, while from the east the area is gradually becoming absorbed for similar purposes, so that from the line of the Caledonian Railway westwards to Brown Street there are few dwelling-houses, save just on the Broomielaw and Argyle Street margins.

Meanwhile premises for business purposes are also irregularly distributed over the area of Brownfield proper, occupying both back and front sites, so that complete absorption of the whole area for this purpose may be solely a question of time. It may be doubted whether an endeavour to arrest this change would be likely to prove successful. But the resident population at the moment is not inconsiderable, and is largely composed of wharf employees, whose hours of work make residence in the neighbourhood desirable.

In Brownfield proper there is no playground save an occasional site cleared in recent years, and notwithstanding recent demolitions it is rare even yet to find a tenement which is not obstructed in some of its aspects by an adjacent building. It has, therefore, become one of the typically "congested" areas of the City.

Yet in the four blocks on either side of Carrick Street which constitute Brownfield proper there are only 9 enclosed tenements, occupied as dwelling-houses, while few of the tenements facing the boundary streets can be said to be free from internal defects of a grave character.

Of those areas where overbuilding results from penetration by a lane or narrow street, Muse Lane, Wellington Lane, and Richard Street have been cited as the best examples.

In my Annual Report for 1906 I submitted a description of the Muse Lane area, with the object of enabling the Corporation to formulate a policy in connection with these areas generally. In this district there exists one of the largest open spaces in the City, namely, Phoenix Park, and although 20 years have elapsed since its formation, Cowcaddens is still one of our most unhealthy districts.

Here, as in Calton, which includes Glasgow Green within its area, and the death-rate of which is little below that of Cowcaddens, the teaching of experience seems quite definitely to be that the provision of open spaces on the margin of overbuilt areas fails to accomplish for the population resident within them as much as is to be expected from opening out the intervals between the tenements themselves.

In the report just referred to this principle was applied to the area in question, and the suggestion was made that, while houses on both sides of Muse Lane should be removed, and the surrounding tenements fronting Stirling Street, William Street, Stewart Street, and Milton Street reconstructed where necessary, the intervening space—save the ground necessary for washing-houses, &c., attached to the tenements—should be left open, as being the only place which the younger children of the surrounding tenements can take advantage of as a playground.

It is one of the axioms of Town Planning applied to already overbuilt areas, and must sooner or later be undertaken.

Considered from the point of view of their improvement, the physical requirements of these areas, and of others similar to them, are scarcely open to question. Obviously when any considerable portion of the outer wall of an area is occupied by dwelling-houses, every building in its interior which obstructs its ventilation, and appreciably impairs both the lighting and ventilation of the houses in the tenements forming its outer wall, should be removed. In other words, the internal blocking of hollow squares, which it was the object of the Building Regulations Acts to prevent in new building areas, should have as its complement a persistent effort to remedy such as already exist.

The difficulty arises from divided ownership. Were the whole space in the hands of one proprietor procedure would be simple, but where each site is separately owned it may be beyond the power of individual proprietors to remedy existing defects within the limits of their own holding. To overcome this difficulty the Housing of the Working Classes Act, 1890, makes two separate provisions:—

(1) The area may be dealt with as a whole by an improvement scheme under Part I. of the principal Act, the procedure for which has been greatly simplified in the amending Act of 1909 by rendering the approval of Parliament unnecessary.

(2) Where the site is too small to be so dealt with, a reconstruction scheme may be undertaken under Section 39.

Provisions for adjusting the compensation to be paid, and incidentally for making allowance for any increase in value, which by the reconstruction would accrue to other dwelling-houses in the possession of the same owner as those which have been demolished, are contained in Section 41.

The practical application, however, of these provisions for estimating this appreciation in the value of the remaining buildings has not hitherto been attempted.

If, however, reasonable progress is to be made in re-forming the overbuilt areas of the City, there is need for a comprehensive method for dealing with them, for a policy of improvement persistently applied.

In deciding whether this should follow the lines of former Improvement Acts, which have certain limitations in respect that their operation is limited to the areas named therein, or take the form of a succession of

- (a) Schemes for improvement under Part I., or
- (b) For reconstruction under Section 39

of the Housing Acts, no little importance, I think, attaches to the scope of Section 15 of the Amending Act of 1909 (Town Planning, &c., Act).

It is probable that the precise value of this clause can only be ascertained by trial, but if it can be applied as a remedy for such internal defects in ventilation as have been shown to exist in our variety of the back-to-back house, and to the reconstruction of common lobbies which are unlit and unventilated, then the line which separates the area, which can be dealt with by a reconstruction scheme from that which requires a scheme for improvement, is supplied by the character of the tenements which face the boundary streets. When the defects in these are remediable the more limited purpose of a reconstruction scheme for the enclosed area might prove effective.

In any case, the first necessity is to get rid of the buildings which obstruct the "hollow square," as the phrase is used in the Building Regulations Acts, and to secure the through ventilation of the enclosed area by the provision of openings in opposite sides of the containing walls of tenements.

Where the tenements forming the outer wall are such that no reasonable degree of improvement is possible by any means short of demolition, the question as between an Improvement and a Reconstruction Scheme would fall to be determined very largely by the size of the area to be dealt with. But, assuming that Section 15 of the 1909 Act can be applied in the manner I have indicated as supplementary to a Reconstruction Scheme under Section 39, the persistent application of all three provisions of existing Acts would in the course of a few years completely alter the appearance of our worst districts.

The financial aspect of the question scarcely comes within the scope of the Report, but there is much to be said in favour of the view that the Corporation should set aside a sum annually for reforming its worst districts in some such manner as I have indicated. In any case, we cannot remain satisfied with what has already been accomplished.

I have purposely omitted any detailed reference to the scope of Section 30 of the principal Act, as its application to tenements of dwelling-houses is at present under appeal to the Court of Session.

Its results, however, during the past decade show a marked improvement over those obtained in that which preceded it by means of Section 32 of the Local Police (Amendment) Act.

But it must be remembered that they have been attained mainly with the consent of the owners. On the other hand, where its operation has been opposed in Court it has mostly failed. And in any case, for the reasons stated, it can not be made sufficiently comprehensive to accomplish reform on the scale which is required.

In considering the question of procedure, I may here summarise the principal varieties of over-building to which it should be adapted—

(1) Where an enclosed area of ground is occupied by tenements of dwelling-houses.

(2) Where the enclosed buildings consist of dwelling-houses intermingled with business premises—

- (a) As projections backwards of buildings occupying street frontages, or
- (b) as buildings occupied independently of the front tenements, and structurally separated from them.

(Incidentally, also, it seems desirable to consider whether the erection of warehouse buildings projecting into areas enclosed by tenements of dwelling-houses should not be placed under some control).

(3) When the overbuilding arises from the erection of a double row of tenements on the line of narrow streets projected between parallel streets of greater width, so that they become mutually obstructive, and affect the lighting and ventilation of the buildings between which they are placed.

(4) Where the interval between parallel streets is narrow, and the tenements erected to a height which makes them mutually obstructive.

(5) Where the overbuilding takes the form of a single back tenement, either of dwelling-houses or a workshop, in such proximity to other buildings that they are mutually obstructive to light and ventilation.

(6) When the lighting and ventilation of front tenements are interfered with by the erection of warehouse buildings in contained angles as behind the tenements at the corner of Holm Street and West Campbell Street.

(7) The application of Section 15 of the Housing Act, 1909, to internal defects in the form of unlit and unventilated common lobbies, and to houses which have been described as functionally back to back.

In concluding, I desire to acknowledge the ready help which has at all times been rendered by the staff of the department in collecting the details on which the Report has been founded, and which has frequently extended far beyond the usual office hours. In particular, I desire to acknowledge the services of Dr. M'Lean in collecting the details which form the basis of Part II., of Mr. Dewar in the preparation of the maps, and of Mr. Jones in preparing statistics and in revising and correcting the proof sheets.

A. K. CHALMERS,
Medical Officer of Health.

Sanitary Chambers,
Glasgow, 27th October, 1911.

(2) REPORT BY THE TOWN-CLERK.

GLASGOW, 30th October, 1911.

TO THE MEMBERS OF THE COMMITTEE ON HEALTH.

GENTLEMAN,

In terms of the remit made to me by the Committee on Health, I beg to submit the following report as to the provisions of the existing law under which the Corporation can deal with insanitary and obstructive buildings in congested areas in the city.

The principal statutory enactments relative to insanitary and obstructive buildings are contained in the Housing of the Working Classes Act, 1890, as amended by the Housing, Town Planning, &c., Act, 1909, but in addition to these the Corporation have power under (1) the Glasgow Police (Amendment) Act, 1890, (2) the Public Health (Scotland) Act, 1897, and (3) the Glasgow Building Regulations Act, 1900, to deal respectively with (a) buildings unfit for human habitation, (b) buildings in such a state as to be a nuisance or injurious or dangerous to health, and (c) dilapidated and neglected buildings.

Dealing first with the provisions of the Housing of the Working Classes Act, 1890, Section 4 thereof gives the Local Authority power, in the circumstances therein stated, to make a scheme for the improvement of any area within the district of the Local Authority. The terms of that Section are as follows:—

“4. Where any official representation, as hereinafter mentioned, is made to the Local Authority, that within a certain area in the district of such authority either—

“ (a) any houses, courts, or alleys are unfit for human habitation, or

“ (b) the narrowness, closeness, and bad arrangement, or the bad condition of the streets and houses, or groups of houses within such area, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defects, or one or more of such causes, are dangerous or injurious to the health of the inhabitants, either of the buildings in the said area, or of the neighbouring buildings;

“and that the evils connected with such houses, courts, or alleys, and the sanitary defects in such area cannot be effectually remedied otherwise than by an improvement scheme for the rearrangement and reconstruction of the streets and houses within such area, or of some of such streets or houses, the Local Authority shall take such representation into their consideration, and if satisfied of the truth thereof, and of the sufficiency of their resources, shall pass a resolution to the effect that such area is an unhealthy area, and that an improvement scheme ought to be made in respect of such area; and after passing such resolution, shall forthwith proceed to make a scheme for the improvement of such area.

“Provided always that any number of such areas may be included in one improvement scheme.”

The official representation referred to is to be made by the Medical Officer of Health. Should the Local Authority resolve to proceed with an improvement scheme under the section quoted, the necessary procedure is prescribed—in Section 6 (9) of the Act—as to publication of Notices, service thereof on the owners, &c., of the lands proposed to be taken, and the subsequent application to the Local Government Board for confirmation of the Scheme. The Board, if they think fit to proceed with the case, direct a local inquiry to be held, and may thereafter make a Provisional Order, either authorising the Scheme absolutely, or subject to such conditions and modifications as they may deem expedient. Under the Act in question (Section 8 (6)), a Provisional Order made by the Local Government Board did not become operative unless and until it had been confirmed by Act of Parliament, but, by the Amending Act of 1909, the necessity for confirmation by Act of Parliament has been dispensed with. Failing agreement with the owners of the lands to be taken as to the compensation to be paid in respect thereof an arbiter is, on the application of the Local Authority, appointed by the Local Government Board. Where the amount awarded by the arbiter to any owner is the same as, or less than, has been offered by the Local Authority before the appointment of the arbiter, no expenses are to be paid by the Local Authority to such owner. The cost of the Scheme falls to be paid out of the Public Health Rate (Sections 25 and 92, and Schedule I. to Act of 1890).

Under Section 38 of the Housing of the Working Classes Act, 1890, the Corporation have power to deal with "obstructive" buildings. Sub-Section 1 of that Section provides—

"(1) If a medical officer of health finds that *any building* within his district, although not in itself unfit for human habitation, is so situate that, by reason of its proximity to or contact with any other buildings, it causes one of the following effects, that is to say:—

"(a) It stops ventilation, or otherwise makes or conduces to make such other buildings to be in a condition unfit for human habitation or dangerous or injurious to health; or

"(b) It prevents proper measures from being carried into effect for remedying any nuisance injurious to health or other evils complained of in respect of such other buildings:

"in any such case, the Medical Officer of Health shall represent to the Local Authority the particulars relating to such first-mentioned building (in this Act referred to as 'an obstructive building') stating that, in his opinion, it is expedient that the obstructive building should be pulled down."

Following on a representation by the Medical Officer of Health, as above provided, the Local Authority, if they resolve to proceed, serve notice on the owner of the "obstructive" building. He is entitled to state his objections, and the Local Authority, on hearing the owner, may either allow the objections or direct the demolition of the obstructive building. The owner has the right of appeal to the Sheriff, but if no appeal be taken, or, if taken, fails or is abandoned, the Local Authority are authorised to purchase the lands on which the obstructive building is erected. The owner may, however, elect to retain the site of the building, and in that case, he only receives compensation for the pulling down of the building. If the site is purchased by the Authority, they must keep as an open space sufficient of it to remedy the evils caused by the obstructive building, and may, with the consent of the Local Government Board, sell such portion of the site as is not required for carrying out the purposes of the Section.

Provision is made (Sub-Section 8) for the arbiter, who is appointed by the Local Government Board, when assessing the compensation to be paid in respect of the demolition of the obstructive building, apportioning so much of such compensation amongst owners of other buildings that have increased in value by the demolition. Where the owner retains the site no building which will be dangerous to health, or be an obstructive building in the sense of the sub-section quoted, can be erected on the site.

The next section of the Housing of the Working Classes Act, 1890 (Section 39), provides for a scheme of reconstruction, and is as follows:—

"(1) In any of the following cases, that is to say—

"(a) Where an Order for the demolition of a building has been made in pursuance of this part of this Act, and it appears to the Local Authority that it would be beneficial to the health of the inhabitants of the neighbouring dwelling-houses if the area of the dwelling-house of which such building forms part were used for all or any of the following purposes, that is to say, either—

"(i.) dedicated as a highway or open space, or

"(ii.) appropriated, sold, or let for the erection of dwellings for the working classes, or

"(iii.) exchanged with other neighbouring land which is more suitable for the erection of such dwellings, and on exchange will be appropriated, sold, or let for such erection; and

"(b) where it appears to the Local Authority that the closeness, narrowness, and bad arrangement or bad condition of any buildings, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defect in any building is dangerous or prejudicial to the health of the inhabitants either of the said buildings or any of the neighbouring buildings, and that the demolition or the reconstruction and rearrangement of the said buildings, or of some of them, is necessary to remedy the said evils, and that the area

“comprising those buildings and the yards, outhouses, and appurtenances thereof, and the site thereof, is too small to be dealt with as an unhealthy area under Part I. of this Act,

“the Local Authority shall pass a resolution to the above effect, and direct a scheme to be prepared for the improvement of the said area.”

The procedure as to notices and for obtaining the sanction of the Local Government Board is similar to that under Section 4 above referred to, and in this case also the sanction of Parliament to the scheme is not required (Section 24 (2) of the 1909 Act). The cost of the scheme is also payable out of the Public Health Assessment, and the arbiter is appointed by the Local Government Board. With regard to the compensation to be paid, provision is made for the arbiter making allowance in respect of any increased value which, in his opinion, will be given to other dwelling-houses of the same owner by the alteration or demolition by the Local Authority of any buildings.

Coming now to the Housing, Town Planning, &c., Act, 1909—the most recent enactment applicable to uninhabitable houses—under Sections 17 and 18 thereof (which supersede Sections 32 and 33 of the Housing of the Working Classes Act, 1890), the Local Authority have power to close and thereafter demolish “dwelling-houses” which, on the representation of the Medical Officer of Health or other official of the Local Authority, or on information given, appear to the Local Authority to be in a state “so dangerous or injurious to health as to be unfit for human habitation.” The owner of the dwelling-house has, however, the right of appeal to the Sheriff both against a Closing Order and a Demolition Order. There is, of course, no compensation payable to the owner, either in respect of the closing or demolition of his house under these sections; and by Section 34 (2) of the Housing of the Working Classes Act, 1890, it is provided that, where, following on an Order of demolition, a building has been taken down and removed, no house or other building or erection which will be dangerous or injurious to health shall be erected on all or any part of the site of said building.

In the execution by the Local Authority of the provisions of Sections 17 and 18 of the 1909 Act the questions among others of (a) the definition of “dwelling house” and (b) the meaning of “dangerous or injurious to health” have been raised and are at present pending in the Court of Session. The Appellants in the particular case contend that “dwelling-house” means one single tenancy in a tenement and that “dangerous or injurious” are alternative conditions. On the other hand the Corporation maintain that “dwelling-house,” in view of the other sections of the 1909 Act, extends to a tenement, and that the phrase “dangerous or injurious,” read in conjunction with other sections of that Act and the Act of 1890, means one condition only.

The remaining section of the Housing, Town Planning, &c., Act, 1909, dealing with the condition of dwelling-houses is Section 15, under which the Local Authority, if it appears to them that the undertaking implied by the section, namely, that the house shall, during the holding, be kept by the landlord in all respects reasonably fit for human habitation, has not been complied with, shall require the landlord, by notice, to execute such works as shall be specified therein as being necessary to make the house in all respects reasonably fit for human habitation. The landlord has the option of declaring his intention of closing the house, and intimation thereof to that effect to the Local Authority operates as a Closing Order, and the subsequent procedure would be that provided for in Sections 17 and 18 of the Act dealing, as already stated, with the closing and demolition of uninhabitable houses. In the event of the landlord not declaring his intention to close the house and not complying with the notice, the Local Authority may execute the works themselves and recover from the landlord the expense as a civil debt.

In the opinion of the reporter, the powers under Section 15, above referred to, are to be exercised with the view of preventing houses falling into such a condition as to come within the scope of Sections 17 and 18, already referred to.

As above stated, while the two Acts—the Housing of the Working Classes Act, 1890, and the Housing, Town Planning, &c., Act, 1909—contain the most important provisions relative to insanitary and obstructive buildings, enabling, as they do, the Corporation to deal, not only with single houses, but areas as well, there are other powers applicable to insanitary buildings conferred on the Corporation by (1) the Glasgow Police (Amendment) Act, 1890, (2) the Public Health (Scotland) Act, 1897, and (3) the Glasgow Building Regulations Act, 1900.

Under the first of these Acts—the Glasgow Police (Amendment) Act, 1890—the Corporation are, by Section 32 thereof, empowered, on a certificate by the Medical Officer of Health, the Sanitary Inspector, and the Master of Works that any house or building or part of a house or building is unfit for human habitation, to close such house or building or part thereof until in their opinion it has been rendered fit for human habitation. The owner has in this case also an appeal to the Sheriff against the Order. There is, however, no power in that Act of demolishing a house closed thereunder, but by Section 114 of the Glasgow Building Regulations Act, 1900, after referred to, the Corporation may order the removal or repair of any building or part thereof which has been closed under Section 32 of the Glasgow Police (Amendment) Act, 1890, and which has not been, within such period as the Master of Works may in the circumstances of the case think reasonable, made fit for human habitation or use or occupation.

The next Act falling to be noticed is the Public Health (Scotland) Act, 1897. Section 16 of that Act provides that “any premises” (which by the Act includes lands, buildings, &c.), “or part thereof, of such a construction or in such a state as to be a nuisance or injurious or dangerous to health,” shall be deemed to be a nuisance liable to be dealt with summarily in manner provided by the Act; and subsequent sections empower the service of a notice on the author of a nuisance calling for the removal thereof, and, in default, proceedings may be taken (Section 22) before the Sheriff or any Magistrate or Justice, who shall decern for the removal or remedy or discontinuance or interdict of the nuisance.

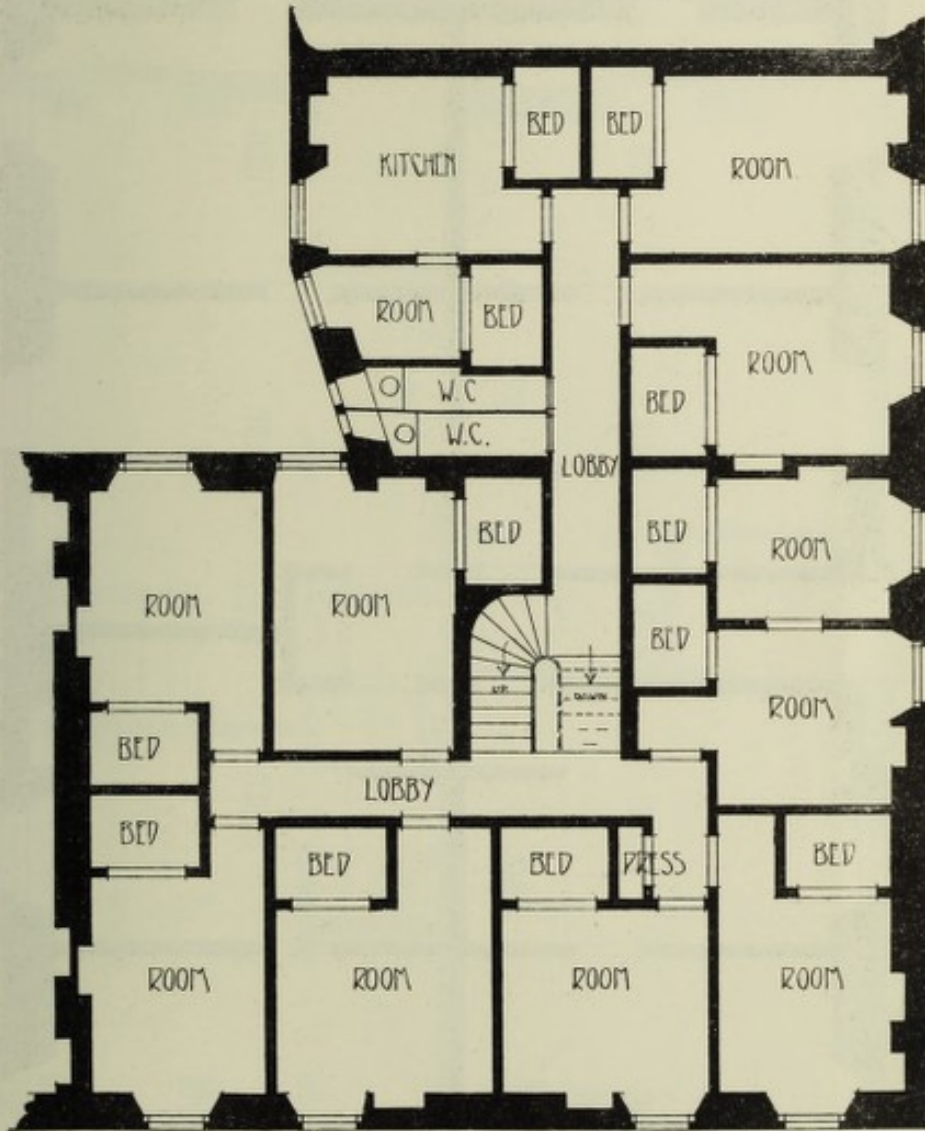
The last of the Acts dealing with the subject-matter of the remit is the Glasgow Building Regulations Act, 1900, Section 114, already referred to. That section in addition to dealing, as above stated, with any building or part thereof closed under Section 32 of the Glasgow Police (Amendment) Act, 1890, also enables the Corporation to order the removal or repair of any building or part thereof which is ruinous or so dilapidated as to have become and to be unfit for use or occupation, or which is, from neglect or otherwise, in a structural condition prejudicial to the property in, or the inhabitants of, the neighbourhood. Before pronouncing an Order the Corporation must require the owner to show cause against the granting of the same, and he is entitled to be heard and allowed to lead such evidence as he may think necessary. In the event of an Order being granted for the removal or repair of the building, the owner has the right to appeal to the Sheriff, whose decision is final.

It should be stated that hitherto no proceedings have been taken by the Corporation under Section 4 (unhealthy areas), Section 38 (obstructive buildings), Section 39 (re. construction scheme), of the Housing of the Working Classes Act, 1890; or Section 15 (keeping houses in repair), of the Housing, Town Planning Act, 1909. Apart from clearing several areas in the southern and central districts of the city under the Improvements Acts of 1866 and 1897, the operations of the Corporation in connection with insanitary and uninhabitable houses have been restricted to the carrying out of the provisions of (a) Sections 30-32 of the Housing of the Working Classes Act, 1890, now superseded by Sections 17 and 18 of the Town Planning Act, 1909; (b) Section 32 of the Glasgow Police Amendment Act, 1890; (c) Section 16 of the Public Health (Scotland) Act, 1897; and (d) Section 114 of the Glasgow Building Regulations Act, 1900, all previously referred to.

Owing, however, to the questions raised and at present pending before the Court of Session, as to the construction of Sections 17 and 18 of the Act of 1909, operations under these Sections have meantime been suspended until the decision of the Court has been obtained thereon.

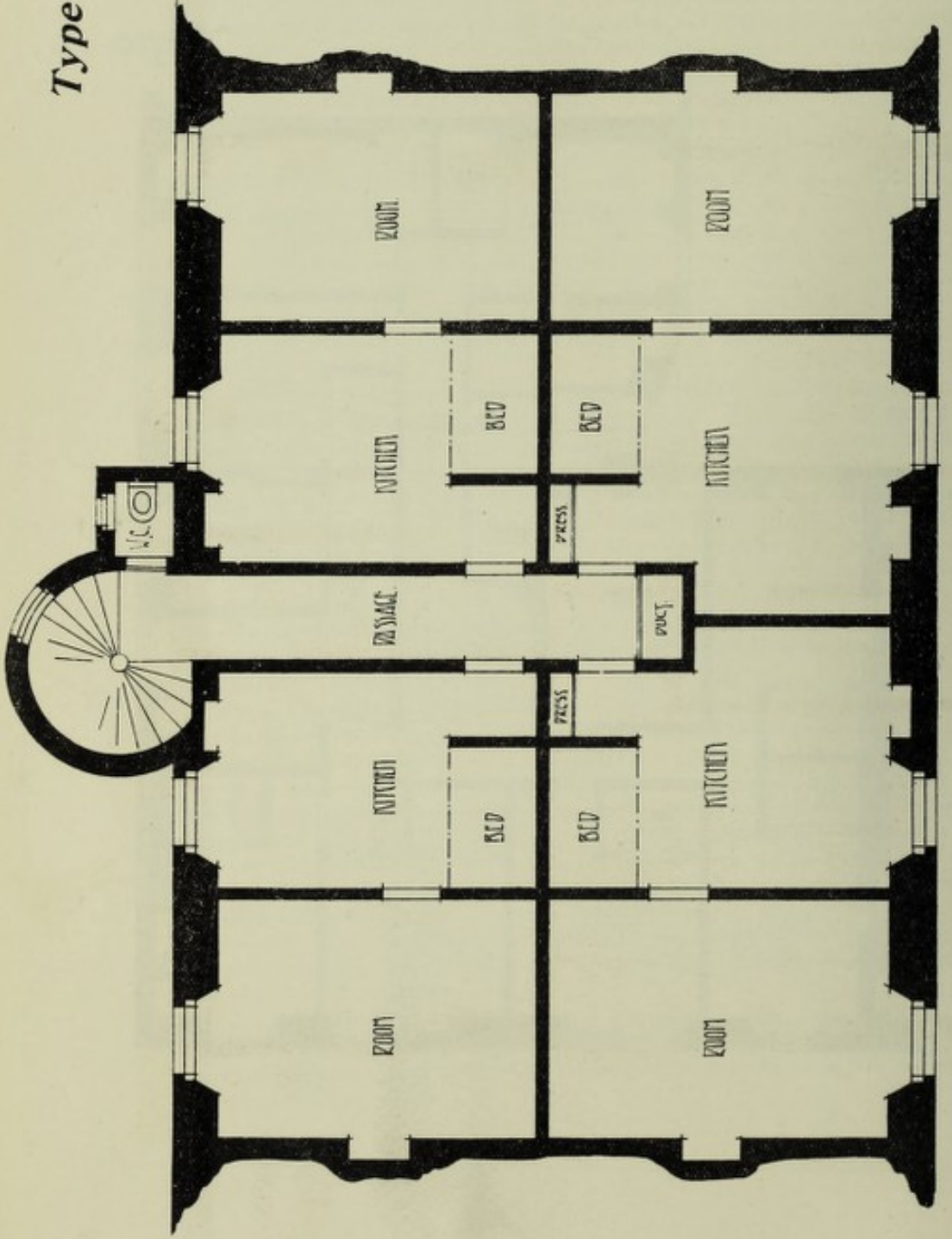
A. W. MYLES,
Town-Clerk.

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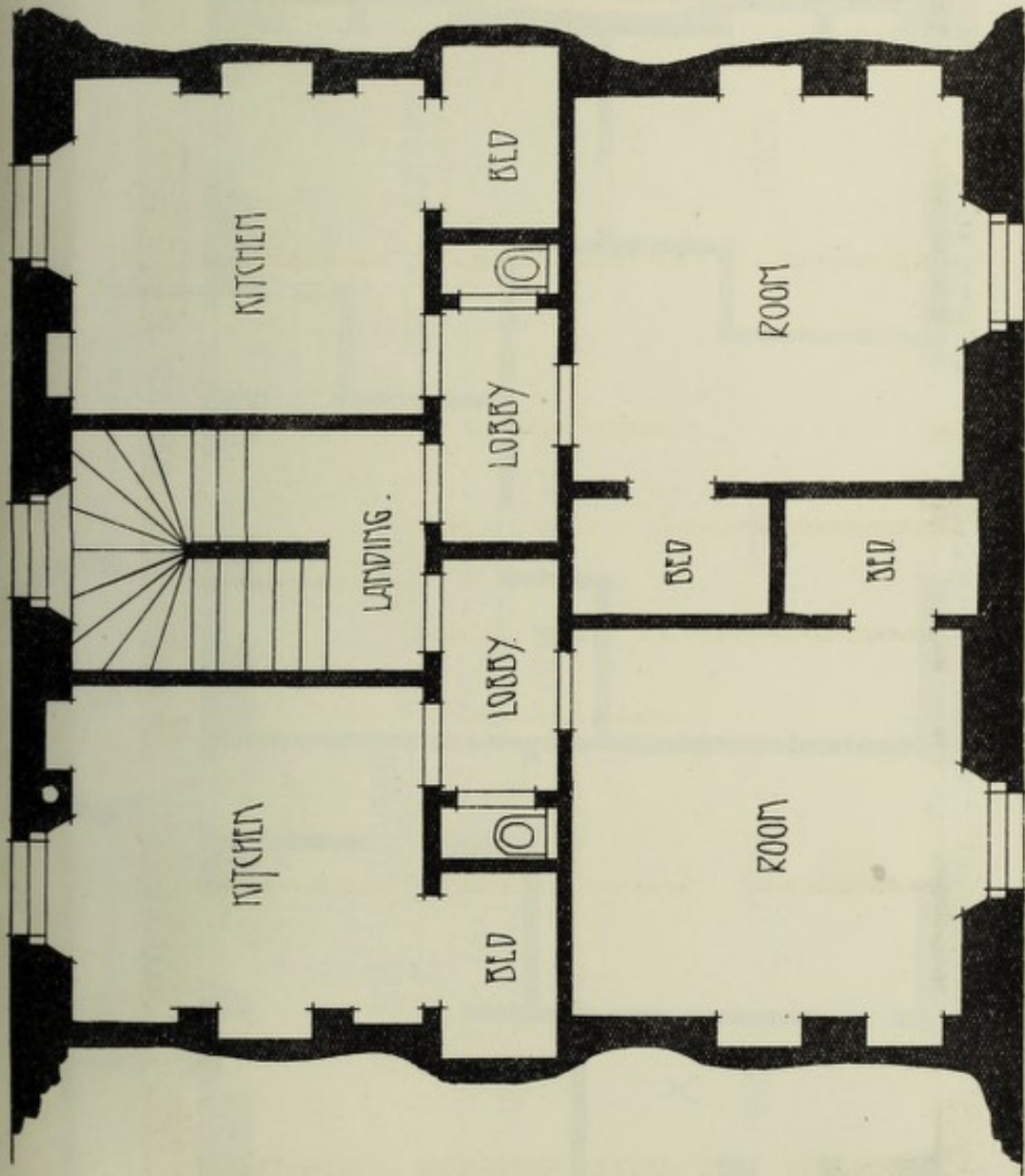


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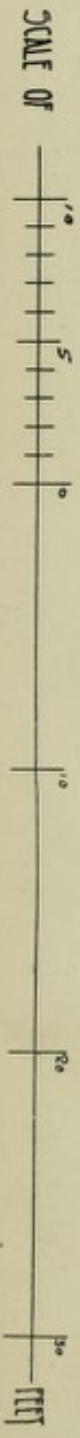
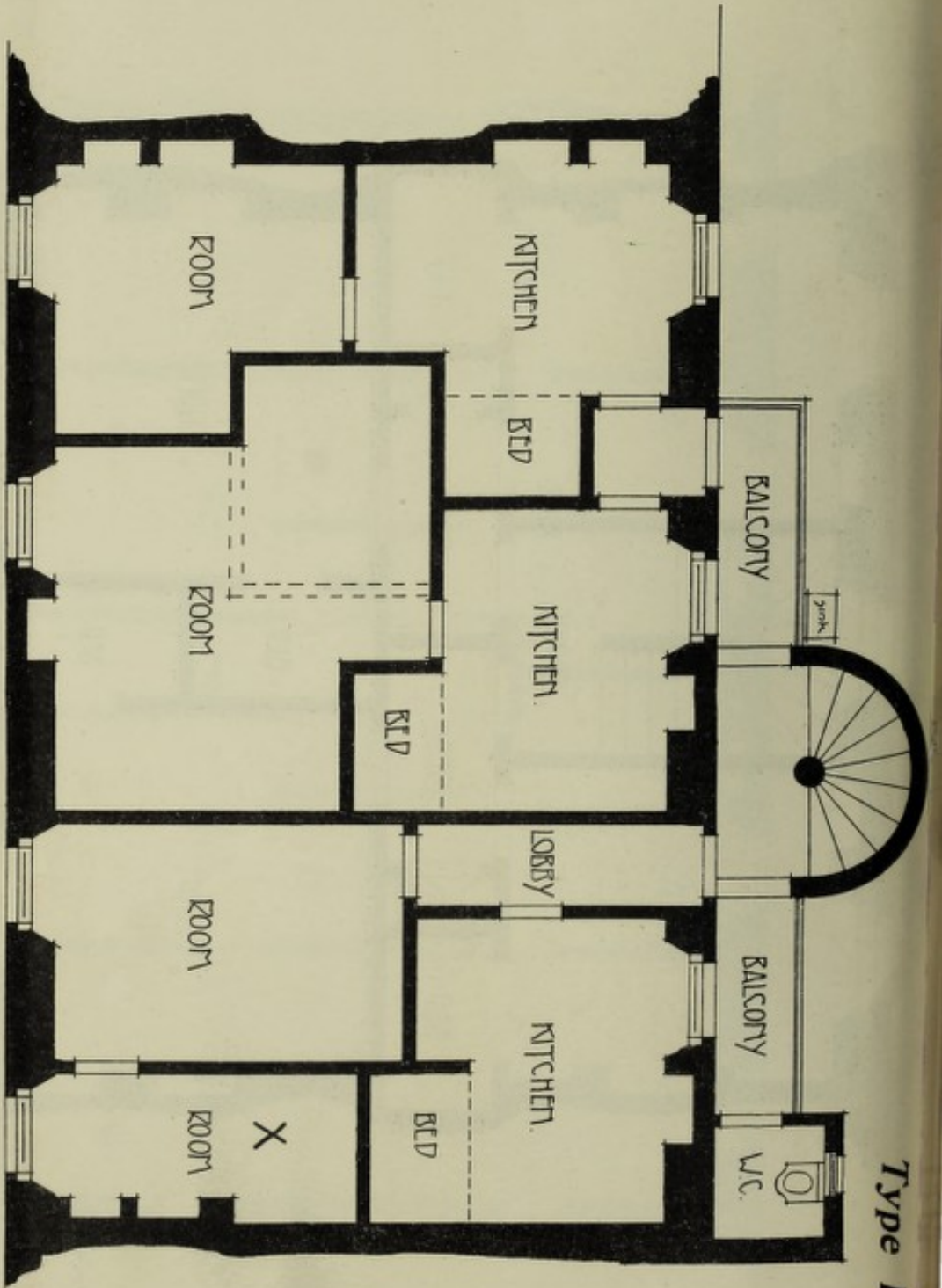


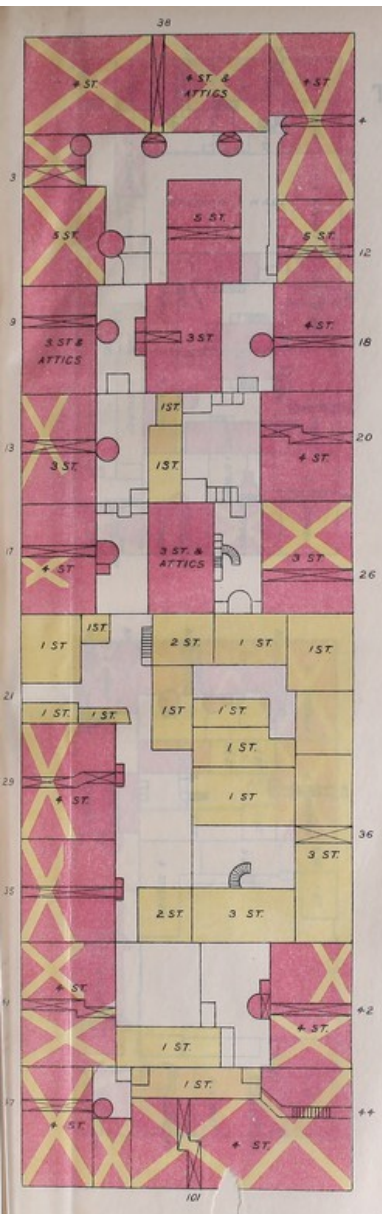
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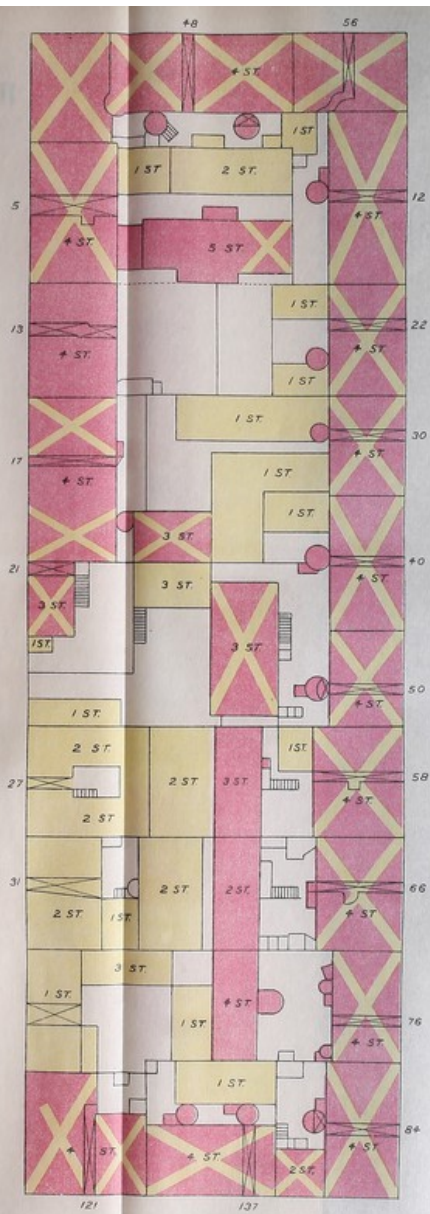
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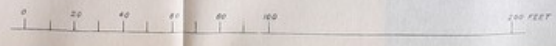
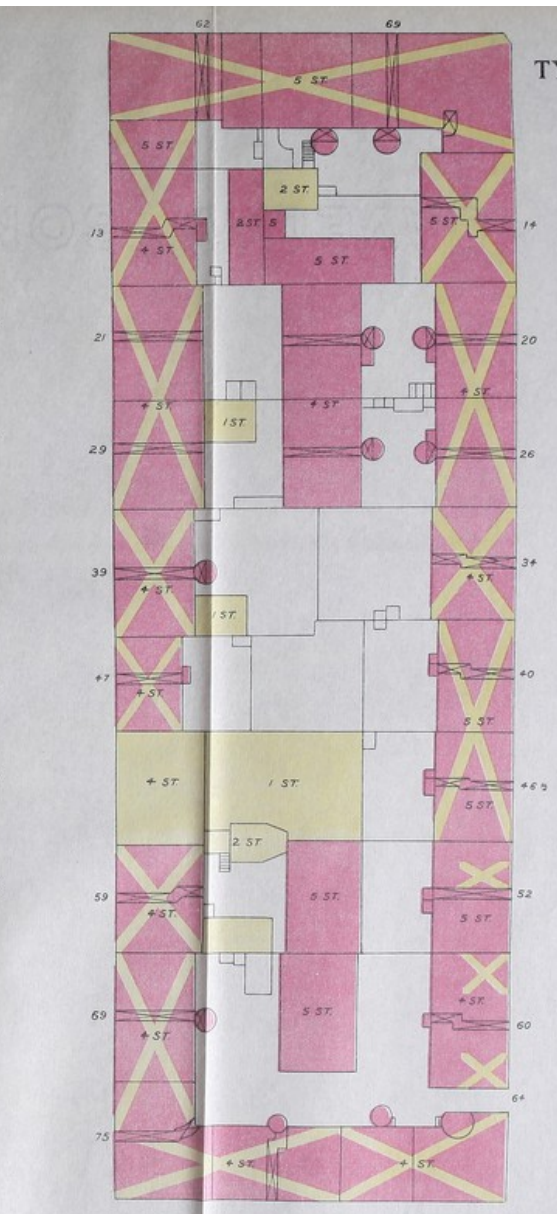


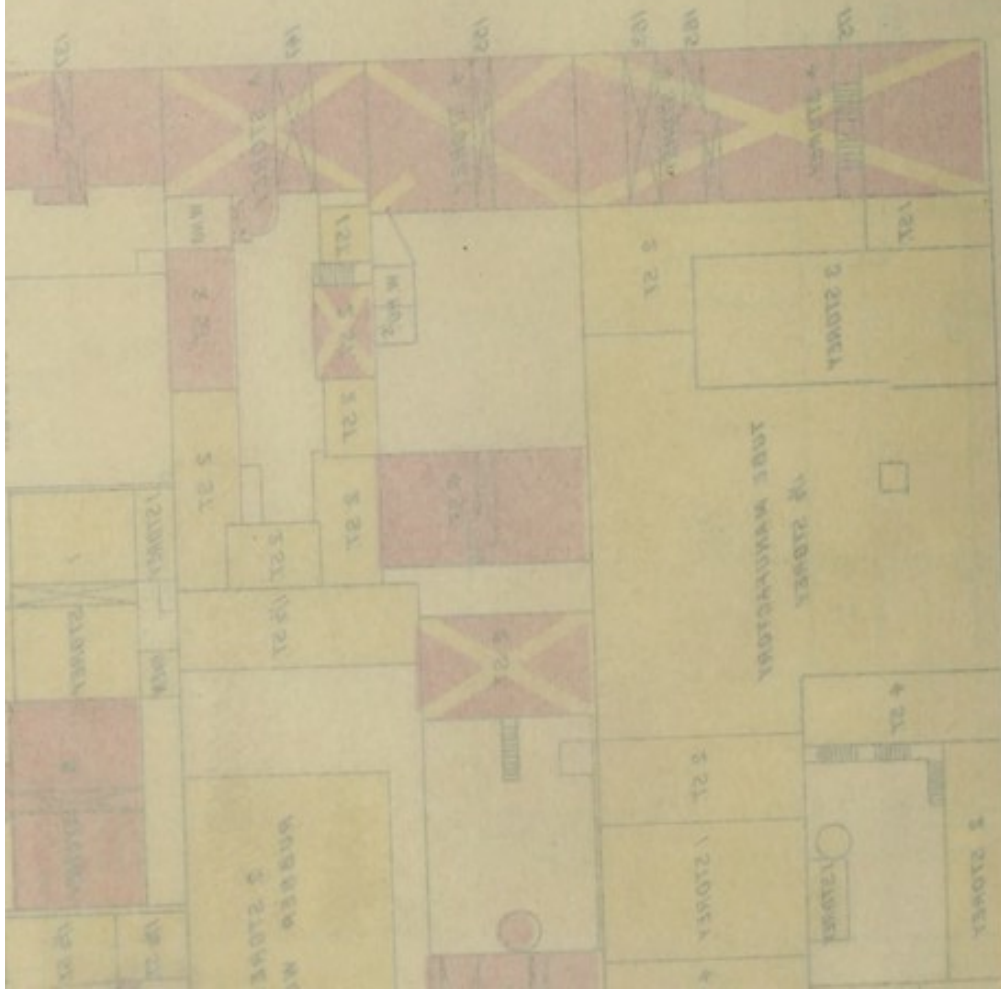
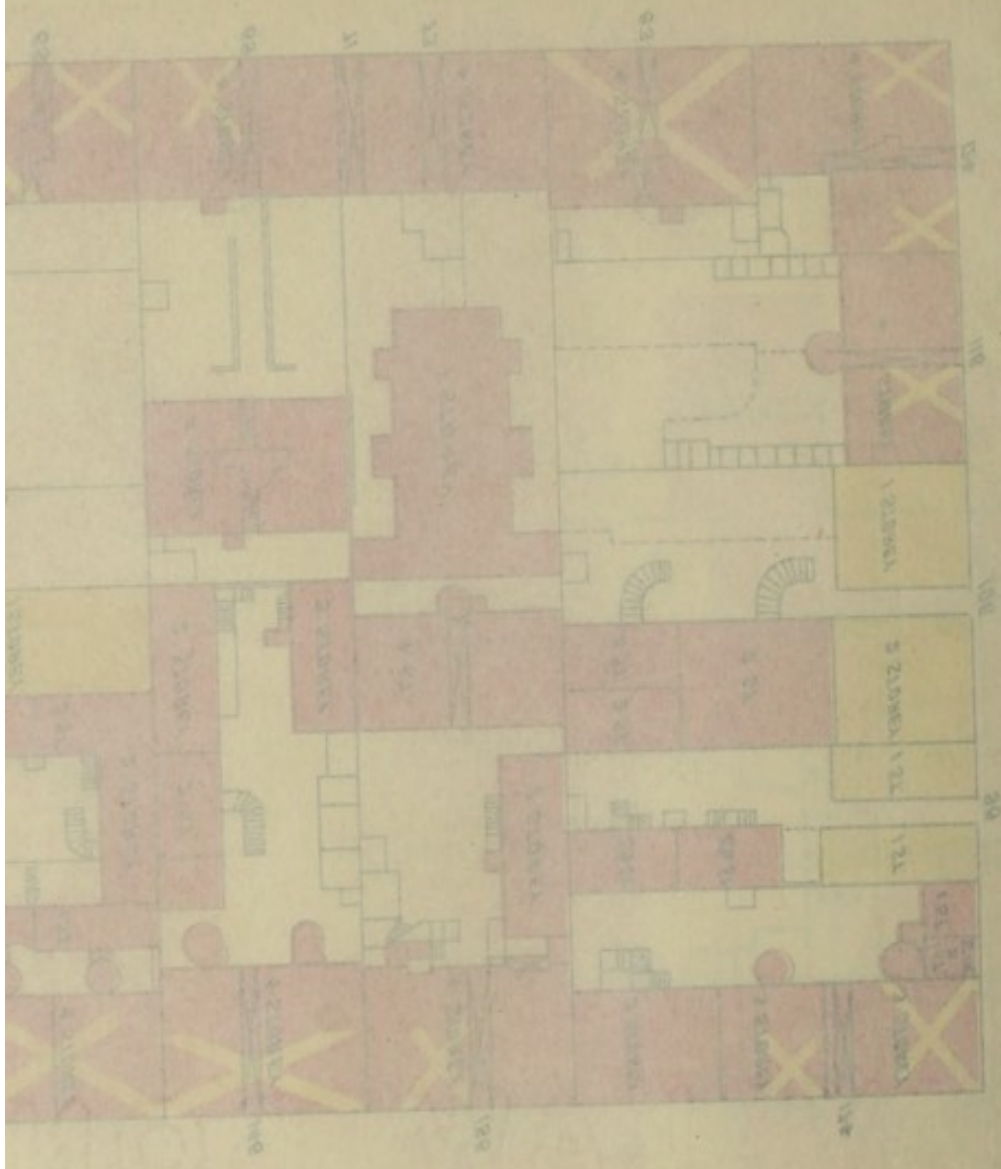


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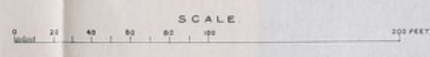
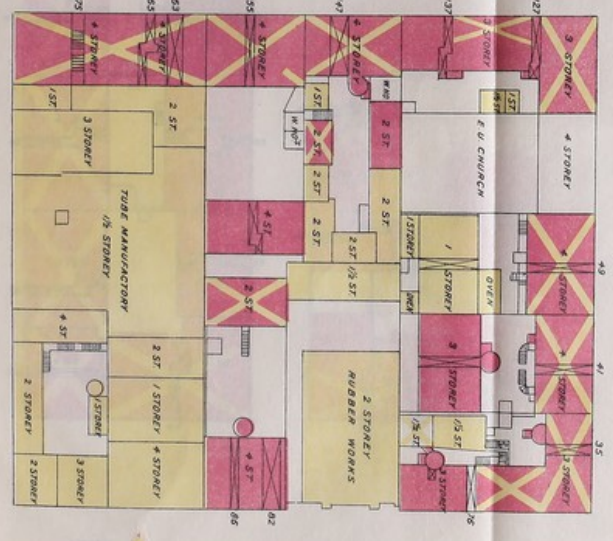
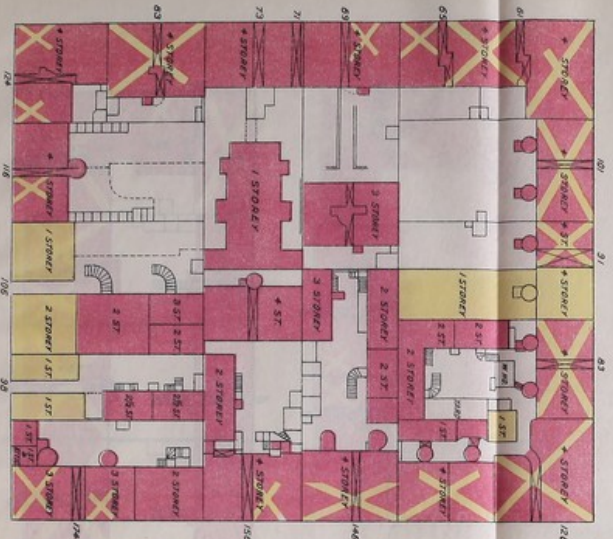
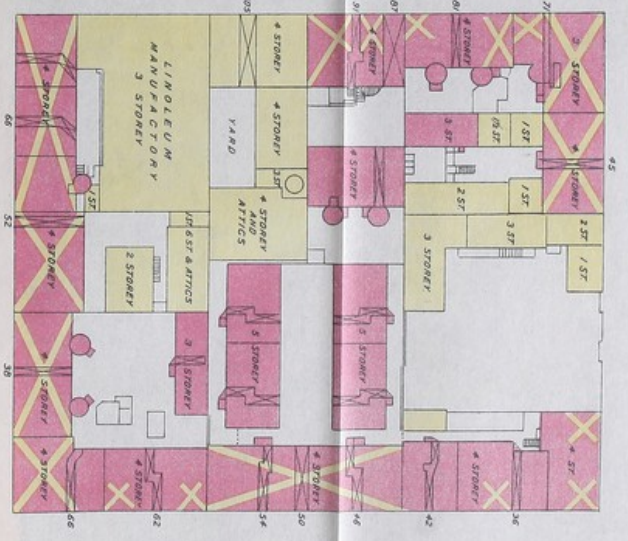
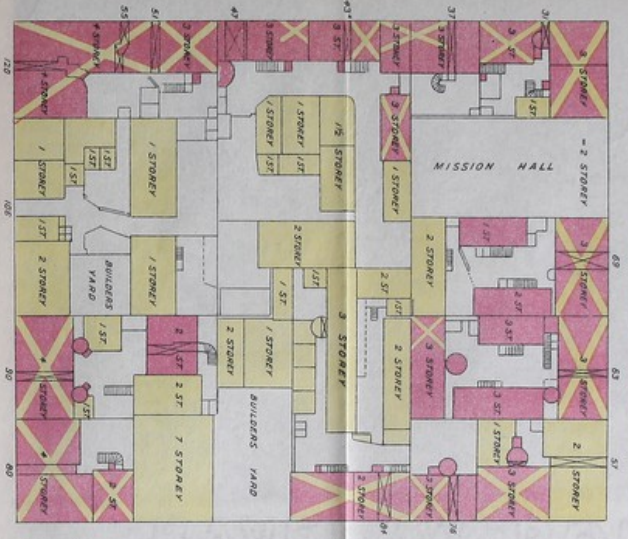


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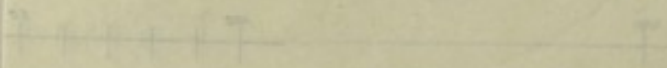


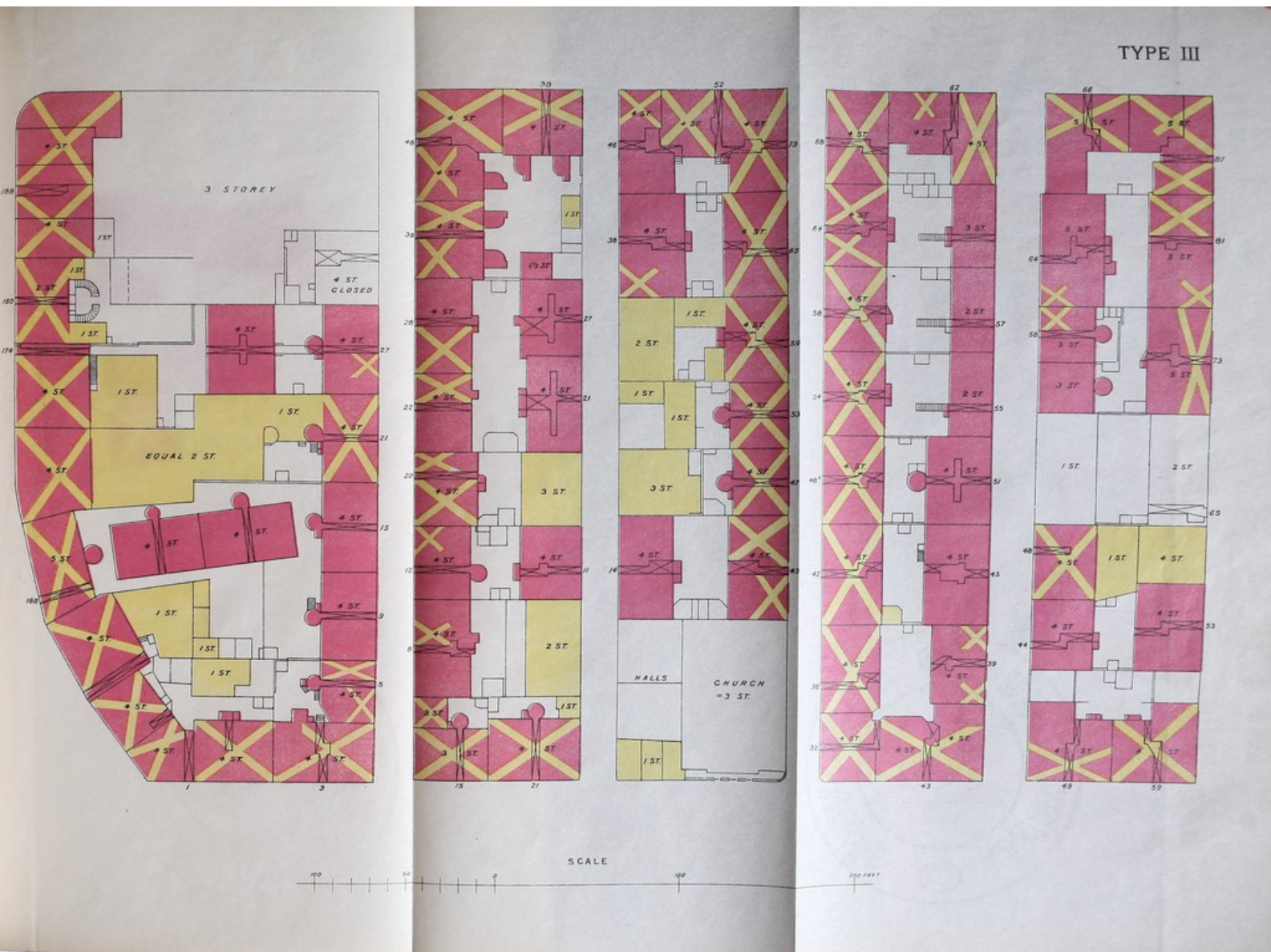
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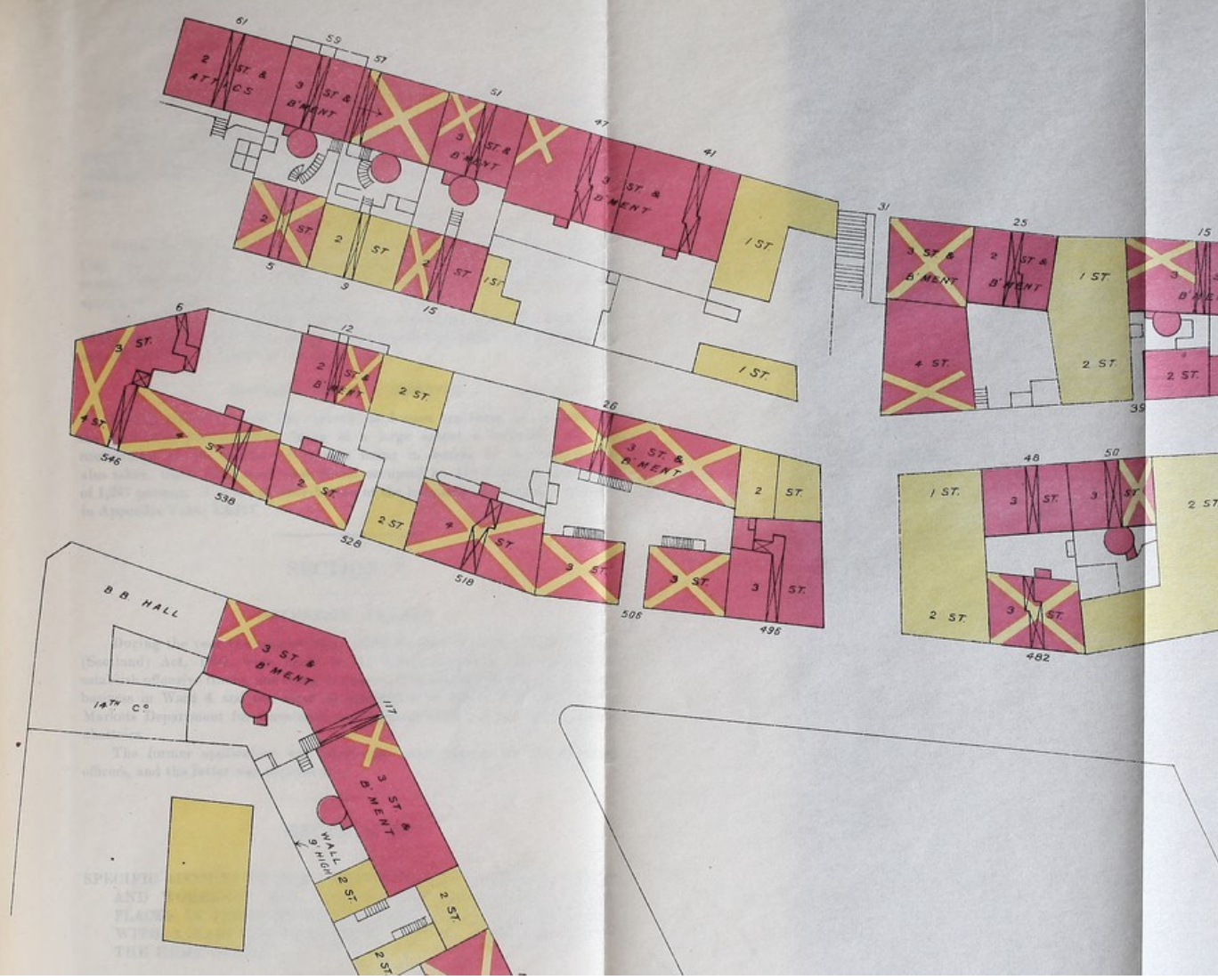


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1907

HOUSING, TOWN PLANNING, &c., ACT, 1909 (SECTION 35).

Only one application for a certificate under this section was made and granted during the year, the house being in a satisfactory condition. The certificate enables a claim to be made for exemption from inhabited house duty.

FARMED-OUT HOUSES.

Appendix Table XLII. shows the number of farmed-out houses in the City, and the number of persons occupying same, as ascertained by special census. The total number of such houses was 1,175, of which 738 were of one apartment and 437 of two apartments.

The population inhabiting these houses numbered 3,062, of whom 1,327 adults and 286 children were found in one-apartment houses and 1,073 adults and 376 children in houses of two apartments.

HOUSES LET IN LODGINGS.

Closely associated with the farmed-out houses are those let in lodgings, the distinction between them being to a large extent a technical one. An enumeration of the number of persons living in houses let in lodgings was also taken, when 180 houses were found occupied by 442 families, consisting of 1,247 persons. The Ward distribution of the houses let in lodgings is shown in Appendix Table XLIII.

SECTION V.

OFFENSIVE TRADES.

During the year two applications, under Section 32 of the Public Health (Scotland) Act, 1897, were made to the Local Authority for sanction to establish offensive trades, one being in respect of the extension of a gut cleaner's business in Ward 4, and the other an application on behalf of the Corporation Markets Department for permission to slaughter horses in one of the public abattoirs.

The former application was sanctioned after enquiry by the statutory officers, and the latter was withdrawn.

SECTION VI.

SPECIFIC ACCOUNT OF THE ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN WORKSHOPS, AND WORKPLACES, IN TERMS OF SECTION 132 OF THAT ACT TOGETHER WITH A TABULAR STATEMENT IN THE FORM ISSUED BY THE HOME OFFICE.

REGISTER OF WORKSHOPS, &c.

A statement of the number of laundries, bake-houses, restaurant kitchens, other food places, and all other workshops, as well as the total number of workshops in each Ward of the City, is contained in Appendix Table XLIV. The total number of the registered workshops in the City is 5,817, as against 5,743 last year.

33,901 inspections were made to these premises, and 1,243 notices were issued.

Table No. 1 of the Home Office List, which forms Appendix Table XLV. of the present report, requires that the number of inspections of such factories and factory laundries as are, by Section 103 of the Factory Act, placed under the jurisdiction of the Local Authority for sanitary purposes, and also of work-places as distinct from workshops, should be stated, but the total visits are here included under workshops. In general, the visits made to factories under the Public Health Act are for the purpose of discovering structural defects in connection with water-closets in the form of choked drains, &c.

SANITARY CONDITION OF WORKSHOPS.

Want of Cleanliness.—Speaking generally, it may be said that the condition in respect of cleanliness in the majority of workshops is satisfactory. In the 458 instances noted in the Table in which it was defective the remedy largely consisted of lime-washing.

Lighting and Ventilation.—In 35 cases this was defective. A variety of industries were involved, the main defects being fixed roof-lights or fixed windows.

Overcrowding.—The overcrowding here noted occurred during the day only. There is no record of any overcrowding during periods of overtime work in the evenings, as knowledge when overtime is worked is not usually within the command of the Department.

Want of Drainage of Floors.—These defects are now chiefly found in laundries which are conducted in premises originally intended for shops. The number of these—545—is included, along with other defects, such as choked closets and requests to limewash, in the total given, as representing both in the Table.

Sanitary Accommodation.—Here, again, the several items of the Table—"Insufficient," "Unsuitable," and "Not separate"—are grouped together under the 78 instances found.

The several items of this group cannot be separated, but in general it is the case that few places now have insufficient closet accommodation, save where a new business has been begun. A similar observation applies to the provision for the separate sexes.

The numbers here dealt with as "defects" or "unsuitable" usually arise from either misuse, carelessness, or tear and wear.

HOME WORK.

To outworkers' premises, 2,803 visits were made during the year, as compared with 2,856 last year. 2,057 of these visits were to homeworkers' premises, and 746 to contractors'.

In conformity with the instructions regarding the allocation under Nature of Works of the Lists received from Employers, who give out work of more than one class, three firms, who sent in lists twice in the year, and three firms, who sent in a list only once, have been included in columns 2 and 5 respectively under the principal class, namely, wearing apparel; while the outworkers have been assigned to their respective classes in columns 3, 4, 6, and 7.

BAKEHOUSES.

(1) UNDERGROUND BAKEHOUSES.

Seventy underground bakehouses remain in occupation in Glasgow, which is the same as at the end of last year. Of these, 69 are certified as conforming to the requirements for underground bakehouses.

During the year, 86 inspections were made to the bakehouses on the register, and on these occasions the fans were invariably found in use, the result, no doubt, of the action taken in previous years in checking the use of the fans by the condition of the air.

Table L. contains a statement of the number of each class in the several Wards, and the number of visits paid thereto during the year.

(2) BAKEHOUSES NOT UNDERGROUND.

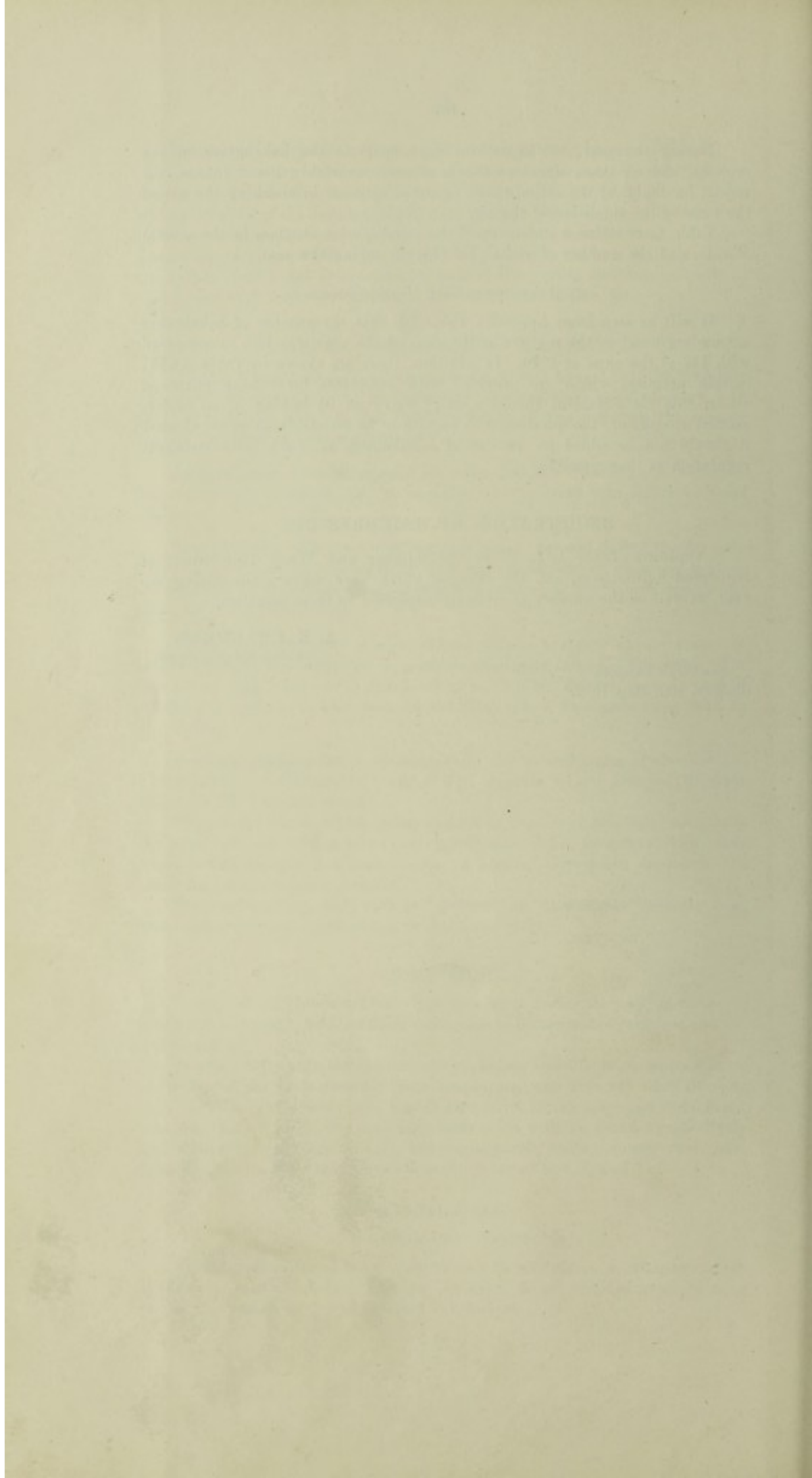
It will be seen from Appendix Table LI. that the number of bakehouses not underground on the register at the close of the year was 160, as compared with 142 at the close of 1910. In addition, there are shown in Table XLIV. certain premises which are provided with hot-plates for baking purposes. Under this classification, should a dairy carry on its baking in an underground apartment, the question will require to be reconsidered as to whether it should not be added to the list of bakehouses, as much more stringent regulation is then possible.

REGISTRATION OF HAIRDRESSERS.

Appendix Table LII. shows the number and Ward distribution of registered hairdressers, and the changes which have taken place during the year, as well as the number of visits of inspection to these premises.

A. K. CHALMERS,
Medical Officer of Health.

Sanitary Chambers,
Glasgow, 16th July, 1912.



APPENDIX.

TABLE I.

GLASGOW, 1911.—INHABITED HOUSES AND POPULATION FOR EACH MUNICIPAL WARD.*

MUNICIPAL WARDS.	INHABITED HOUSES.				POPULATION.			
	1910.	1911.	Decrease.	Increase.	1910.	1911.	Decrease.	Increase.
1. Dalmarnock, -	10,913	10,820	93	...	49,480	51,161	...	1,681
2. Calton, - -	7,596	7,643	...	47	34,697	35,140	...	443
3. Mile-end, - -	9,675	9,649	26	...	44,117	45,652	...	1,535
4. Whitevale, -	6,631	6,757	...	126	31,330	31,931	...	601
5. Dennistoun, -	8,263	8,253	10	...	37,686	36,214	1,472	...
6. Springburn, -	9,486	9,394	92	...	45,247	44,813	434	...
7. Cowlairs, - -	6,179	6,184	...	5	30,219	29,444	775	...
8. Townhead, - -	7,749	7,650	99	...	36,610	36,469	141	...
9. Blackfriars, -	4,073	4,097	...	24	19,842	19,953	...	111
10. Exchange, - -	340	318	22	...	1,842	1,672	170	...
11. Blythswood, -	540	515	25	...	2,953	2,795	158	...
12. Broomielaw, -	1,215	1,292	...	77	6,358	6,752	...	394
13. Anderston, - -	6,005	5,942	63	...	28,311	27,723	588	...
14. Sandyford, - -	5,004	4,965	39	...	23,902	23,596	306	...
15. Park, - - -	4,815	4,712	103	...	23,621	22,307	1,314	...
16. Cowcaddens, -	7,432	7,207	225	...	34,852	33,898	954	...
17. Woodside, - -	9,227	9,132	95	...	42,188	41,198	990	...
18. Hutchesontown, -	8,492	8,630	...	138	38,038	39,931	...	1,893
19. Gorbals, - -	6,854	6,836	18	...	33,318	33,192	126	...
20. Kingston, - -	6,860	6,828	32	...	32,631	32,676	...	45
21. Govanhill, - -	7,768	7,670	98	...	35,380	35,082	298	...
22. Langside, - -	9,627	9,361	266	...	43,966	38,888	5,078	...
23. Pollokshields, -	3,661	3,614	47	...	18,836	17,124	1,712	...
24. Kelvinside, - -	4,743	4,441	302	...	24,441	19,803	4,638	...
25. Maryhill, - -	8,603	8,514	89	...	39,956	39,359	597	...
26. Kinning Park, -	2,646	2,640	6	...	12,621	12,841	...	220
	164,397	163,064	1,333	...	772,442	759,614	12,828	...
Institutions, -	...	...	...	...	22,726	23,818	...	1,092
Shipping, - - -	...	...	...	...	1,241	1,064	177	...
City, - - - -	164,397	163,064	1,333	...	796,409	784,496	11,913	...

* The numbers of inhabited houses for 1910 are on the basis of the City Assessor's annual return; the numbers for 1911 are as ascertained at the Census.

TABLE II.—UNOCCUPIED HOUSES.
Number of UNOCCUPIED HOUSES in the several MUNICIPAL WARDS,
classified according to size, as at 1st June, 1911.

MUNICIPAL WARDS.	1 Apart- ment.	2 Apart- ments.	3 Apart- ments.	4 Apart- ments.	5 Apart- ments and up.	TOTAL.
1. Dalmarnock, ...	457	1,005	82	10	5	1,559
2. Calton, ...	225	485	133	20	12	875
3. Mile-end, ...	375	845	96	12	1	1,329
4. Whitevale, ...	190	506	156	27	5	884
5. Dennistoun, ...	45	309	215	88	41	698
6. Springburn, ...	466	831	115	8	7	1,427
7. Cowairs, ...	192	651	109	7	1	960
8. Townhead, ...	164	556	146	75	21	962
9. Blackfriars, ...	84	238	124	46	14	506
10. Exchange, ...	12	18	20	8	1	59
11. Blythswood, ...	1	13	3	11	17	45
12. Broomielaw, ...	9	86	71	21	2	189
13. Anderston, ...	83	257	153	31	44	568
14. Sandyford, ...	65	105	108	42	77	397
15. Park, ...	4	49	80	129	147	409
16. Cowcaddens, ...	312	658	203	44	35	1,252
17. Woodside, ...	268	536	274	60	62	1,200
18. Hutchesontown, ...	241	621	94	6	...	962
19. Gorbals, ...	104	261	273	96	49	783
20. Kingston, ...	117	330	269	110	18	844
21. Govanhill, ...	102	508	219	59	35	923
22. Langside, ...	1	80	253	144	143	621
23. Pollokshields, ...	8	15	21	48	185	277
24. Kelvinside, ...	4	1	63	76	209	353
25. Maryhill, ...	252	810	151	51	92	1,356
26. Kinning Park, ...	35	121	52	3	4	215
City, ...	3,816	9,895	3,483	1,232	1,227	19,653

TABLE III.
COMPARATIVE TABLE OF LININGS GRANTED BY DEAN OF GUILD COURT FOR THE YEARS ENDING
31ST AUGUST, 1910 AND 1911.

DISTRICTS.	NO. OF APARTMENTS.												TOTALS	
	1.		2.		3.		4.		5.		6.		1910.	1911.
	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.		
Central, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Western, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eastern, ...	32	48	213	120	136	17	...	...	...	...	...	...	381	185
Southern, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Northern, ...	...	6	...	21	...	...	...	...	...	...	...	...	...	27
St. Rollox, ...	62	...	150	20	40	...	...	4	2	...	...	...	254	24
Queen's Park, ...	...	...	180	...	169	24	19	6	30	6	38	4	436	40
Maryhill, ...	...	...	1	...	81	...	89	...	19	6	39	2	229	8
	94	54	544	161	426	41	108	10	51	12	77	6	1,300	284

TABLE IV.—ACREAGE, INHABITED HOUSES, and PERSONS per ACRE in each MUNICIPAL WARD in 1911; also the POPULATION and PERSONS per ACRE at the CENSUS of 1901, and the PERCENTAGE INCREASE or DECREASE in the POPULATION during the Intervening Period.

	MUNICIPAL WARDS.				POPULATION.						Persons per Acre (including Institutions and Shipping).	
	Acres 1911.	Inhabited Houses, 1911.	Census 1901.	Census 1911.	Increase.	Decrease.	Per Cent. Increase.	Per Cent. Decrease.	Census 1901.		Census 1911.	
1. Dalmarnock, ...	550	10,820	49,211	51,161	1,950	...	4.0	...	91	95		
2. Calton, ...	327	7,643	39,045	35,140	...	3,905	...	10.0	126	114		
3. Mile-end, ...	514	9,649	42,110	45,652	3,542	...	8.4	...	83	90		
4. Whitevale, ...	309	6,757	33,897	31,931	...	1,966	...	5.8	115	108		
5. Dennistoun, ...	731	8,253	30,482	36,214	5,732	...	18.8	...	44	52		
6. Springburn, ...	1,567	9,394	37,746	44,813	7,067	...	18.7	...	25	32		
7. Cowfairs, ...	952	6,184	26,597	29,444	2,847	...	10.7	...	28	31		
8. Townhead, ...	250	7,650	40,492	36,469	...	4,023	...	9.9	170	146		
9. Blackfriars, ...	130	4,097	24,333	19,953	...	4,380	...	18.0	195	162		
10. Exchange, ...	116	318	2,326	1,672	...	654	...	28.1	24	18		
11. Blythswood, ...	88	515	4,101	2,795	...	1,306	...	31.8	49	35		
12. Broomielaw, ...	98	1,292	9,633	6,752	...	2,881	...	29.9	108	85		
13. Anderston, ...	443	5,942	29,934	27,723	...	2,211	...	7.4	70	66		
14. Sandyford, ...	133	4,965	26,449	23,596	...	2,853	...	10.8	200	180		
15. Park, ...	329	4,712	24,903	22,307	...	2,596	...	10.4	78	71		
16. Cowcaddens, ...	158	7,207	40,380	33,898	...	6,482	...	16.1	262	223		
17. Woodside, ...	272	9,132	45,446	41,198	...	4,248	...	9.3	167	152		
18. Hutchesontown, ...	213	8,630	42,283	39,931	...	2,352	...	5.6	199	187		
19. Gorbals, ...	229	6,836	35,749	33,192	...	2,557	...	7.2	160	149		
20. Kingston, ...	405	6,828	34,386	32,676	...	1,710	...	5.0	87	82		
21. Govanhill, ...	445	7,070	31,639	35,032	3,443	...	10.9	...	71	79		
22. Langside, ...	850	9,361	25,337	38,888	13,551	...	53.5	...	30	46		
23. Pollokshields, ...	1,590	3,614	15,350	17,124	1,774	...	11.6	...	11	11		
24. Kelvinside, ...	902	4,441	15,612	19,803	4,191	...	26.9	...	18	23		
25. Maryhill, ...	1,266	8,514	33,713	39,359	5,646	...	16.7	...	28	33		
26. Kinning Park, ...	108	2,640	13,852*	12,841	...	1,011	...	7.3	128	119		
-- Institutions and Shipping, ...	...	...	20,588	24,882	4,294	...	20.9	...	...	...
CITY, ...	12,975	163,064	775,594	784,496	8,932	...	1.2	...	60	60		

* Annexed, 1905.

TABLE V.
ABSTRACT of METEOROLOGICAL OBSERVATIONS taken at GLASGOW OBSERVATORY
during 1911.

MONTHS.	TEMPERATURE.				RAINFALL.		
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature for Month.	Departure from Average of 43 Years.	No. of Days it fell.	Amount Collected, in inches.	Departure from average of 43 Years.
January, ...	52°·0	25°·4	40°·8	+ 2°·2	17	2·16	- 1·56
February, ...	54°·7	24°·0	39°·9	+ 0°·9	18	6·10	+ 3·15
March, ...	50°·5	31°·7	40°·5	+ 0°·2	15	1·21	- 1·40
April, ...	58°·9	30°·9	45°·0	+ 0°·5	15	2·85	+ 0·78
May, ...	73°·5	37°·0	53°·2	+ 3°·8	15	1·98	- 0·56
June, ...	77°·0	41°·0	56°·0	+ 0°·9	12	2·22	- 0·46
July, ...	84°·0	43°·9	59°·8	+ 2°·4	18	2·18	- 0·95
August, ...	74°·9	46°·6	60°·0	+ 3°·4	14	2·13	- 1·83
September, ...	67°·0	35°·9	53°·1	...	13	1·75	- 1·72
October, ...	58°·7	29°·0	46°·4	- 0°·7	13	3·23	- 0·52
November, ...	54°·3	30°·0	41°·9	- 0°·2	21	5·00	+ 1·41
December, ...	53°·4	32°·5	42°·7	+ 3°·8	28	5·45	+ 1·46
Total, ...	...	...	...	...	199	36·26	- 2·20

TABLE VI.
GLASGOW, 1911.—BIRTHS and BIRTH-RATES *per Million* in each WARD, exclusive
of Institutions and Harbour, with corresponding Rates for 1903-10.

MUNICIPAL WARDS.	1903-5.	1906.	1907.	1908.	1909.	1910.	1911.	
	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Births.	Rate per Million.
1. Dalmarnock, -	40,768	38,350	39,795	38,467	38,137	35,853	1,777	34,733
2. Calton, -	33,362	34,387	31,599	32,670	31,685	31,300	1,066	30,336
3. Mile-end, -	40,881	39,871	39,887	41,703	38,700	38,058	1,661	36,384
4. Whitevale, -	32,866	32,389	33,620	32,343	32,988	31,312	945	29,595
5. Dennistoun, -	29,426	26,803	26,737	27,134	26,268	23,775	913	25,211
6. Springburn, -	41,301	39,701	39,375	38,804	39,097	36,157	1,613	35,994
7. Cowlands, -	36,291	34,424	32,809	34,246	30,141	32,430	902	30,634
8. Townhead, -	31,861	32,462	31,219	31,148	29,627	29,473	933	25,583
9. Blackfriars, -	32,483	32,268	29,569	32,157	32,427	30,844	560	28,066
10. Exchange, -	19,838	23,088	15,233	21,807	16,913	20,087	25	14,952
11. Blythswood, -	10,182	9,149	11,646	12,666	11,217	9,143	25	8,945
12. Broomielaw, -	30,697	28,851	31,275	33,175	29,073	28,940	205	30,361
13. Anderston, -	33,421	33,208	32,425	32,758	32,627	30,200	801	28,893
14. Sandyford, -	24,244	23,935	22,713	22,428	23,402	21,881	509	21,571
15. Park, -	12,064	11,580	10,722	10,193	10,724	8,721	199	8,921
16. Cowcaddens, -	33,872	33,271	31,071	30,522	30,612	29,554	1,049	30,946
17. Woodside, -	32,065	30,078	29,217	28,459	26,437	26,334	1,080	26,215
18. Hutchesontown, -	39,273	39,843	37,187	35,918	37,609	38,356	1,433	35,887
19. Gorbals, -	28,688	30,104	26,206	28,746	26,519	25,962	916	27,597
20. Kingston, -	30,285	28,458	29,010	29,798	28,622	27,949	867	26,533
21. Govanhill, -	36,328	31,514	35,270	32,337	33,674	31,006	1,139	32,467
22. Langside, -	20,538	21,907	20,291	21,984	19,671	17,673	793	20,392
23. Pollokshields, -	10,531	8,500	8,203	8,848	8,351	9,556	175	10,220
24. Kelvinside, -	12,074	11,474	12,253	12,074	11,043	10,433	278	14,038
25. Maryhill, -	40,500	37,029	37,733	34,243	33,693	31,559	1,216	30,895
26. Kinning Park, — Institutions and Harbour, -	...	38,078	33,515	36,000	35,316	34,229	428	33,331
CITY, -	31,428	30,373	29,655	29,632	28,738	27,642	21,584	27,513

TABLE VII.

GLASGOW, 1911.—ALL CAUSES.—DEATHS and DEATH-RATES *per Million* in each MUNICIPAL WARD, with corresponding rates for 1903-10.

MUNICIPAL WARDS.	1903-5.	1906.	1907.	1908.	1909.	1910.	1911.	
	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Rate per Million.	Deaths.	Rate per Million.
1. Dalrnarnock, -	19,754	19,205	23,014	20,489	19,353	17,987	951	18,588
2. Calton, -	22,458	21,631	24,936	22,416	21,655	19,310	680	19,351
3. Mile-end, -	21,753	19,768	22,359	20,639	19,518	18,859	869	19,035
4. Whitevale, -	19,633	18,421	20,018	19,561	19,449	16,055	555	17,381
5. Dennistoun, -	12,852	12,779	12,921	11,402	13,253	10,800	408	11,266
6. Springburn, -	18,332	17,401	18,678	16,574	16,601	16,598	709	15,821
7. Cowlands, -	15,879	15,335	14,916	15,755	14,923	13,700	440	14,944
8. Townhead, -	18,486	18,400	19,363	19,662	18,026	14,996	602	16,508
9. Blackfriars, -	21,698	19,893	23,359	23,503	22,046	17,791	367	18,393
10. Exchange, -	18,072	14,430	17,690	17,653	19,556	14,115	28	16,746
11. Blythswood, -	13,895	8,234	13,485	9,816	14,187	9,482	36	12,880
12. Broomielaw, -	23,370	21,175	26,463	27,718	23,321	19,503	153	22,660
13. Anderston, -	18,725	18,515	18,593	19,336	19,883	17,696	493	17,783
14. Sandyford, -	16,579	19,020	18,834	16,791	18,713	15,856	364	15,426
15. Park, -	10,732	11,259	10,722	10,971	11,013	10,203	254	11,387
16. Cowcaddens, -	23,372	21,861	21,307	22,424	24,304	18,019	664	19,588
17. Woodside, -	15,129	16,638	15,265	14,985	16,210	13,392	597	14,491
18. Hutchesontown, -	20,688	18,882	18,910	20,598	21,994	16,930	721	18,056
19. Gorbals, -	17,994	15,860	17,631	18,798	18,714	16,358	519	15,636
20. Kingston, -	18,017	17,412	18,986	18,508	19,388	16,089	599	18,331
21. Govanhill, -	14,570	15,183	15,054	15,452	15,169	13,482	468	13,340
22. Langside, -	9,555	9,330	9,572	10,001	9,125	8,870	362	9,309
23. Pollokshields, -	8,991	8,500	9,822	8,374	9,227	8,654	179	10,453
24. Kelvinside, -	7,406	7,252	7,218	7,778	7,738	6,751	176	8,888
25. Maryhill, -	15,063	14,435	13,352	14,798	14,211	13,915	502	12,754
26. Kinning Park, -	...	18,154	18,029	17,424	22,288	18,857	216	16,821
— Institutions & Harbour, -	...	...	...	...	...	...	986	...
CITY, -	18,292	17,576	18,353	17,999	17,952	15,659	12,898	16,441

TABLE VIII.—GLASGOW, 1911.—INSTITUTIONAL DEATHS (INTRA-MURAL).
SHOWING CAUSES and AGES.

CAUSE OF DEATH.	AGES.								Total.
	-1	-2	-5	-15	-25	-45	-65	65+	
Smallpox, ...	...	...	...	...	...	...	...	...	...
Diphtheria and M. Croup, ...	...	...	...	1	...	...	...	...	1
Enteric Fever, ...	...	...	...	...	2	4	...	...	6
Typhus Fever, ...	...	...	...	...	...	...	...	...	...
Scarlet Fever, ...	...	2	2	1	1	...	1	...	7
Cerebro-Spinal Fever, ...	...	...	...	1	1	...	...	...	2
Measles, ...	1	5	4	...	...	...	...	...	10
Whooping-cough, ...	1	...	1	...	...	...	...	...	2
Diarrhoea and Enteritis, ...	20	8	6	...	...	...	...	3	37
Other Digestive Diseases, ...	2	1	...	...	1	8	4	6	22
Puerperal Fever, ...	...	...	...	...	...	...	...	...	...
Erysipelas, ...	...	...	...	...	...	...	2	2	4
Other Septic Diseases, ...	...	...	...	...	...	3	4	1	8
Phthisis (Pulmonary), ...	...	...	...	4	17	79	54	13	167
Tubercular Meningitis, ...	4	1	...	...	...	1	...	...	6
Abdominal Tuberculosis, ...	...	...	...	1	...	...	...	...	1
Other Tuberculous Diseases, ...	4	4	2	9	3	7	6	1	36
Cancer, ...	...	...	...	...	...	5	24	19	48
Rheumatic Fever, ...	...	...	...	...	...	...	...	...	...
Meningitis (not Tubercular), ...	...	...	...	1	...	1	...	1	3
Cerebral Hæmorrhage, ...	...	...	...	...	...	5	31	45	81
Other Nervous Diseases, ...	1	...	...	1	1	5	7	8	23
Circulatory Diseases, ...	1	...	...	1	2	7	56	98	165
Pneumonia, ...	1	...	1	3	2	16	28	12	63
Bronchitis, ...	2	6	...	...	...	4	23	49	84
Other Respiratory Diseases, ...	...	...	...	...	...	2	1	3	6
Croup, ...	...	...	...	...	...	...	...	...	...
Influenza, ...	...	...	...	...	...	1	...	...	1
Violence, ...	...	...	...	1	3	9	13	4	30
Premature Births, ...	13	...	...	...	...	...	...	...	13
Unknown, ...	...	1	...	...	...	2	2	1	6
All others, ...	22	...	2	4	5	18	45	58	154
Totals, ...	72	28	18	28	38	177	301	324	986
Per thousand Institutional Deaths, ...	73	28	18	28	39	180	305	329	1,000

TABLE IX.

GLASGOW, 1911.—INSTITUTIONAL DEATHS (INTRA-MURAL).

Cause of Death.	Poor Law Institutions.	Model Lodging-houses.	General Hospitals.	Infectious Diseases Hospitals.	Homes for Old Men and Women and Orphans, Barracks, Prisons, Asylums, and Harbour.	Total.
Smallpox, ... ..	...	...	...	...	...	...
Diphtheria and M. Croup, ... ..	...	...	...	...	1	1
Enteric Fever,	1	1	2	1	1	6
Typhus Fever, ... ..	...	...	...	...	...	...
Scarlet Fever,	6	...	1	...	...	7
Cerebro-spinal Fever, ... ..	...	...	...	...	2	2
Measles,	8	...	...	1	1	10
Whooping-cough,	2	...	...	...	...	2
Diarrhoea and Enteritis,	33	1	...	...	3	37
Other Digestive Diseases,	9	8	1	...	4	22
Puerperal Fever, ... ..	...	...	...	...	...	...
Erysipelas,	1	2	...	...	1	4
Other Septic Diseases,	3	3	...	...	2	8
Phthisis (Pulmonary),	129	34	3	...	1	167
Tubercular Meningitis,	6	...	...	...	...	6
Abdominal Tuberculosis,	1	...	...	...	...	1
Other Tuberculous Diseases,	27	2	1	...	6	36
Cancer,	32	7	4	1	4	48
Rheumatic Fever, ... ..	...	...	...	...	...	...
Meningitis (not Tubercular),	2	...	...	...	1	3
Cerebral Hæmorrhage,	61	7	1	...	12	81
Other Nervous Diseases,	12	3	...	...	8	23
Circulatory Diseases,	122	20	1	...	22	165
Pneumonia,	19	34	...	...	10	63
Bronchitis,	58	19	...	...	7	84
Other Respiratory Diseases,	2	2	...	...	2	6
Croup, ... ..	...	...	...	...	...	...
Influenza, ... ..	...	...	...	...	1	1
Violence,	1	9	3	...	17	30
Premature Births,	10	...	1	...	2	13
Unknown,	2	3	...	...	1	6
All others,	77	37	3	...	37	154
Total,	624	192	21	3	146	986
Per cent.,	63·3	19·5	2·1	0·3	14·8	100·0

TABLE X.

GLASGOW, 1911.—DEATHS OF PERSONS NOT BELONGING TO GLASGOW OCCURRING IN PUBLIC INSTITUTIONS AND ELSEWHERE IN GLASGOW, TABULATED ACCORDING TO DISEASE AND AGE.

	AGE.								TOTAL.
	-1	-2	-5	-15	-25	-45	-65	65+	
Smallpox, ... ..	...	...	...	...	...	...	...	...	...
Diphtheria and M. Croup, ... ..	...	...	1	...	...	...	...	...	1
Enteric Fever, ... ..	...	...	...	...	1	1	...	...	2
Typhus Fever, ... ..	...	...	...	...	...	...	...	...	...
Scarlet Fever, ... ..	...	...	...	1	...	...	...	...	1
Cerebro-spinal Fever, ... ..	...	...	...	1	...	...	...	...	1
Measles, ... ..	...	1	...	1	...	...	...	...	2
Whooping-cough, ... ..	...	1	1	1	...	...	...	...	3
Diarrhoea and Enteritis,	9	...	1	...	...	1	...	1	12
Other Digestive Diseases,	5	3	5	16	34	55	53	9	180
Puerperal Fever, ... ..	...	...	...	...	2	6	...	...	8
Erysipelas, ... ..	...	...	...	...	...	1	...	...	1
Other Septic Diseases,	2	1	1	4	5	8	5	2	28
Phthisis (Pulmonary), ... ..	...	1	...	2	4	8	3	1	19
Tubercular Meningitis,	2	3	3	4	2	3	...	...	17
Abdominal Tuberculosis, ... ..	...	2	4	5	5	1	...	...	17
Other Tuberculous Diseases,	4	2	...	2	2	3	4	...	17
Cancer, ... ..	...	...	...	2	6	32	96	22	158
Rheumatic Fever, ... ..	...	...	...	...	...	...	...	...	...
Meningitis (not Tubercular), ... ..	...	1	2	4	2	2	1	...	12
Cerebral Hæmorrhage, ... ..	...	...	...	...	1	8	9	14	32
Other Nervous Diseases,	2	...	...	4	5	13	5	1	30
Circulatory Diseases,	1	...	1	4	14	42	31	13	106
Pneumonia,	10	5	4	4	10	28	20	3	84
Bronchitis,	1	...	...	...	...	2	8	6	17
Other Respiratory Diseases, ... ..	...	3	2	1	2	5	4	3	20
Croup,	1	...	...	...	...	...	...	...	1
Influenza, ... ..	...	...	...	...	...	1	1	...	2
Violence,	1	6	10	13	27	52	33	5	147
Premature Births,	16	...	...	...	...	...	...	...	16
Unknown, ... ..	...	...	...	1	...	1	1	...	3
All other Causes,	36	3	8	22	19	71	76	29	264
Total,	90	32	43	92	141	344	350	109	1,201

TABLE XI.

GLASGOW, 1911.—DEATHS OF PERSONS OCCURRING IN MERRYPLATS POORHOUSE BELONGING TO GLASGOW, TABULATED ACCORDING TO DISEASE AND AGE.

	AGE.								TOTAL.
	-1	-2	-5	-15	-25	-45	-65	65+	
Smallpox,
Diphtheria and M. Croup,
Enteric Fever,
Typhus Fever,
Scarlet Fever,
Cerebro-spinal Fever,
Measles,	2	...	...	...	...	...	...	...	2
Whooping-cough,
Diarrhœa and Enteritis,	2	...	...	...	...	...	...	...	2
Other Digestive Diseases,	1	...	3	...	4
Puerperal Fever,
Erysipelas,	1	1
Other Septic Diseases,
Phthisis (Pulmonary),	2	2	2	12	37	11	1	67
Tubercular Meningitis,	1	1	...	...	...	...	...	2
Abdominal Tuberculosis,
Other Tuberculous Diseases,	2	...	...	...	1	1	1	...	5
Cancer,	3	10	3	16
Rheumatic Fever,
Meningitis (not Tubercular),
Cerebral Hæmorrhage,	2	11	4	17
Other Nervous Diseases,	1	5	1	...	7
Circulatory Diseases,	1	6	11	12	30
Pneumonia,	1	...	...	8	11	2	22
Bronchitis,	1	...	2	1	4
Other Respiratory Diseases,	1	...	...	1
Croup,
Influenza,
Violence,	1	...	1	2
Premature Births,
All other Causes,	5	...	1	...	...	2	6	4	18
Total,	11	3	5	2	17	66	67	29	200

TABLE XII.

GLASGOW, 1911.—DEATHS OF PERSONS FORMERLY RESIDENT IN GLASGOW OCCURRING IN PUBLIC INSTITUTIONS AND ELSEWHERE BEYOND THE BURGH. TABULATED ACCORDING TO DISEASE AND AGE.

CAUSE OF DEATH.	AGE.								TOTAL.
	-1	-2	-5	-15	-25	-45	-65	65+	
Smallpox, ... ..	...	...	...	...	...	...	...	...	...
Diphtheria and M. Croup, ... ..	...	1	2	...	...	...	...	...	3
Enteric Fever, ... ..	...	...	...	...	...	1	...	...	1
Typhus Fever, ... ..	...	...	...	...	...	...	...	...	...
Scarlet Fever, ... ..	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever, ... ..	...	...	...	...	...	...	...	...	...
Measles,	2	1	...	...	...	...	...	...	3
Whooping-cough,	2	3	1	...	...	...	...	...	6
Diarrhœa and Enteritis,	3	...	2	...	...	...	1	1	7
Other Digestive Diseases, ... ..	...	...	...	3	2	1	6	3	15
Puerperal Fever, ... ..	...	...	...	...	...	...	...	...	...
Erysipelas, ... ..	...	...	...	...	...	...	...	...	...
Other Septic Diseases, ... ..	...	...	...	...	1	...	...	1	2
Phthisis (Pulmonary), ... ..	...	1	2	4	19	46	24	3	99
Tubercular Meningitis,	3	...	...	3	2	...	...	...	8
Abdominal Tuberculosis,	1	...	...	4	1	2	...	1	9
Other Tuberculous Diseases, ... ..	...	...	1	...	2	6	1	1	11
Cancer, ... ..	...	...	...	...	...	2	8	10	20
Rheumatic Fever, ... ..	...	...	...	...	1	...	...	...	1
Meningitis (not Tubercular), ... ..	...	...	...	...	...	1	...	...	1
Cerebral Hæmorrhage, ... ..	...	...	...	...	...	2	29	21	52
Other Nervous Diseases, ... ..	...	1	2	...	6	38	37	18	102
Circulatory Diseases, ... ..	...	...	...	1	4	11	36	41	93
Pneumonia,	1	4	...	...	4	8	10	5	32
Bronchitis, ... ..	...	...	...	...	...	1	5	9	15
Other Respiratory Diseases, ... ..	...	1	...	...	...	2	3	4	10
Croup,	1	...	...	...	...	...	...	...	1
Influenza, ... ..	...	...	...	...	...	...	1	...	1
Violence,	1	...	...	4	8	18	10	3	44
Premature births,	4	...	...	...	...	...	...	...	4
Unknown,	1	...	...	...	...	1	...	...	2
All other Causes,	7	...	...	2	6	38	28	55	136
Total,	26	12	10	21	56	178	199	176	678

TABLE XIII.

GLASGOW, 1911.—DEATH-RATES per 1,000, from "All" and "Specified" Causes, with corresponding Rates for 1910.

	1910.		1911.		-	+	-	+

I. PRINCIPAL ZYMOTIC DISEASES, ...	...	2·233	...	2·544	...	...	...	·311
Smallpox, ...	...	...	...	...	...	...	...	...
Diphtheria, ...	·240	...	·221	...	·019	...	...	...
Scarlet Fever, ...	·177	...	·116	...	·061	...	...	...
Typhus Fever, ...	·002	...	·004	...	...	·002	...	...
Enteric Fever, ...	·070	...	·075	...	...	·005	...	...
Cerebro-Spinal Fever, ...	·038	...	·059	...	...	·021	...	...
Measles, ...	·662	...	·375	...	·287	...	...	...
Whooping-cough, ...	·291	...	·797	...	...	·506	...	...
Diarrhoea and Enteritis, ...	·753	...	·897	...	...	·144	...	...
II. SEPTIC DISEASES, ...	...	·225	...	·216	...	...	·009	...
III. TUBERCULOUS DISEASES, ...	...	2·181	...	2·006	...	...	·175	...
Phthisis, ...	1·297	...	1·305	...	...	·008	...	...
Other Tuberculous Diseases, ...	·884	...	·701	...	·183	...	...	...
IV. CANCER (Malignant Disease), ...	...	·888	...	·900	...	...	...	·012
V. DISEASES OF NERVOUS SYSTEM, ...	...	1·283	...	1·471	...	...	...	·188
VI. " CIRCULATORY SYSTEM, ...	...	1·586	...	1·721	...	...	...	·135
VII. " RESPIRATORY " ...	...	2·843	...	3·062	...	...	...	·219
Pneumonia, ...	1·494	...	1·618	...	...	·124	...	...
Other Respiratory Diseases, ...	1·349	...	1·444	...	...	·095	...	...
VIII. OTHER CAUSES, ...	...	4·420	...	4·521	...	...	...	·101
All Causes, ...	...	15·659	...	16·441	...	...	...	·782
Birth-rate, ...	...	27·642	...	27·513	...	...	...	...
Deaths under 1 year per 1,000 Births, ...	...	120	...	136	...	...	...	...

TABLE XIV.

GLASGOW, 1911.—DEATHS from DIFFERENT DISEASES at several AGE-PERIODS.

DISEASE.	Under 1 Year.	-2 Years.	-5 Years.	-15 Years.	-25 Years.	-45 Years.	-65 Years.	Over 65 Years.	Total.
Smallpox, ...	...	...	...	...	...	...	...	...	...
Diphtheria and Membranous Croup, ...	21	37	63	51	...	1	...	...	173
Enteric Fever, ...	...	1	3	5	9	34	6	1	59
Typhus Fever, ...	...	...	...	...	1	2	...	...	3
Scarlet Fever, ...	2	19	34	28	3	4	1	...	91
Cerebro-Spinal Fever, ...	15	8	3	16	3	...	1	...	46
Measles, ...	65	138	75	16	...	...	...	...	294
Whooping-cough, ...	261	214	127	22	...	1	...	...	625
Diarrhoea and Enteritis, ...	452	115	31	13	6	14	30	43	704
Other Digestive Diseases, ...	83	16	20	49	27	102	113	74	484
Puerperal Fever, ...	...	...	...	...	13	34	1	...	48
Erysipelas, ...	7	2	...	...	3	7	21	4	44
Other Septic Diseases, ...	5	3	3	10	9	21	23	4	78
Phthisis (Pulmonary), ...	5	17	14	68	223	463	205	29	1,024
Tubercular Meningitis, ...	71	52	55	33	10	8	2	2	233
Abdominal Tuberculosis, ...	29	26	40	30	12	15	1	1	154
Other Tuberculous Diseases, ...	24	22	17	31	22	24	17	6	163
Cancer, ...	...	1	1	5	7	83	394	215	706
Rheumatic Fever, ...	...	...	2	1	3	7	2	...	15
Meningitis (not Tubercular), ...	38	26	21	26	4	6	5	2	128
Cerebral Hæmorrhage, ...	10	3	1	2	6	37	234	303	596
Other Nervous Diseases, ...	116	30	13	20	19	50	87	95	430
Circulatory Diseases, ...	37	2	7	43	62	231	464	504	1,350
Pneumonia, ...	303	211	121	55	36	161	256	126	1,269
Bronchitis, ...	193	60	32	5	8	48	238	292	876
Other Respiratory Diseases, ...	71	9	6	7	8	41	49	39	230
Croup, ...	14	4	7	1	...	...	...	1	27
Influenza, ...	2	1	1	1	...	4	15	23	47
Violence, ...	48	20	34	42	29	127	104	44	448
Premature Births, ...	465	...	...	...	...	...	...	...	465
Unknown, ...	18	1	...	2	1	8	10	5	45
All others, ...	589	40	53	68	60	241	405	587	2,043
All Causes, ...	2,944	1,078	784	650	584	1,774	2,684	2,400	12,898
Number in 1,000 dying in several Age-Periods, ...	228	84	61	50	45	138	208	186	1,000
1910, ...	210	154	49	49	...	538	...	...	1,000

TABLE XV.

GLASGOW, 1911.—DEATHS under ONE YEAR and DEATH-RATE per 1,000 BIRTHS in each MUNICIPAL WARD, with corresponding RATES for 1903-10.

MUNICIPAL WARDS.	Average of 5 years.	Rate per 1,000 Births.						1911.	
		1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Rate per 1,000 Births.
1. Dalmarneck, ...	147	143	142	161	152	129	144	270	152
2. Calton, ...	169	176	144	173	164	142	135	165	155
3. Mile-end, ...	149	149	145	152	149	129	129	264	159
4. Whitevale, ...	151	153	144	150	160	144	130	143	151
5. Dennistoun, ...	94	94	94	93	82	111	76	90	99
6. Springburn, ...	134	140	125	126	122	115	114	189	117
7. Cowlares, ...	119	121	128	107	104	110	114	117	130
8. Townhead, ...	139	140	147	127	151	142	104	150	161
9. Blackfriars, ...	161	166	142	165	172	163	147	101	180
10. Exchange, ...	125	123	63	194	167	313	108	5	200
11. Blythswood, ...	226	257	200	158	25	59	37	4	160
12. Broomielaw, ...	169	167	142	201	203	160	141	48	234
13. Anderston, ...	143	151	140	121	149	151	116	101	126
14. Sandyford, ...	157	146	165	180	148	148	128	74	145
15. Park, ...	85	91	83	68	88	108	63	17	85
16. Cowcaddens, ...	172	182	168	144	162	186	150	171	163
17. Woodside, ...	121	123	123	110	118	130	87	155	144
18. Hutchesontown, ...	134	142	133	112	153	140	119	201	140
19. Gorbals, ...	139	141	121	151	137	141	136	133	145
20. Kingston, ...	145	143	145	151	158	152	140	126	145
21. Govanhill, ...	107	111	106	93	115	111	101	87	76
22. Langside, ...	62	65	47	69	72	52	55	47	59
23. Pollokshields, ...	65	71	60	53	30	80	61	15	86
24. Kelvinside, ...	62	75	44	40	60	42	47	8	29
25. Maryhill, ...	101	110	101	72	106	112	105	129	106
26. Kinning Park, ...	...	...	130	129	132	140	148	62	145
— Institutions and Shipping, ...	...	...	...	...	...	...	...	72	...
CITY, ...	136	139	131	129	136	131	119	2,944	136

TABLE XVI.

GLASGOW, 1911.—MALE INFANT DEATHS at GIVEN AGES and from SEVERAL CAUSES.

CAUSE OF DEATH.	AGE IN WEEKS.					Total.	AGE IN MONTHS.												Totals.	Group Totals.	Group Percent-ages.	Death-rate per 1,000 Male Births.					
	1st	2nd	3rd	4th	5th		6th	7th	8th	9th	10th	11th	12th														
														
I. IMMATUREITY,																											
(a) Premature Birth, ...	183	20	20	11	4	13	3	4	2	2	...	...	...	...	...	...	...	...	...	...	...	501	30.1	450			
(b) Congenital Malformations, ...	28	6	1	1	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(c) Atelectasis, ...	9	...	2	1	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(d) Atrophy and Debility, ...	38	17	21	17	93	35	23	10	6	9	4	7	2	2	1	...	...	...	...	...	...	...	...	...	...	...	...
II. DISEASES OF RESPIRATORY SYSTEM,	13	5	16	10	44	36	24	36	18	30	30	22	19	30	24	15	...	...	...	...	...	...	328	19.7	294		
III. DISEASES OF DIGESTIVE SYSTEM,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Diarrhœal, ...	...	5	8	11	24	30	30	39	25	22	26	18	6	18	8	17	263	...	...	...	...	...	308	18.5	277		
(b) Dentition, ...	...	4	3	2	11	7	7	5	1	1	3	1	4	1	1	3	45	...	...	...	...	...	...	...	...	...	...
(c) Others, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IV. DISEASES OF NERVOUS SYSTEM,	8	5	5	5	23	9	4	3	6	6	7	10	1	5	8	3	...	...	...	...	...	...	85	5.1	7.6		
V. TUBERCULOUS DISEASES,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Tuberc Mesenterica, ...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	4.7	70	
(b) Tubercular Meningitis, ...	1	...	1	...	2	1	4	6	1	2	6	7	5	3	4	3	44	...	...	...	...	...	...	...	...	...	...
(c) Other Forms, ...	...	...	...	...	...	1	...	4	2	3	4	3	3	3	4	5	32	...	...	...	...	...	...	...	...	...	...
VI. ACCIDENTS OF BIRTH,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	0.4	0.5	
(a) Injury, ...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Umbilical Hemorrhage, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VII. INFECTIOUS DISEASES,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Whooping-cough, ...	...	...	...	1	1	15	7	11	11	10	11	17	8	17	10	11	129	...	...	...	...	...	...	187	11.2	168	
(b) Measles, ...	...	...	...	2	2	...	...	...	1	...	...	...	6	11	4	5	36	...	...	...	...	...	...	...	...	...	...
(c) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(d) Cerebro-Spinal Fever, ...	...	...	...	...	...	...	...	...	...	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(e) Erysipelas, ...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(f) Diphtheria and Memb. Croup, ...	1	...	...	...	1	...	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(g) Chicken-pox, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII. SYPHILIS, ...	2	2	4	2	10	11	2	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28	1.7	2.5	
IX. SUFFOCATION, ...	4	1	1	2	8	4	6	1	3	1	1	1	...	...	...	...	...	...	...	...	...	...	...	26	1.5	2.3	
X. OTHER VIOLENCE, ...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	4	0.2	0.4	
XI. ALL OTHER CAUSES, ...	24	11	6	6	47	17	13	11	3	8	3	2	2	7	1	2	...	...	...	...	...	...	...	116	6.9	10.4	
	321	75	87	72	555	179	129	132	81	95	102	95	59	98	69	73	1,667	100.0					1,667		149.6		

TABLE XVII.

GLASGOW, 1911.—FEMALE INFANT DEATHS AT GIVEN AGES AND FROM SEVERAL CAUSES.

CAUSE OF DEATH.	AGE IN WEEKS.					AGE IN MONTHS.										TOTALS.	Group Totals.	Group Percent-ages.	Death-rate per 1,000 Female Births.	
	1st	2nd	3rd	4th	Total.	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th					12th
I. IMMATURETY, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Premature Birth,	145	16	14	8	183	13	6	7	...	...	...	...	...	...	...	...	...	...
(b) Congenital Malformations, ...	11	4	2	1	18	3	...	1	...	...	...	...	...	...	...	...	...	...
(c) Atelectasis,	9	...	1	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
(d) Atrophy and Debility,	22	7	10	7	46	25	16	11	10	5	3	5	3	...	2	...	...	...
II. DISEASES OF RESPIRATORY SYSTEM,	9	8	9	13	39	21	28	14	15	15	9	19	32	16	23	22	...	253		
III. DISEASES OF DIGESTIVE SYSTEM,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Diarrhoeal,	1	4	4	2	11	18	23	20	20	14	10	14	12	15	16	15	...	223		
(b) Dentition, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
(c) Others,	1	...	2	5	8	5	3	6	1	...	1	...	7	2	1	...	...	...
IV. DISEASES OF NERVOUS SYSTEM, ...	7	5	2	2	16	7	3	5	3	5	6	7	9	9	4	5	...	79		
V. TUBERCULOUS DISEASES, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Tuberculosis, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Tubercular Meningitis, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(c) Other Forms, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VI. ACCIDENTS OF BIRTH, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Injury,	4	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Umbilical Haemorrhage,	1	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
VII. INFECTIOUS DISEASES, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(a) Whooping-cough, ... ..	...	...	1	3	4	12	6	8	4	7	8	16	18	15	16	18	...	184
(b) Measles, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	3	4	8	5	...	...
(c) Scarlet Fever, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(d) Cerebro-Spinal Fever, ... ..	...	...	...	...	...	...	...	...	...	2	2	...	...	...	1	...	...	...
(e) Erysipelas, ... ..	...	...	1	...	1	1	...	...	...	...	...	...	...	...	2	3	1	...
(f) Diphtheria and Memb. Croup, ...	...	...	1	...	1	...	...	...	...	...	1	3	...	...	...	...	...	...
(g) Chicken-pox, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII. SYPHILIS,	2	2	...	...	4	2	5	4	1	2	2	...	1	...	1	...	...	...
IX. SUFFOCATION,	4	1	1	...	6	1	2	...	1	1	...	...	...	...	...	...	...	...
X. OTHER VIOLENCE, ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XI. ALL OTHER CAUSES,	21	6	5	2	34	5	8	3	5	6	5	2	3	2	3	2	...	78		
TOTALS	237	54	53	43	387	115	105	86	69	60	54	78	90	72	87	74	...	1,277		
																			100.0	
																			122.3	

TABLE XVIII.—GLASGOW, 1911.—ABSTRACT OF NOTIFICATIONS UNDER NOTIFICATION OF BIRTHS ACT, 1907, AND RESULTS OF VISITS, IN EACH MUNICIPAL WARD.

MUNICIPAL WARD.	Total Number of Notifications.	Dr. at Home.	Dr. in Institution.	Institutional Nurse.	Others.	Total Cards issued.	Total Cards returned.	'Full Information.	Dr. found in attendance.	Duplicates.	Wrong Address.	Others.
1. Dalmarnock, ...	1,855	532	85	227	1,011	1,323	1,341	1,231	4	2	28	76
2. Calton, ...	1,072	253	60	272	487	819	813	744	...	4	10	55
3. Mile-end, ...	1,674	478	79	253	864	1,196	1,217	1,115	3	...	22	77
4. Whitevale, ...	988	312	53	188	435	676	673	656	...	1	7	9
5. Dennistoun, ...	1,063	738	124	65	136	325	321	212	...	...	6	103
6. Springburn, ...	1,724	710	110	254	650	1,014	1,001	877	6	5	12	101
7. Cowhairs, ...	984	366	21	75	522	618	601	558	9	3	5	26
8. Townhead, ...	976	383	50	316	227	593	592	549	8	2	9	24
9. Blackfriars, ...	598	101	51	245	201	497	486	444	...	3	9	30
10. Exchange, ...	27	7	3	8	9	20	20	20	...	...	...	...
11. Blythwood, ...	25	13	3	1	8	12	13	8	...	...	1	4
12. Broomielaw, ...	201	33	13	84	71	168	172	161	...	...	1	10
13. Anderston, ...	819	288	29	230	282	531	534	516	11	1	...	6
14. Sandyford, ...	561	194	26	174	167	367	368	358	1	...	...	9
15. Park, ...	266	141	68	15	42	125	125	63	...	...	1	61
16. Cowcaddens, ...	1,067	222	57	292	496	845	833	800	3	2	5	23
17. Woodside, ...	1,170	546	102	162	360	624	621	527	14	1	2	77
18. Hutchesontown, ...	1,486	412	52	240	782	1,074	1,246	1,079	20	2	17	128
19. Gorbals, ...	941	330	39	167	405	611	666	613	10	2	10	31
20. Kingston, ...	911	317	41	129	424	594	644	592	9	1	6	36
21. Govanhill, ...	1,172	708	34	61	369	464	522	401	28	...	6	87
22. Langside, ...	790	735	5	...	50	55	58	15	6	...	...	37
23. Pollokshields, ...	169	144	3	...	22	25	28	18	1	...	...	9
24. Kelvinside, ...	271	246	9	...	16	25	27	13	...	...	...	14
25. Maryhill, ...	1,265	717	24	25	499	548	558	501	15	1	7	34
26. Kinning Park, ...	441	114	15	73	239	327	364	327	9	...	5	23
CITY, ...	22,516	9,040	1,156	3,546	8,774	13,476	13,844	12,398	157	30	169	1,090

TABLE XIX.

GLASGOW, 1911.—TABLE SHOWING THE NUMBER OF LIVE AND STILL-BIRTHS NOTIFIED AND THE NUMBERS AND PERCENTAGES ATTENDED MEDICALLY AND NON-MEDICALLY IN EACH WARD.

MUNICIPAL WARDS.	NOTIFICATIONS RECEIVED.			Births Medically Attended.	Medically Attended in Institutions.	Total Births Medically Attended.	Attended by Nurses from Institutions.	Attended by Midwives—Certified and Uncertified.	Total Births not Medically Attended.	Percentage Medically Attended.	Percentage not Medically Attended.
	Total.	Live-Births.	Still-Births.								
1. Dalrnarnock, ...	1,853	1,761	92	536	85	621	227	1,005	1,232	33.5	66.5
2. Calton, ...	1,068	1,031	37	253	60	313	272	483	755	29.3	70.7
3. Mile-end, ...	1,674	1,607	67	481	79	560	253	861	1,114	33.5	66.5
4. Whitevale, ...	987	943	44	312	53	365	188	434	622	37.0	63.0
5. Dennistoun, ...	1,063	1,018	45	738	124	862	65	136	201	81.1	18.9
6. Springburn, ...	1,719	1,655	64	716	110	826	254	639	893	48.1	51.9
7. Cowlairs, ...	981	945	36	375	21	396	75	510	585	40.4	59.6
8. Townhead, ...	974	926	48	391	50	441	316	217	533	45.3	54.7
9. Blackfriars, ...	595	562	33	101	51	152	245	198	443	25.5	74.5
10. Exchange, ...	27	26	1	7	3	10	8	9	17	37.0	63.0
11. Blythswood, ...	25	24	1	13	3	16	1	8	9	64.0	36.0
12. Broomielaw, ...	201	192	9	33	13	46	84	71	155	22.9	77.1
13. Anderston, ...	818	780	38	299	29	328	220	270	490	40.1	59.9
14. Sandyford, ...	561	535	26	195	26	221	174	166	340	39.4	60.6
15. Park, ...	266	255	11	141	68	209	15	42	57	78.6	21.4
16. Cowcaddens, ...	1,065	1,017	48	225	57	282	292	491	783	26.5	73.5
17. Woodside, ...	1,169	1,123	46	560	102	662	162	345	507	56.6	43.4
18. Hutchesontown, ...	1,484	1,427	57	432	52	484	240	760	1,000	32.6	67.4
19. Gorbals, ...	939	899	40	340	39	379	167	393	560	40.4	59.6
20. Kingston, ...	910	879	31	326	41	367	129	414	543	40.3	59.7
21. Govanhill, ...	1,172	1,127	45	736	34	770	61	341	402	65.7	34.3
22. Langside, ...	790	773	17	741	5	746	...	44	44	94.4	5.6
23. Pollokshields, ...	169	167	2	145	3	148	...	21	21	87.6	12.4
24. Kelvinside, ...	271	266	5	246	9	255	...	16	16	94.1	5.9
25. Maryhill, ...	1,264	1,222	42	732	24	756	25	483	508	59.8	40.2
26. Kinning Park, ...	441	424	17	123	15	138	73	230	303	31.3	68.7
CITY, ...	22,486	21,584	902	9,197	1,156	10,353	3,546	8,587	12,133	46.0	54.0

TABLE XX.

GLASGOW, 1911.—TABLE SHOWING NUMBER OF LIVE-BIRTHS AND STILL-BIRTHS NOTIFIED, WITH PROPORTIONS MEDICALLY AND NON-MEDICALLY ATTENDED IN EACH WARD.

MUNICIPAL WARDS.	Number of Live-Births Notified.	Number of Still-Births Notified.	Per-centage Still-Births to Live-Births Notified.	Live-Births Medically Attended, but excluding Institutions.	Still-Births Medically Attended, but excluding Institutions.	Per-centage Still-Births to Live-Births Medically Attended.	Live-Births Non-Medically Attended.	Still-Births Non-Medically Attended.	Per-centage Still-Births to Live-Births Non-Medically Attended.
1. Dalmarnock, ...	1,761	92	5.2	536	39	7.3	1,232	38	3.1
2. Calton, ...	1,031	37	3.6	253	7	2.8	755	21	2.8
3. Mile-end, ...	1,607	67	4.2	481	20	4.2	1,114	35	3.1
4. Whitevale, ...	943	44	4.7	312	9	2.9	622	24	3.9
5. Dennistoun, ...	1,018	45	4.4	738	31	4.2	201	5	2.5
6. Springburn, ...	1,655	64	3.9	716	28	3.9	893	26	2.9
7. Cowlares, ...	945	36	3.8	375	13	3.6	585	16	2.7
8. Townhead, ...	926	48	5.2	391	22	5.6	533	18	3.4
9. Blackfriars, ...	562	33	5.9	101	2	2.0	443	21	4.7
10. Exchange, ...	26	1	3.8	7	...	...	17	...	...
11. Blythswood, ...	24	1	4.2	13	1	7.7	9	...	...
12. Broomielaw, ...	192	9	4.7	33	4	12.1	155	4	2.6
13. Anderston, ...	780	38	4.9	299	5	1.7	490	25	5.1
14. Sandyford, ...	535	26	4.9	195	9	4.6	340	12	3.5
15. Park, ...	255	11	4.3	141	2	1.4	57	2	3.5
16. Cowcaddens, ...	1,017	48	4.7	225	12	5.3	783	31	4.0
17. Woodside, ...	1,123	46	4.1	560	17	3.0	507	19	3.7
18. Hutchesontown, ...	1,427	57	4.0	432	20	4.6	1,000	29	2.9
19. Gorbals, ...	899	40	4.4	340	20	5.9	560	13	2.3
20. Kingston, ...	879	31	3.5	326	12	3.7	543	15	2.8
21. Govanhill, ...	1,127	45	4.0	736	29	3.9	402	9	2.2
22. Langside, ...	773	17	2.2	741	17	2.3	44	...	...
23. Pollokshields, ...	167	2	1.2	145	2	1.4	21	...	...
24. Kelvinside, ...	266	5	1.9	246	4	1.6	16	...	...
25. Maryhill, ...	1,222	42	3.4	732	23	3.1	508	15	3.0
26. Kinning Park, ...	424	17	4.0	123	5	4.1	303	9	3.0
CITY, ...	21,584	902	4.2	9,197	353	3.8	12,133	387	3.2

TABLE XXI.

GLASGOW, 1911.—CASES OF CERTAIN ZYMOTICS, PHTHISIS, and ALL CASES REGISTERED IN EACH MUNICIPAL WARD.

MUNICIPAL WARDS.	FEVER.						Smallpox.	Diphtheria and Membranous Group.	Phtisis.	All other Cases.	TOTAL.
	Cerebro-Spinal.	Typhus.	Ereptic.	Continued and Undefined.	Puerperal.	Scarlet.					
1. Dalmarnock, ...	7	...	13	2	16	221	...	153	167	1,817	2,396
2. Calton, ...	7	3	18	...	3	141	...	88	166	794	1,220
3. Mile-end, ...	5	...	29	1	11	240	...	129	144	1,722	2,281
4. Whitevale, ...	2	1	5	...	9	120	...	64	103	746	1,050
5. Dennistoun, ...	2	1	10	...	5	152	...	97	50	624	941
6. Springburn, ...	2	...	25	1	12	193	...	136	127	1,364	1,860
7. Cowlares, ...	1	...	2	...	5	162	...	112	57	1,183	1,522
8. Townhead, ...	1	...	11	...	7	125	...	103	116	715	1,078
9. Blackfriars, ...	...	...	13	...	9	67	...	41	96	625	851
10. Exchange, ...	...	...	1	...	1	4	...	1	4	42	53
11. Blythswood, ...	...	...	1	...	...	8	...	5	3	11	28
12. Broomielaw, ...	1	...	7	...	2	12	...	13	24	168	227
13. Anderston, ...	2	...	15	3	8	77	2	73	90	715	985
14. Sandyford, ...	2	...	13	1	3	77	...	53	74	340	563
15. Park, ...	1	...	20	...	3	98	...	70	43	188	423
16. Cowcaddens, ...	3	1	32	...	11	66	...	62	142	1,116	1,433
17. Woodside, ...	2	...	12	...	2	140	...	111	88	1,146	1,501
18. Hutchesontown, ...	2	...	26	1	5	201	...	58	128	1,447	1,868
19. Gorbals, ...	2	...	29	...	5	142	...	58	102	1,140	1,478
20. Kingston, ...	4	...	44	...	4	109	...	59	79	1,278	1,577
21. Govanhill, ...	1	...	22	1	...	192	...	49	57	1,218	1,540
22. Langside, ...	...	...	4	...	...	204	...	121	48	696	1,073
23. Pollokshields, ...	...	...	9	...	1	69	...	23	18	103	223
24. Kelvinside, ...	1	...	1	...	...	68	...	37	13	102	222
25. Maryhill, ...	2	1	13	1	9	202	...	166	76	456	926
26. Kinning Park, ...	...	...	9	...	2	64	...	15	28	431	549
— Institutions, ...	...	...	...	...	...	...	...	...	286	...	286
— Harbour, ...	...	...	...	...	...	...	...	...	3	...	3
CITY, ...	50	7	384	11	133	3,154	2	1,897	2,332	20,187	28,157

* Erysipelas, Measles, Whooping-cough, Chickenpox, Beri-Beri, Plague, Mumps, and Ophthalmia Neonatorum.

NOTE.—Cases occurring in Institutions are allocated to the respective Wards, except for Phtisis.

TABLE XXII.

GLASGOW, 1911.—CASE-RATE per Million for CERTAIN ZYMOTICS, PHTHISIS, and for ALL CASES registered in each MUNICIPAL WARD.

MUNICIPAL WARDS.	FEVERS.						Smallpox.	Diphtheria and Membranous Croup.	Phthisis.	All other Cases.	TOTAL.
	Cerebro-Spinal.	Typhus.	Enteric.	Continued and Undefined.	Puerperal.	Scarlet.					
1. Dalmarnock ...	134	...	250	38	307	4,245	...	2,939	3,264	34,901	46,078
2. Calton, ...	187	80	481	...	80	3,769	...	2,352	4,724	21,225	32,898
3. Mile-end, ...	108	...	628	22	238	5,199	...	2,794	3,154	37,299	49,442
4. Whitevale, ...	60	30	150	...	270	3,604	...	1,922	3,226	22,404	31,666
5. Dennistoun, ...	52	26	262	...	131	3,978	...	2,539	1,381	16,331	24,700
6. Springburn, ...	40	...	505	20	242	3,899	...	2,748	2,834	27,557	37,845
7. Cowlairst, ...	34	...	68	...	170	5,501	...	3,803	1,936	40,171	51,683
8. Townhead, ...	27	...	302	...	192	3,427	...	2,824	3,181	19,600	29,553
9. Blackfriars, ...	...	...	616	...	426	3,172	...	1,941	4,811	29,593	40,559
10. Exchange, ...	...	...	475	...	475	1,900	...	475	2,392	19,952	25,669
11. Blythswood, ...	...	...	324	...	...	2,593	...	1,621	1,073	3,566	9,177
12. Broomielaw, ...	120	...	844	...	241	1,446	...	1,567	3,555	20,251	28,024
13. Anderston, ...	69	...	514	103	274	2,638	69	2,501	3,246	24,496	33,910
14. Sandyford, ...	83	...	541	42	125	3,205	...	2,206	3,136	14,150	23,488
15. Park, ...	43	...	860	...	129	4,212	...	3,009	1,928	8,080	18,261
16. Cowcaddens, ...	85	28	908	...	312	1,874	...	1,760	4,189	31,682	40,838
17. Woodside, ...	48	...	290	...	48	3,378	...	2,678	2,136	27,653	36,231
18. Hutchesontown, ...	50	...	651	25	125	5,034	...	1,453	3,206	36,238	46,782
19. Gorbals, ...	59	...	849	...	146	4,159	...	1,699	3,073	33,389	43,374
20. Kingston, ...	121	...	1,328	...	121	3,289	...	1,781	2,418	38,568	47,626
21. Govanhill, ...	29	...	627	29	...	5,473	...	1,397	1,625	34,719	43,899
22. Langside, ...	...	...	101	...	...	5,170	...	3,067	1,234	17,640	27,212
23. Pollokshields, ...	...	...	526	...	58	4,029	...	1,343	1,051	6,015	13,022
24. Kelvinside, ...	49	...	49	...	...	3,311	...	1,802	656	4,967	10,834
25. Maryhill, ...	48	24	310	24	215	4,818	...	3,960	1,931	10,877	22,207
26. Kinning Park, ...	...	...	701	...	156	4,984	...	1,168	2,181	33,564	42,754
CITY, ...	64	9	489	14	170	4,020	3	2,418	2,973	25,732	35,892

* Erysipelas, Measles, Whooping-cough, Chickenpox, Beri-Beri, Plague, Mumps, and Ophthalmia Neonatorum.
NOTE.—The populations on which these rates are based include Institutions and Shipping, except for Phthisis.

TABLE XXIII.

GLASGOW, 1911.—*PRINCIPAL ZYMOTIC DISEASES.—DEATHS AND DEATH-RATES IN THE SEVERAL WARDS, WITH CORRESPONDING RATES FOR 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.	
	1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	3,739	3,440	6,011	3,704	3,494	2,971	240	4,691
2. Calton, ...	3,611	3,023	5,595	3,504	2,349	2,334	104	2,958
3. Mile-end, ...	3,664	4,007	5,093	3,538	2,667	2,789	233	5,103
4. Whitevale, ...	2,889	3,261	4,566	2,705	2,689	2,457	86	2,695
5. Dennistoun, ...	1,587	1,355	1,058	915	923	557	38	1,049
6. Springburn, ...	3,041	2,613	4,347	2,851	1,950	1,856	124	2,768
7. Cowlairst, ...	2,372	2,373	3,173	2,703	2,257	1,654	76	2,581
8. Townhead, ...	2,317	2,351	3,527	2,474	2,115	1,284	90	2,468
9. Blackfriars, ...	2,806	2,568	4,773	4,020	2,668	2,218	62	3,106
10. Exchange, ...	912	962	1,965	519	1,057	1,629	5	2,990
11. Blythswood, ...	1,149	305	305	317	330	...	6	2,147
12. Broomielaw, ...	3,800	3,705	5,480	3,303	3,730	2,202	25	3,702
13. Anderston, ...	3,153	2,918	4,622	3,771	2,927	2,297	60	2,163
14. Sandyford, ...	2,526	2,079	3,200	2,003	2,093	1,841	47	1,993
15. Park, ...	679	925	773	369	577	295	14	628
16. Cowcaddens, ...	3,382	3,812	3,499	3,402	4,802	1,406	114	3,363
17. Woodside, ...	1,909	2,186	1,980	1,836	2,462	1,351	91	2,209
18. Hutchesontown, ...	3,337	3,330	3,574	5,021	4,425	2,261	113	2,829
19. Gorbals, ...	2,006	2,119	2,924	3,533	2,532	2,010	75	2,258
20. Kingston, ...	2,436	2,527	3,950	2,485	2,485	1,900	109	3,336
21. Govanhill, ...	2,061	2,206	2,394	2,810	2,214	1,894	72	2,052
22. Langside, ...	738	542	904	662	505	341	19	489
23. Pollokshields, ...	479	337	378	211	259	159	8	466
24. Kelvinside, ...	535	138	357	361	209	246	9	456
25. Maryhill, ...	2,000	2,460	2,125	2,679	1,454	1,802	64	1,624
26. Kinning Park, ...	...	2,436	4,191	2,687	3,659	1,345	46	3,582
— Institutions and Harbour, ...	...	...	...	...	...	...	65	...
CITY, ...	2,486	2,436	3,300	2,586	2,244	1,682	1,995	2,544

* Includes Smallpox, Diphtheria, Membranous Croup, Scarlet Fever, Typhus Fever, Enteric Fever, Continued and Undefined Fevers, Cerebro-Spinal Fever, Measles, Whooping Cough, and Diarrhoea.

TABLE XXIV.

GLASGOW.—PRIMARY VACCINATION during 1910—COMPILED from the 57TH ANNUAL REPORT of the REGISTRAR-GENERAL.

Registration Districts.	Successfully Vaccinated.		Vaccination Postponed.		Insusceptible of Vaccination.		Died before Vaccination.		Statutory Declaration of Conscientious Objection.		Removed from District, or otherwise Unaccounted for		Total Births for 1910.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
1. Bridgeton, ...	1,126	67.4	15	0.9	7	0.4	193	11.5	232	13.9	98	5.9	1,671
2. Camlachie, ...	1,212	63.9	21	1.1	6	0.3	184	9.7	342	18.0	133	7.0	1,898
3. Calton, ...	1,132	68.9	12	0.7	1	0.1	174	10.6	178	10.8	145	8.9	1,642
4. Dennistoun, ...	665	70.1	14	1.5	1	0.1	71	7.5	153	16.1	44	4.7	948
5. Garnqadhill, ...	811	65.9	14	1.1	4	0.3	112	9.1	233	18.9	57	4.7	1,231
6. Springburn, ...	475	53.7	5	0.7	2	0.2	91	10.3	280	31.7	31	3.4	884
7. Possilpark, ...	438	69.6	9	1.4	5	0.8	47	7.5	110	17.5	20	3.2	629
8. St. Rollox, ...	707	68.5	18	1.7	2	0.2	88	8.5	167	16.2	50	4.9	1,032
9. Milton, ...	682	66.0	12	1.2	4	0.4	113	10.9	113	10.9	109	10.6	1,033
10. Blythswood, ...	782	55.2	18	1.3	8	0.5	221	15.6	173	12.2	215	15.2	1,417
11. Anderston, ...	961	71.0	5	0.4	5	0.4	143	10.5	151	11.2	88	6.5	1,353
12. Hillhead, ...	279	80.6	9	2.6	3	0.9	11	3.2	43	12.4	1	0.3	346
13. Kelvin, ...	813	63.1	28	2.2	11	0.8	115	8.9	242	18.8	80	6.2	1,285
14. Maryhill, ...	657	63.8	24	2.3	8	0.8	83	8.1	192	18.6	66	6.4	1,030
15. Hutchesontown, ...	1,007	58.9	55	3.2	6	0.4	181	10.6	230	13.4	231	13.5	1,710
16. Govanhill, ...	736	66.0	34	3.0	5	0.4	79	7.1	220	19.7	42	3.8	1,116
17. Gorbals, ...	939	62.2	34	2.3	9	0.6	174	11.5	217	14.4	137	9.0	1,510
18. Pollokshields, ...	442	57.1	21	2.7	8	1.0	71	9.2	170	22.0	62	8.0	774
19. Cathcart, ...	452	76.4	10	1.7	6	1.0	20	3.4	91	15.4	13	2.1	592
20. Eastwood, ...	83	74.8	3	2.7	...	...	6	5.4	17	15.3	2	1.8	111
CITY, ...	14,399	64.8	361	1.6	101	0.5	2,177	9.8	3,554	16.0	1,624	7.3	22,216
1902, ...	...	84.2	...	0.8	...	0.9	...	10.6	...	...	...	3.5	24,720
1903, ...	...	84.6	...	0.7	...	0.6	...	10.8	...	...	...	3.3	25,142
1904, ...	...	83.4	...	1.2	...	0.7	...	11.0	...	...	...	3.7	24,751
1905, ...	...	84.5	...	1.3	...	0.6	...	10.0	...	...	...	3.6	24,315
1906, ...	...	82.9	...	0.8	...	0.5	...	10.6	...	0.2	...	5.0	24,557
1907, ...	...	75.0	...	1.5	...	0.7	...	10.7	...	4.9	...	7.2	24,003
1908, ...	...	69.5	...	1.7	...	0.8	...	10.8	...	9.2	...	8.0	23,912
1909, ...	...	67.2	...	1.7	...	0.8	...	10.6	...	12.6	...	7.1	23,139

TABLE XXV.

GLASGOW.—STATUTORY DECLARATIONS OF CONSCIENTIOUS OBJECTION TO VACCINATION in each Ward from 1907 to 1911.

MUNICIPAL WARDS.	1907.	1908.	1909.	1910.	1911.	TOTAL.
1. Dalmarnock, ...	20	126	195	223	306	870
2. Calton, ...	6	54	70	109	96	335
3. Mile end, ...	25	112	156	261	299	853
4. Whitevale, ...	12	61	86	113	144	416
5. Dennistoun, ...	26	119	119	152	172	588
6. Springburn, ...	37	253	336	394	344	1,364
7. Cowlairst, ...	41	183	210	214	243	891
8. Townhead, ...	14	97	145	165	149	570
9. Blackfriars, ...	10	41	27	39	63	180
10. Exchange, ...	2	...	3	4	2	11
11. Blythswood, ...	...	2	5	3	4	14
12. Broomielaw, ...	...	7	13	14	11	45
13. Anderston, ...	10	72	98	92	110	382
14. Sandyford, ...	11	35	38	52	74	210
15. Park, ...	6	22	16	35	30	109
16. Cowcaddens, ...	9	64	73	90	118	354
17. Woodside, ...	43	169	176	211	234	833
18. Hutchesontown, ...	23	90	140	177	272	702
19. Gorbals, ...	15	71	73	86	95	340
20. Kingston, ...	18	86	101	125	166	496
21. Govanhill, ...	54	174	196	207	244	875
22. Langside, ...	39	127	95	119	130	510
23. Pollokshields, ...	9	14	17	22	34	96
24. Kelvinside, ...	5	28	20	28	39	120
25. Maryhill, ...	35	127	164	193	267	786
26. Kinning Park, ...	4	49	81	103	145	382
CITY, ...	474	2,183	2,653	3,231	3,791	12,332

TABLE XXVI.

GLASGOW, 1911.—DIPHTHERIA and MEMBRANOUS CROUP.—CASES and CASE-RATES and DEATHS and DEATH-RATES in each MUNICIPAL WARD, with corresponding Death-rates for 1903-10.

MUNICIPAL WARDS.	Death-rates per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million	Deaths.	Death-rate per Million
1. Dalmarnock, ...	146	320	222	202	467	424	153	2,939	20	391
2. Calton, ...	131	83	253	313	174	375	88	2,352	12	341
3. Mile-end, ...	131	179	217	224	359	340	129	2,794	23	504
4. Whitevale, ...	120	30	185	404	406	287	64	1,922	8	251
5. Dennistoun, ...	109	...	81	81	211	106	97	2,539	6	166
6. Springburn, ...	119	324	288	331	199	376	136	2,748	9	201
7. Cowlares, ...	176	192	131	132	327	132	112	3,803	11	374
8. Townhead, ...	93	78	80	134	461	191	103	2,824	5	137
9. Blackfriars, ...	59	46	46	378	346	252	41	1,941	6	301
10. Exchange, ...	...	...	...	...	...	543	1	475	...	...
11. Blythswood, ...	...	...	...	317	330	...	5	1,621	2	716
12. Broomielaw, ...	124	...	401	287	311	...	13	1,567	1	148
13. Anderston, ...	227	208	276	104	250	283	73	2,501	6	216
14. Sandyford, ...	154	400	40	82	377	251	53	2,206	4	170
15. Park, ...	40	121	41	...	41	42	70	3,009	3	134
16. Cowcaddens, ...	180	192	85	144	318	373	62	1,760	8	236
17. Woodside, ...	125	92	69	93	281	332	111	2,678	16	388
18. Hutchesontown, ...	154	351	304	256	412	158	58	1,453	2	50
19. Gorbals, ...	137	251	312	148	151	540	58	1,699	1	30
20. Kingston, ...	153	116	265	299	184	153	59	1,781	6	184
21. Govanhill, ...	79	324	173	281	589	254	49	1,397	4	114
22. Langside, ...	134	52	98	71	183	91	121	3,067	4	103
23. Pollokshields, ...	37	...	...	...	...	...	23	1,343	1	58
24. Kelvinside, ...	68	...	45	...	...	41	37	1,802	1	51
25. Maryhill, ...	194	226	25	172	197	200	166	3,960	13	330
26. Kinning Park, ...	...	295	224	230	314	79	15	1,168	...	...
— Institutions and Harbour, ...	...	...	...	...	...	...	...	...	1	...
CITY, ...	128	169	157	180	277	240	1,897	2,418	173	221

TABLE XXVII.

GLASGOW, 1911.—ENTERIC FEVER, CASES AND CASE-RATES, AND DEATHS AND DEATH-RATES, IN EACH MUNICIPAL WARD, WITH CORRESPONDING DEATH-RATES FOR 1903-10.

MUNICIPAL WARDS.	Death-rates per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million	Deaths.	Death-rate per Million
1. Dalmarnock, ...	159	180	222	101	162	20	13	250	1	20
2. Calton, ...	147	139	169	171	116	86	18	481	3	85
3. Mile-end, ...	178	157	87	45	67	23	29	628	7	153
4. Whitevale, ...	169	91	93	124	219	96	5	150	...	...
5. Dennistoun, ...	148	138	81	54	26	...	10	262	1	28
6. Springburn, ...	103	116	44	44	133	22	25	505	3	67
7. Cowlares, ...	88	64	262	66	33	...	2	68	...	...
8. Townhead, ...	135	105	53	108	27	55	11	302	4	110
9. Blackfriars, ...	146	46	417	47	198	50	13	616	2	100
10. Exchange, ...	149	...	491	...	...	...	1	475	...	...
11. Blythswood, ...	...	...	...	...	...	...	1	324	...	...
12. Broomielaw, ...	83	397	...	287	466	...	7	844	1	148
13. Anderston, ...	159	35	103	173	214	177	15	514	3	108
14. Sandyford, ...	64	80	80	204	167	209	13	541	1	42
15. Park, ...	53	201	81	41	...	...	20	860	1	45
16. Cowcaddens, ...	229	82	141	115	260	115	32	908	7	207
17. Woodside, ...	89	69	92	23	...	...	12	290	3	73
18. Hutchesontown, ...	201	200	101	102	232	184	26	651	4	100
19. Gorbals, ...	91	56	85	119	151	150	29	849	3	90
20. Kingston, ...	96	58	118	90	123	92	44	1,328	2	61
21. Govanhill, ...	50	29	29	84	140	198	22	627	4	114
22. Langside, ...	32	...	24	24	...	23	4	101	1	26
23. Pollokshields, ...	39	169	54	...	...	...	9	526	...	...
24. Kelvinside, ...	34	46	45	226	84	41	1	49	...	...
25. Maryhill, ...	71	50	75	49	49	25	13	310	1	25
26. Kinning Park, ...	...	74	150	307	235	79	9	701	1	78
— Institutions and Harbour, ...	...	...	...	...	...	...	...	...	6	...
CITY, ...	119	102	114	90	116	70	384	489	59	75

TABLE XXVIII.
GLASGOW, 1911.—CEREBRO-SPINAL FEVER.—CASES AND CASE-RATES, with DEATHS and DEATH-RATES in each MUNICIPAL WARD, with corresponding DEATH-RATES for 1906-10.

MUNICIPAL WARDS.	Death-rate per Million.					1911.			
	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million.	Deaths.	Death-rate per Million.
1. Dalmarnock,	229	1,069	243	183	81	7	134	10	195
2. Calton,	361	1,631	228	87	86	7	187	4	114
3. Mile-end,	649	1,257	448	67	68	5	108	3	66
4. Whitevale,	366	1,388	124	156	...	2	60	2	63
5. Dennistoun,	138	596	215	...	...	2	52	2	55
6. Springburn,	370	1,331	133	66	22	2	40	4	89
7. Cowlands,	96	589	165	65	33	1	34	...	...
8. Townhead,	325	981	161	...	...	1	27	1	27
9. Blackfriars,	367	1,298	331	148	...	...	...	1	50
10. Exchange, ... ..	...	1,474	...	...	...	...	...	...	...
11. Blythswood, ... ..	...	306	...	...	...	...	...	...	...
12. Brooniellaw, ... ..	...	1,738	144	...	315	1	120	...	...
13. Anderston,	35	1,311	208	143	71	2	69	2	72
14. Sandyford,	80	760	82	42	84	2	83	2	85
15. Park,	40	244	41	...	...	1	43	...	...
16. Cowcaddens,	82	818	346	...	...	3	85	1	29
17. Woodside,	92	645	186	117	71	2	48	1	24
18. Hutchesontown,	125	837	205	77	26	2	50	2	50
19. Gorbals,	56	511	297	30	30	2	59	3	90
20. Kingston,	203	1,061	210	123	...	4	121	3	92
21. Govanhill,	88	519	169	...	57	1	29	1	29
22. Langside,	26	122	47	23	45	...	...	...	...
23. Pollokshields, ... ..	...	54	105	...	...	...	...	...	...
24. Kelvinside, ... ..	...	89	...	...	41	1	49	1	51
25. Maryhill,	126	825	246	25	25	2	48	1	25
26. Kinning Park, ... ..	...	973	230	...	...	...	...	...	...
— Institutions and Harbour, ... ..	...	...	...	...	...	...	...	2	...
CITY,	178	847	193	60	38	50	64	46	59

TABLE XXIX.
GLASGOW, 1911.—TYPHUS FEVER.—CASES AND CASE-RATES AND DEATHS AND DEATH-RATES in each MUNICIPAL WARD, with corresponding rates for 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million.	Deaths.	Death-rate per Million.
1. Dalmarnock,	34	...	...	20	...	...	...	...	...	...
2. Calton,	35	...	...	...	...	...	3	80	1	28
3. Mile-end,	23	22	...	...	...	...	...	...	...	...
4. Whitevale, ... ..	...	...	...	...	...	...	1	30	1	31
5. Dennistoun,	9	...	...	...	...	...	1	26	...	...
6. Springburn,	16	...	...	...	...	22	...	...	...	...
7. Cowlands,	11	...	...	...	...	...	...	...	...	...
8. Townhead, ... ..	...	...	...	...	...	...	...	...	...	...
9. Blackfriars,	15	...	...	...	...	...	...	...	...	...
10. Exchange, ... ..	...	...	...	...	...	...	...	...	...	...
11. Blythswood, ... ..	...	...	...	...	...	...	...	...	...	...
12. Brooniellaw, ... ..	...	...	...	...	...	...	...	...	...	...
13. Anderston,	11	...	...	...	...	...	...	...	...	...
14. Sandyford, ... ..	...	...	...	...	...	...	...	...	...	...
15. Park, ... ..	...	...	...	...	...	...	...	...	...	...
16. Cowcaddens, ... ..	...	...	...	...	...	...	1	28	1	29
17. Woodside, ... ..	...	...	...	...	23	...	...	...	...	...
18. Hutchesontown,	8	...	...	...	...	...	...	...	...	...
19. Gorbals,	18	...	...	...	...	30	...	...	...	...
20. Kingston,	29	...	...	...	...	...	...	...	...	...
21. Govanhill, ... ..	...	...	...	...	...	...	...	...	...	...
22. Langside,	11	...	...	...	...	...	...	...	...	...
23. Pollokshields, ... ..	...	...	...	...	...	...	...	...	...	...
24. Kelvinside, ... ..	...	...	...	...	...	...	...	...	...	...
25. Maryhill, ... ..	...	25	25	...	49	...	1	24	...	...
26. Kinning Park, ... ..	...	...	...	...	...	...	...	...	...	...
— Institutions and Harbour, ... ..	...	...	...	...	...	...	...	...	...	...
CITY,	11	2	2	1	4	2	7	9	3	4

TABLE XXX.

GLASGOW, 1911.—SCARLET FEVER.—CASES AND CASE-RATES, WITH DEATHS AND DEATH-RATES IN EACH MUNICIPAL WARD, ALSO DEATH-RATES FOR 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million	Deaths.	Death-rate per Million
1. Dalmarnock, ...	60	140	101	121	325	303	221	4,245	15	293
2. Calton, ...	98	55	56	57	232	144	141	3,769	4	114
3. Mile-end, ...	108	22	22	157	448	408	240	5,199	9	197
4. Whitevale, ...	129	213	62	124	344	287	120	3,604	2	63
5. Dennistoun, ...	132	83	81	54	132	106	152	3,978	2	55
6. Springburn, ...	80	46	89	133	377	287	193	3,899	12	268
7. Cowlairs, ...	77	...	131	66	196	132	162	5,501	2	68
8. Townhead, ...	34	105	...	161	190	273	125	3,427	4	110
9. Blackfriars, ...	88	92	46	95	148	101	67	3,172	1	50
10. Exchange, ...	...	...	...	...	...	...	4	1,900	...	...
11. Blythswood, ...	...	...	...	...	...	...	8	2,593	...	...
12. Broomielaw, ...	40	...	267	...	...	315	12	1,446	...	...
13. Anderston, ...	103	...	69	311	250	247	77	2,638	2	72
14. Sandyford, ...	52	40	...	41	209	42	77	3,205	3	127
15. Park, ...	80	40	41	...	82	127	98	4,212	...	...
16. Cowcaddens, ...	17	...	85	144	260	172	66	1,874	3	88
17. Woodside, ...	88	23	92	70	117	142	140	3,378	2	49
18. Hutchesontown, ...	89	50	76	179	283	184	201	5,034	1	25
19. Gorbals, ...	119	28	114	148	151	180	142	4,159	3	90
20. Kingston, ...	96	29	29	120	61	153	109	3,289	6	184
21. Govanhill, ...	138	118	...	169	140	141	192	5,473	5	143
22. Langside, ...	52	52	49	71	115	23	204	5,170	2	51
23. Pollokshields, ...	58	...	...	...	103	53	69	4,029	...	...
24. Kelvinside, ...	34	...	...	45	...	41	68	3,311	2	101
25. Maryhill, ...	36	201	25	147	99	150	202	4,818	3	76
26. Kinning Park, ...	...	...	...	77	157	158	64	4,984	1	78
— Institutions and Harbour, ...	...	...	...	...	...	...	...	...	7	...
CITY, ...	79	62	56	111	197	177	3,154	4,020	91	116

TABLE XXXI.

GLASGOW, 1911.—MEASLES.—DEATHS AND DEATH-RATES IN EACH MUNICIPAL WARD, WITH CORRESPONDING RATES FOR 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.	
	1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million
1. Dalmarnock, ...	627	480	686	1,215	366	1,314	61	1,192
2. Calton, ...	740	527	928	1,282	551	836	9	256
3. Mile-end, ...	841	649	1,148	1,007	359	816	32	701
4. Whitevale, ...	542	457	1,234	809	219	766	8	251
5. Dennistoun, ...	225	221	325	188	132	133	4	110
6. Springburn, ...	872	601	754	1,061	111	729	12	268
7. Cowlairs, ...	513	834	425	1,088	491	761	20	679
8. Townhead, ...	550	470	424	968	623	464	5	137
9. Blackfriars, ...	534	321	973	1,797	692	1,109	12	601
10. Exchange, ...	149	481	...	519	...	1,086	2	1,196
11. Blythswood, ...	193	...	...	...	...	...	...	...
12. Broomielaw, ...	707	1,323	1,069	1,723	777	629	...	...
13. Anderston, ...	442	486	690	1,799	250	1,060	1	36
14. Sandyford, ...	540	360	520	1,185	251	795	2	85
15. Park, ...	133	201	...	123	165	42	1	45
16. Cowcaddens, ...	646	1,317	141	1,182	2,170	373	17	502
17. Woodside, ...	415	414	276	558	751	403	14	340
18. Hutchesontown, ...	764	902	304	2,844	1,286	999	20	501
19. Gorbals, ...	468	362	341	1,752	482	750	10	301
20. Kingston, ...	634	610	796	868	491	950	30	918
21. Govanhill, ...	414	353	331	1,124	280	735	15	427
22. Langside, ...	84	52	...	189	46	114	...	...
23. Pollokshields, ...	97	56	...	...	52	106	1	58
24. Kelvinside, ...	50	46	89	45	...	41	...	...
25. Maryhill, ...	402	351	275	1,082	148	751	1	25
26. Kinning Park, ...	...	148	973	691	2,747	475	7	545
— Institutions and Harbour, ...	...	...	...	...	...	...	10	...
CITY, ...	520	492	496	1,028	492	662	294	375

TABLE XXXII.
GLASGOW, 1911.—WHOOPIING-COUGH.—DEATHS AND DEATH-RATES IN EACH
MUNICIPAL WARD, with Corresponding Rates for 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.	
	1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million
1. Dalmarnock, ...	1,102	580	2,521	1,053	1,625	465	75	1,466
2. Calton, ...	990	444	1,518	940	725	288	35	996
3. Mile-end, ...	1,017	784	1,170	1,142	1,008	567	61	1,336
4. Whitevale, ...	915	732	833	933	1,345	606	31	971
5. Dennistoun, ...	572	194	623	269	396	159	15	414
6. Springburn, ...	991	185	1,198	773	953	221	43	960
7. Cowlairs, ...	825	192	1,210	659	1,047	364	22	747
8. Townhead, ...	743	313	1,459	646	678	82	34	932
9. Blackfriars, ...	830	550	1,159	1,088	1,087	252	14	702
10. Exchange, ...	315	...	...	...	1,057	...	2	1,196
11. Blythswood, ...	284	...	...	...	...	...	1	358
12. Broomielaw, ...	1,244	265	1,604	431	2,021	786	11	1,629
13. Anderston, ...	851	799	1,587	1,003	1,642	212	15	541
14. Sandyford, ...	834	240	1,360	368	963	418	12	509
15. Park, ...	133	161	244	123	206	42	1	45
16. Cowcaddens, ...	1,197	1,152	1,439	750	1,620	86	41	1,210
17. Woodside, ...	658	1,013	553	697	1,032	237	22	534
18. Hutchesontown, ...	1,300	851	1,648	999	2,084	500	51	1,277
19. Gorbals, ...	632	418	1,192	653	1,446	180	29	874
20. Kingston, ...	671	465	1,091	449	1,380	276	35	1,071
21. Govanhill, ...	749	706	1,154	562	953	509	28	798
22. Langside, ...	176	77	464	189	138	45	4	103
23. Pollokshields, ...	57	56	162	53	52	...	1	58
24. Kelvinside, ...	131	46	...	45	125	41	1	51
25. Maryhill, ...	560	577	425	688	887	601	18	457
26. Kinning Park, ...	...	886	1,347	998	157	475	21	1,635
— Institutions and Harbour, ...	...	...	...	...	...	...	2	...
CITY, ...	765	498	1,081	656	968	291	625	797

TABLE XXXIII.
GLASGOW, 1911.—DIARRHŒAL DISEASES.—DEATHS AND DEATH-RATES IN EACH
MUNICIPAL WARD, with Corresponding Rates for 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.	
	1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million
1. Dalmarnock, ...	1,481	1,520	1,190	749	366	364	58	1,134
2. Calton, ...	1,435	1,414	1,040	513	464	519	36	1,024
3. Mile-end, ...	1,281	1,545	1,192	515	359	567	98	2,146
4. Whitevale, ...	963	1,372	771	187	...	415	34	1,065
5. Dennistoun, ...	393	581	271	54	26	53	8	221
6. Springburn, ...	836	971	643	376	111	177	41	915
7. Cowlairs, ...	659	995	425	527	98	232	21	713
8. Townhead, ...	728	1,045	530	296	136	219	37	1,015
9. Blackfriars, ...	1,104	1,146	834	284	49	454	26	1,302
10. Exchange, ...	149	481	...	...	...	...	1	592
11. Blythswood, ...	673	305	...	...	...	...	3	1,073
12. Broomielaw, ...	1,481	1,720	401	431	155	157	12	1,777
13. Anderston, ...	1,327	1,355	586	173	178	247	31	1,118
14. Sandyford, ...	819	879	440	41	84	42	23	975
15. Park, ...	240	161	122	41	83	42	8	359
16. Cowcaddens, ...	1,094	987	790	721	174	287	36	1,062
17. Woodside, ...	519	483	253	209	141	166	33	801
18. Hutchesontown, ...	758	851	304	436	51	210	33	826
19. Gorbals, ...	503	948	369	416	121	150	26	783
20. Kingston, ...	728	1,046	590	449	123	276	27	826
21. Govanhill, ...	603	588	288	421	112	...	15	427
22. Langside, ...	249	283	147	71	...	...	8	206
23. Pollokshields, ...	190	56	108	53	52	...	5	292
24. Kelvinside, ...	218	...	89	...	...	...	4	202
25. Maryhill, ...	741	904	450	295	...	50	27	686
26. Kinning Park, ...	...	1,033	524	154	49	79	16	1,246
— Institutions and Harbour, ...	...	...	...	...	...	...	37	...
CITY, ...	824	933	547	327	130	202	704	897

TABLE XXXIV.
GLASGOW, 1911.—PHTHISIS.—CASES AND CASE-RATES, WITH DEATHS AND DEATH-RATES IN
each MUNICIPAL WARD, with Corresponding Death-rates for 1903-10.

MUNICIPAL WARDS.	Death-rates per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Cases.	Case-rate per Million	Deaths.	Death-rate per Million
1. Dalmarnock, ...	1,357	1,360	1,392	1,478	1,259	1,091	167	3,264	61	1,192
2. Calton, ...	2,000	1,941	2,165	1,994	1,768	1,643	166	4,724	68	1,935
3. Mile-end, ...	1,797	1,187	1,712	1,545	1,434	1,541	144	3,154	64	1,402
4. Whitevale, ...	1,592	1,555	1,357	1,399	1,814	1,309	103	3,226	51	1,597
5. Dennistoun, ...	1,026	940	894	672	898	743	50	1,381	26	718
6. Springburn, ...	1,526	1,849	1,331	1,392	1,330	1,348	127	2,834	60	1,339
7. Cowlands, ...	1,098	1,059	1,407	1,285	884	1,258	57	1,936	23	781
8. Townhead, ...	1,378	1,307	1,273	1,184	1,681	1,065	116	3,181	50	1,371
9. Blackfriars, ...	2,195	1,558	2,225	1,986	1,631	1,411	96	4,811	28	1,403
10. Exchange, ...	1,359	1,443	2,457	1,038	...	...	4	2,392	2	1,196
11. Blythswood, ...	1,316	305	...	633	330	339	3	1,073	1	358
12. Broomielaw, ...	1,830	1,588	2,272	1,293	1,088	1,573	24	3,555	7	1,037
13. Anderston, ...	1,374	1,598	1,207	1,314	1,392	1,519	90	3,246	41	1,479
14. Sandyford, ...	1,205	1,399	1,520	1,062	1,340	879	74	3,136	27	1,144
15. Park, ...	652	684	609	655	412	720	43	1,928	15	672
16. Cowcaddens, ...	1,600	1,893	2,032	1,845	2,141	1,664	142	4,189	63	1,858
17. Woodside, ...	1,104	1,197	1,427	953	1,103	1,114	88	2,136	42	1,019
18. Hutchesontown, ...	1,659	1,427	1,470	1,537	1,543	894	128	3,206	53	1,327
19. Gorbals, ...	1,565	1,199	1,533	1,455	1,175	1,050	102	3,073	40	1,205
20. Kingston, ...	1,687	1,337	1,739	1,108	1,503	1,256	79	2,418	35	1,071
21. Govanhill, ...	1,242	1,148	894	1,208	1,037	1,215	57	1,625	29	827
22. Langside, ...	635	619	440	731	757	387	48	1,234	20	514
23. Pollokshields, ...	380	563	648	790	258	637	18	1,051	4	233
24. Kelvinside, ...	339	275	267	271	167	327	13	656	6	303
25. Maryhill, ...	1,054	1,280	1,375	1,229	862	1,126	76	1,931	31	788
26. Kinning Park, ...	...	1,550	1,197	1,151	1,413	2,060	28	2,181	10	779
— Institutions and Harbour, ...	...	...	...	...	...	...	289	...	167	...
CITY, ...	1,564	1,513	1,562	1,417	1,409	1,297	2,332	2,973	1,024	1,305

TABLE XXXV.
GLASGOW, 1911.—TUBERCULOUS DISEASES other than PHTHISIS.—DEATHS AND DEATH-RATES
IN EACH MUNICIPAL WARD, WITH CORRESPONDING RATES FOR 1903-10.

MUNICIPAL WARDS.	Death-rates per Million.						1911.	
	1903-5.	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million
1. Dalmarnock, ...	1,492	1,440	1,351	1,458	1,523	1,172	46	899
2. Calton, ...	1,493	1,109	1,293	1,396	1,160	1,441	23	655
3. Mile-end, ...	1,543	1,478	1,582	1,410	1,501	1,088	36	788
4. Whitevale, ...	1,523	1,555	1,234	1,182	1,251	958	21	658
5. Dennistoun, ...	1,063	968	867	592	1,056	398	15	414
6. Springburn, ...	1,218	1,802	1,109	928	1,130	1,238	39	870
7. Cowlands, ...	1,174	1,476	1,439	725	1,113	1,224	26	884
8. Townhead, ...	1,421	1,228	1,194	1,426	1,247	1,229	26	714
9. Blackfriars, ...	1,002	1,192	1,548	757	840	806	17	853
10. Exchange, ...	911	...	983	1,038	3,171	543	2	1,196
11. Blythswood, ...	677	...	919	...	660	339	...	...
12. Broomielaw, ...	821	926	1,337	1,723	1,866	944	5	740
13. Anderston, ...	1,327	1,424	1,138	1,280	1,071	706	19	686
14. Sandyford, ...	884	1,478	1,240	531	879	711	17	721
15. Park, ...	333	362	366	409	41	381	13	582
16. Cowcaddens, ...	1,428	1,042	1,016	1,355	926	861	29	855
17. Woodside, ...	969	667	553	767	610	664	30	729
18. Hutchesontown, ...	1,434	1,377	963	845	1,158	1,079	28	700
19. Gorbals, ...	1,018	1,059	795	772	934	960	17	513
20. Kingston, ...	1,150	1,192	1,150	1,258	1,166	919	22	673
21. Govanhill, ...	1,104	1,118	865	1,011	1,065	735	16	456
22. Langside, ...	439	567	610	448	298	387	13	335
23. Pollokshields, ...	476	169	162	263	206	265	9	525
24. Kelvinside, ...	234	184	223	271	502	327	1	51
25. Maryhill, ...	1,002	926	1,000	860	566	826	28	712
26. Kinning Park, ...	...	1,771	1,047	691	1,805	1,109	9	702
— Institutions and Harbour, ...	...	...	...	...	...	...	43	...
CITY, ...	1,159	1,135	1,031	983	1,004	884	550	701

TABLE XXXVI.

GLASGOW, 1911.—RESPIRATORY DISEASES (including CROUP).—DEATHS and DEATH-RATES in each MUNICIPAL WARD, with Corresponding Rates for 1903-10.

MUNICIPAL WARDS.	Death-rate per Million.						1911.			
	1903-5.	1906.	1907.	1908.	1909.	1910.	Excluding Pneumonia.		Total, Including Pneumonia.	
							Deaths.	Death-rate per Million	Deaths.	Death-rate per Million
1. Dalmarnock, ...	4,254	3,720	4,598	4,191	4,609	3,031	87	1,701	182	3,558
2. Calton, ...	4,891	4,437	4,948	4,928	5,624	3,517	61	1,736	126	3,586
3. Mile-end, ...	4,381	3,895	4,442	4,052	4,795	3,490	78	1,709	160	3,505
4. Whitevale, ...	4,071	3,324	3,917	3,546	4,128	2,426	45	1,409	100	3,131
5. Dennistoun, ...	2,083	2,074	1,761	2,125	2,429	1,752	34	940	64	1,768
6. Springburn, ...	3,962	3,535	3,860	3,424	3,303	3,183	63	1,406	125	2,789
7. Cowlairst, ...	3,501	2,855	2,813	3,164	3,142	1,787	43	1,462	91	3,092
8. Townhead, ...	4,132	3,764	3,581	4,116	3,767	3,087	68	1,865	111	3,044
9. Blackfriars, ...	5,590	5,134	5,006	5,722	6,179	3,982	23	1,153	82	4,110
10. Exchange, ...	3,497	1,443	3,440	4,154	4,757	1,086	3	1,794	5	2,990
11. Blythswood, ...	2,284	1,525	1,532	633	2,640	2,710	1	358	3	1,074
12. Broomielaw, ...	4,951	4,368	6,415	8,330	6,841	3,303	18	2,665	42	6,220
13. Anderston, ...	3,640	3,473	3,587	3,667	4,676	3,320	50	1,804	97	3,499
14. Sandyford, ...	3,500	3,117	3,639	3,840	4,145	3,096	33	1,399	64	2,713
15. Park, ...	1,783	1,769	1,787	1,679	2,475	1,439	17	762	27	1,210
16. Cowcaddens, ...	6,258	4,773	4,346	4,813	5,816	4,102	53	1,564	123	3,629
17. Woodside, ...	3,151	3,567	3,200	2,834	3,565	1,967	56	1,359	115	2,791
18. Hutchesontown, ...	4,988	4,933	4,386	4,713	5,633	3,943	62	1,552	171	4,283
19. Gorbals, ...	4,505	3,401	4,315	4,364	4,520	3,422	41	1,236	118	3,557
20. Kingston, ...	3,741	3,401	2,948	3,894	4,418	3,371	56	1,714	118	3,611
21. Govanhill, ...	2,849	2,736	2,855	2,809	3,533	2,261	34	970	81	2,309
22. Langside, ...	1,410	1,109	1,391	1,250	1,696	1,320	34	875	60	1,544
23. Pollokshields, ...	916	1,013	1,889	895	1,134	850	9	525	18	1,051
24. Kelvinside, ...	930	1,285	802	814	1,130	982	10	504	19	958
25. Maryhill, ...	3,686	2,837	2,875	3,048	3,473	2,603	38	966	94	2,389
26. Kinning Park, ...	...	3,690	3,441	4,529	6,514	3,724	26	2,025	53	4,127
— Institutions and Harbour, ...	...	...	...	...	...	...	90	...	153	...
CITY, ...	3,844	3,427	3,610	3,601	4,033	2,843	1,133	1,444	2,402	3,062

TABLE XXXVII.

GLASGOW, 1911.—PNEUMONIA.—DEATHS and DEATH-RATES in each MUNICIPAL WARD, with CORRESPONDING RATES for 1906-10.

MUNICIPAL WARDS.	Death-rate per Million.					1911.	
	1906.	1907.	1908.	1909.	1910.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	1,900	2,521	2,106	2,234	1,516	95	1,857
2. Calton, ...	1,719	2,446	2,364	2,551	1,528	65	1,850
3. Mile-end, ...	1,701	2,297	1,970	2,375	1,677	82	1,796
4. Whitevale, ...	1,464	1,912	1,804	1,907	1,213	55	1,722
5. Dennistoun, ...	996	1,002	861	1,162	823	30	828
6. Springburn, ...	1,802	2,263	1,900	1,707	1,481	62	1,383
7. Cowlairst, ...	1,155	1,472	1,780	1,735	993	48	1,630
8. Townhead, ...	1,699	1,830	1,829	1,382	1,448	43	1,179
9. Blackfriars, ...	2,704	2,874	3,074	3,658	2,621	59	2,957
10. Exchange, ...	962	1,966	2,596	1,057	543	2	1,196
11. Blythswood, ...	610	919	...	990	1,355	2	716
12. Broomielaw, ...	2,912	3,475	3,590	3,576	1,573	24	3,555
13. Anderston, ...	1,528	1,966	1,799	1,928	1,695	47	1,695
14. Sandyford, ...	1,439	1,480	1,523	1,884	1,381	31	1,314
15. Park, ...	804	731	860	1,196	508	10	448
16. Cowcaddens, ...	2,277	2,088	2,363	3,038	2,209	70	2,065
17. Woodside, ...	1,588	1,796	1,464	1,853	1,114	59	1,432
18. Hutchesontown, ...	3,105	2,738	2,869	3,498	2,918	109	2,731
19. Gorbals, ...	2,007	2,782	2,494	2,803	2,041	77	2,321
20. Kingston, ...	1,221	1,356	1,827	2,025	1,716	62	1,897
21. Govanhill, ...	1,589	1,644	1,798	1,879	1,272	47	1,339
22. Langside, ...	619	708	660	825	560	26	669
23. Pollokshields, ...	281	702	579	722	319	9	526
24. Kelvinside, ...	459	356	497	544	532	9	454
25. Maryhill, ...	1,707	2,025	1,721	2,291	1,577	56	1,423
26. Kinning Park, ...	1,328	2,095	1,919	2,982	1,902	27	2,102
— Institutions and Harbour, ...	...	...	...	...	...	63	...
CITY, ...	1,657	1,934	1,860	2,046	1,494	1,269	1,618

TABLE XXXVIII.
GLASGOW, 1911.—TABLE SHOWING CASES OF PUERPERAL FEVER IN EACH WARD,
WITH NATURE OF ATTENDANCE AT BIRTH.

MUNICIPAL WARDS.	Doctor Alone.	Midwife.		Nurse and Doctor.	Total.
		Certified	Uncertified.		
1. Dalrnarnock,	5	4	4	3	16
2. Calton,	1	...	1	1	3
3. Mile-end,	5	2	3	1	11
4. Whitevale,	3	1	1	4	9
5. Dennistoun,	1	2	1	1	5
6. Springburn,	5	2	2	3	12
7. Cowlands,	2	1	...	2	5
8. Townhead,	3	1	2	1	7
9. Blackfriars, ... ..	...	3	2	4	9
10. Exchange, ... ..	...	...	...	1	1
11. Blythswood, ... ..	...	...	...	...	...
12. Broomielaw, ... ..	...	...	1	1	2
13. Anderston,	3	1	1	3	8
14. Sandyford,	1	1	...	1	3
15. Park,	3	...	...	...	3
16. Cowcaddens,	3	3	1	4	11
17. Woodside,	1	...	1	...	2
18. Hutchesontown,	1	2	1	1	5
19. Gorbals,	1	2	1	1	5
20. Kingston,	1	...	3	...	4
21. Govanhill, ... ..	...	...	...	...	...
22. Langside, ... ..	...	...	...	...	...
23. Pollokshields, ... ..	...	...	...	1	1
24. Kelvinside, ... ..	...	...	...	...	...
25. Maryhill,	5	2	1	1	9
26. Kinning Park, ... ..	...	1	...	1	2
City,	44	28	26	35	133

TABLE XXXIX.
GLASGOW, 1911.—CERTIFICATION of DEATHS.

	10 Years.	5 Years.	1906.	1907.	1908.	1909.	1910.	1911.
	1891-1900.	1901-1905.						
Total Deaths,	149,184	73,805	14,117	14,807	14,422	14,369	12,471	1,2898
Of these Uncertified,	4,916	1,865	296	158	187	172	148	179
Died without Medical Attendance,	2,638	912	143	126	117	139	116	93
Deaths under 5 years,	62,350	28,985	5,352	5,697	5,890	5,474	4,543	4,806
Of these Uncertified,	3,027	1,122	175	61	82	75	60	74
Died without Medical Attendance,	1,738	618	93	107	90	118	90	71
Deaths above 5 years,	86,834	44,820	8,765	9,110	8,532	8,895	7,928	8,092
Of these Uncertified,	1,889	743	120	97	105	97	88	105
Died without Medical Attendance,	900	294	50	19	27	21	26	22
Percentage of Total Deaths } Uncertified,	3.3	2.5	2.1	1.1	1.3	1.2	1.2	1.4
Percentage of Total Deaths } which occurred without Medical Attendance,	1.8	1.2	1.0	0.9	0.8	1.0	0.9	0.7
Percentage of Deaths under } 5 years Uncertified,	4.9	3.9	3.3	1.1	1.4	1.4	1.3	1.5
Percentage of Deaths under } 5 years which occurred without Medical Attend- ance,	2.8	2.1	1.8	1.9	1.5	2.2	2.0	1.5
Percentage of Deaths above } 5 years Uncertified,	2.2	1.7	1.4	1.1	1.2	1.1	1.1	1.3
Percentage of Deaths above } 5 years which occurred without Medical Attend- ance,	1.0	0.7	0.6	0.2	0.3	0.2	0.3	0.3

TABLE XL.
GLASGOW, 1911.—COMPARATIVE CERTIFICATION OF LEGITIMATE AND ILLEGITIMATE CHILDREN.

	10 Years.	5 Years.	1906.	1907.	1908.	1909.	1910.	1911.
	1891-1900.	1901-1905.						
Legitimate Deaths under 1 year, ...	30,304	15,453	2,794	2,727	2,858	2,659	2,276	2,562
Of these Uncertified, ...	1,853	821	132	43	54	47	35	42
Legitimate Deaths, 1-5 years, ...	26,066	11,332	2,043	2,495	2,494	2,317	1,817	1,763
Of these Uncertified, ...	476	144	19	10	10	9	11	9
Illegitimate Deaths under 1 year, ...	4,202	2,022	391	348	360	363	348	382
Of these Uncertified, ...	551	169	22	7	17	17	12	22
Illegitimate Deaths, 1-5 years, ...	1,778	713	124	127	178	135	102	99
Of these Uncertified, ...	147	18	4	1	2	2	2	1
Percentage Legitimate Deaths under 1 year Uncertified, ...	6.1	5.3	4.7	1.6	1.9	1.8	1.5	1.6
Percentage Legitimate Deaths, 1-5 years, Uncertified, ...	1.8	1.3	0.8	0.4	0.4	0.4	0.6	0.5
Percentage Illegitimate Deaths under 1 year Uncertified, ...	13.1	8.4	6.1	2.0	4.7	4.7	3.5	5.7
Percentage Illegitimate Deaths, 1-5 years, Uncertified, ...	8.3	2.5	4.0	0.8	1.1	1.5	2.0	1.0

TABLE XLI.
GLASGOW, 1911.—INSURANCE OF LIVES IN FRIENDLY SOCIETIES, WITH COMPARISON OF INSURANCE OF LEGITIMATE AND ILLEGITIMATE CHILDREN.

	10 Years.	5 Years.	1906.	1907.	1908.	1909.	1910.	1911.
	1891-1900.	1901-1905.						
Total Deaths, ...	149,184	73,805	14,117	14,807	14,422	14,369	12,471	12,898
Of these Insured, ...	87,824	44,829	8,918	9,752	9,323	9,256	8,014	8,400
Deaths under 5 years, ...	62,350	28,985	5,352	5,697	5,890	5,474	4,543	4,806
Of these Insured, ...	33,333	15,316	2,918	3,361	3,327	2,998	2,423	2,572
Deaths above 5 years, ...	86,834	44,820	8,765	9,110	8,532	8,895	7,928	8,092
Of these Insured, ...	54,491	29,513	6,000	6,391	5,996	6,258	5,591	5,828
Legitimate Deaths under 1 year, ...	30,304	15,453	2,794	2,727	2,858	2,659	2,276	2,562
Of these Insured, ...	13,052	6,417	1,257	1,298	1,302	1,168	975	1,142
Illegitimate Deaths under 1 year, ...	4,202	2,022	391	348	360	363	348	382
Of these Insured, ...	434	243	58	49	56	49	42	42
Legitimate Deaths, 1-5 years, ...	26,066	11,332	2,043	2,495	2,494	2,317	1,817	1,763
Of these Insured, ...	19,232	8,401	1,555	1,948	1,891	1,732	1,358	1,355
Illegitimate Deaths, 1-5 years, ...	1,778	713	124	127	178	135	102	99
Of these Insured, ...	615	255	48	66	78	49	48	33
Percentage of Total Deaths Insured, ...	58.9	60.7	63.2	65.9	64.6	64.4	64.3	65.1
Do. Deaths under 5 years Insured, ...	53.5	52.8	54.6	59.0	56.5	54.8	53.3	53.5
Do. Deaths above 5 years Insured, ...	62.8	65.8	68.4	70.2	70.3	70.4	70.5	72.0
Do. Legitimate Deaths under 1 year Insured, ...	43.1	41.5	45.1	47.6	45.6	43.9	42.8	44.6
Do. Illegitimate Deaths under 1 year Insured, ...	10.3	12.0	14.7	14.1	15.6	13.5	12.1	11.0
Do. Legitimate Deaths, 1-5 years, Insured, ...	73.8	74.1	76.1	78.1	75.9	74.8	74.7	76.9
Do. Illegitimate Deaths, 1-5 years, Insured, ...	34.6	35.8	38.4	52.0	43.8	36.3	47.1	33.3

TABLE XLII.—GLASGOW.—FARMED-OUT HOUSES and INMATES as at DECEMBER, 1911.

WARDS.	Number of Houses Farmed-out.		Inmates in Houses of each Size.			
	1 Apt.	2 Apts.	1 Apartment.		2 Apartments.	
			Adults.	Children.	Adults.	Children.
1. Dalmarnock, ...	...	...	...	...	...	...
2. Calton, ...	176	91	312	73	191	84
3. Mile-end, ...	...	...	...	...	...	...
4. Whitevale, ...	35	29	87	27	47	19
5. Dennistoun, ...	55	15	102	27	37	3
6. Springburn, ...	...	...	...	...	...	...
7. Cowlairs, ...	...	...	...	...	...	...
8. Townhead, ...	50	26	84	16	49	21
9. Blackfriars, ...	118	144	231	45	459	128
10. Exchange, ...	13	1	26	2	4	1
11. Blythswood, ...	...	...	...	...	...	...
12. Broomielaw, ...	10	6	20	1	15	2
13. Anderston, ...	56	26	99	32	60	23
14. Sandyford, ...	...	...	...	...	...	...
15. Park, ...	...	...	...	...	...	...
16. Cowcaddens, ...	164	14	246	33	30	6
17. Woodside, ...	...	...	...	...	...	...
18. Hutchesontown, ...	35	19	75	17	51	25
19. Gorbals, ...	25	25	43	13	34	23
20. Kingston, ...	1	41	2	...	96	41
21. Govanhill, ...	...	...	...	...	...	...
22. Langside, ...	...	...	...	...	...	...
23. Pollokshields, ...	...	...	...	...	...	...
24. Kelvinside, ...	...	...	...	...	...	...
25. Maryhill, ...	...	...	...	...	...	...
26. Kinning Park, ...	...	...	...	...	...	...
CITY, ...	738	437	1,327	286	1,073	376
CENSUS, 1901, ...	531	275	...	...	...	...

TABLE XLIII.—HOUSES LET in LODGINGS, showing NUMBERS in each WARD, as at DECEMBER, 1911.

WARDS.	No. of Houses on Register.	No. of Houses Empty or in which no Lodgers kept.	No. of Houses Actually Let in Lodgings.	No. of Apartments.	No. to Accommodate (Adults).	Inmates found.	
						No. of Families.	Total No. of Persons (All Ages).
1. Dalmarnock, ...	3	...	3	6	22	6	19
2. Calton, ...	28	5	23	84	195½	34	105
3. Mile-end, ...	4	...	4	8	27½	8	28
4. Whitevale, ...	9	...	9	29	79½	27	72
5. Dennistoun, ...	...	...	...	...	...	...	...
6. Springburn, ...	3	...	3	6	19	9	15
7. Cowlairs, ...	5	...	5	17	139	16	67
8. Townhead, ...	8	1	7	16	53½	15	42
9. Blackfriars, ...	35	...	35	135	432	87	247
10. Exchange, ...	...	...	...	...	...	...	...
11. Blythswood, ...	...	...	...	...	...	...	...
12. Broomielaw, ...	12	...	12	41	151½	35	95
13. Anderston, ...	12	...	12	37	112	25	71
14. Sandyford, ...	5	...	5	15	52	13	27
15. Park, ...	1	...	1	7	33	7	16
16. Cowcaddens, ...	1	...	1	2	7½	2	5
17. Woodside, ...	3	...	3	27	138½	27	80
18. Hutchesontown, ...	4	...	4	11	30	8	26
19. Gorbals, ...	27	...	27	94	357	60	187
20. Kingston, ...	6	...	6	16	48	12	31
21. Govanhill, ...	...	...	...	...	...	...	...
22. Langside, ...	...	...	...	...	...	...	...
23. Pollokshields, ...	...	...	...	...	...	...	...
24. Kelvinside, ...	...	...	...	...	...	...	...
25. Maryhill, ...	18	...	18	39	137	47	101
26. Kinning Park, ...	2	...	2	4	11½	4	13
CITY, ...	186	6	180	594	2,046	442	1,247

TABLE XLIV.—TOTAL NUMBER OF WORKSHOPS AND WORKPLACES IN EACH WARD OF THE CITY, THE TOTAL NUMBER OF INSPECTIONS, AND THE NUMBER OF NOTICES SENT TO OCCUPIERS, OF NUISANCES OR DEFECTS, DURING 1911.

MUNICIPAL WARDS.	Laundries.	Retail Bakehouses.	Bakehouses in connection with Restaurants.	Dairy Premises with Hot-plates in use.	Dairy Premises with Griddles in use.	Provision Shop Premises with Hot-plates in use.	Restaurant Kitchens.	Other Food Places.	All other Workshops.	Total Workshops (including Bakehouses and Premises with Hot-plates).	Number of Inspections.	Number of Notices issued.
1. Dalmarnock, ...	6	13	3	36	...	...	25	5	125	213	1,283	26
2. Calton, ...	7	14	1	24	...	...	13	20	390	469	3,893	165
3. Mile-end, ...	9	14	4	47	2	...	30	8	180	294	1,377	28
4. Whitevale, ...	3	10	5	21	1	...	19	14	160	233	2,256	40
5. Dennistoun, ...	5	8	1	35	...	...	7	3	99	158	1,099	22
6. Springburn, ...	5	5	...	24	...	...	17	2	50	103	757	29
7. Cowhairs, ...	2	2	1	11	...	...	18	...	62	96	468	14
8. Townhead, ...	3	10	1	16	1	...	20	1	146	198	1,772	68
9. Blackfriars, ...	1	7	1	13	2	...	10	22	278	334	3,626	135
10. Exchange, ...	1	5	2	...	...	...	25	5	405	443	2,732	167
11. Blythwood, ...	1	3	...	...	...	...	39	6	364	413	2,799	81
12. Broomielaw, ...	3	3	...	3	...	...	31	14	325	379	3,206	86
13. Anderston, ...	6	4	...	10	...	...	28	2	96	146	1,055	8
14. Sandyford, ...	6	7	1	9	...	...	7	2	221	253	272	25
15. Park, ...	6	5	...	10	2	...	3	2	185	213	306	28
16. Cowcaddens, ...	9	13	4	17	...	1	30	1	190	265	1,174	106
17. Woodside, ...	12	16	...	32	2	...	16	2	157	237	660	49
18. Hutchesontown, ...	5	7	...	38	...	...	12	11	80	153	1,133	25
19. Gorbals, ...	6	16	...	16	...	2	16	10	363	429	2,608	89
20. Kingston, ...	11	7	1	20	...	3	37	6	204	289	1,766	41
21. Govanhill, ...	3	11	1	33	1	...	...	3	23	75	151	3
22. Langside, ...	5	13	...	39	1	...	...	1	59	118	88	4
23. Pollokshields, ...	3	4	...	10	1	...	1	1	33	53	41	...
24. Kelvinside, ...	1	1	...	3	...	...	...	...	93	98	131	...
25. Maryhill, ...	7	5	...	24	...	...	6	...	46	88	122	...
26. Kinning Park, ...	4	...	1	13	...	...	...	2	47	67	76	4
TOTAL IN CITY, ...	130	203	27	504	6	13	410	143	4,381	5,817	33,901	1,243
			230									
					523							

TABLE XLV.
 FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND
 HOMEWORK.

INSPECTION.

(Including Inspections made by Sanitary Inspectors.)

PREMISES. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries), ...	33,901	1,243	...
Workshops (including Workshop Laundries),			
Workplaces (other than Outworkers' Premises included in Part 3 of this Report),			
Total,	33,901	1,243	...

DEFECTS FOUND.

PARTICULARS. (1)	Number of Defects			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
* Nuisances under the Public Health Acts—				
Want of cleanliness,	458	461	...	...
Want of ventilation or light,	35	30	...	...
Overcrowding,	10	9	...	...
Want of drainage of floors,	545	568	...	...
Other nuisances,				
Sanitary accommodation—(a) Insufficient,	78	75	...	...
(b) Unsuitable or defective,				
(c) Not separate for sexes,				
Offences under the Factory and Workshop Act—				
Illegal occupation of underground bakehouse (Section 101), ... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (Sections 97 to 100),	117	118	...	...
Other offences, ... ..	...	...	...	...
(Excluding offences relating to outwork which are included in Part 3 of this Report.)	...	...	...	...
Total,	1,243	1,261	...	...

* Including those specified in Sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

TABLE XLVI.

REGISTERED WORKSHOPS.		OTHER MATTERS.	
Workshops on the Register (Section 131) at the end of the year.	Number.	Class.	Number.
(1)	(2)	(1)	(2)
Laundries, ... ..	...	Matters notified to H.M. Inspector of Factories :—	
Bakehouses :—		Failure to affix Abstract of the Factory and Workshop Act, 1901 (Section 133), ... ..	...
Underground,	70	Action taken in matters referred	22
Overground,	160	by H.M. Inspector as remediable	
Restaurant Kitchens, ... ..	...	under the Public Health Acts,	
Other Food Places, ... ..	...	but not under the Factory and	
All other Workshops, ... ..	...	Workshop Act (Section 5)	
Dairy and other Premises with hot plates for baking purposes,	...	Other, ... ..	...
	...	Underground Bakehouses (Section 101) :—	...
	...	Certificates granted during the year, ... ..	...
	...	In use at the end of the year, ... ..	...
Total number of workshops on Register,	5,817		70

Important classes of workshops, such as workshop bakehouses, may be enumerated here.

NOTE.—The Factory and Workshop Act, 1901 (Section 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, laundries, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

May, 1912.

(Signature) A. K. CHALMERS,
Medical Officer of Health.

TABLE XLVII.—HOME WORK.

NATURE OF WORK.*	OUTWORKERS' LISTS, SECTION 107.										OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.				OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	LISTS RECEIVED FROM EMPLOYERS.					Notices served on Occupiers as to keeping or sending lists.	PROSECUTIONS.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).			
	Twice in the year.		Once in the year.				Failing to keep or permit inspection of lists.	Failing to send lists.									
	Lists. †	Outworkers. †	Lists.	Outworkers. †	Workmen.												
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)			
Wearing apparel—																	
(1) making, &c.,...	814	1,159	2,017	101	122	78	...	...	...	...	...	11	...	...	1
(2) cleaning and washing.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Household linen, ...	...	12	...	...	...	1	...	...	...	...	...	...	...	...	...
Lace, lace curtains and nets,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Curtains & furniture hangings,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Furniture and upholstery, ...	8	9	4	1	1	...	...	...	...	...	...	...	...	...	...
Electro-plate, ...	62	111	7	4	10	...	...	...	...	...	...	...	...	...	...
File making,...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brass and brass articles,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fur pulling, ...	4	12	...	...	...	...	...	...	...	...	...	...	...	...	...
Cables and chains, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anchors and grapnels,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cart gear, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Locks, latches, and keys,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Umbrellas, &c., ...	14	18	35	2	1	8	...	...	...	...	...	...	...	...	...
Artificial flowers, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nets other than wire nets, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tents, ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sacks, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Racquet and tennis balls,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paper bags and boxes	32	32	99	2	1	2	...	...	...	...	...	...	...	...	...
Brush making, ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pea picking, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Feather Sorting,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carding, &c., of buttons, &c.,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stuffed toys, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Basket making,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	938	1,353	2,183	111	135	100	...	...	30	29	...	11	...	...	1

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class only, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.
 † The figures required in columns 2, 3, and 4 are the total number of the lists received from those employers who comply strictly with the statutory duty of sending two lists each year, and of the entries of names of outworkers in these lists. The entries in column 2 must necessarily be even numbers, as there will be two lists for each employer; in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since, in the February and August lists of the same employer, the same outworker's name will often be repeated.

TABLE XLVIII.—WORKSHOPS MEASURED AND REGISTERED DURING 1911.

Nature of Workshop.	Number of Workshops.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space each Person.
I. Professional Occupations and their Subordinate Services—							
1. Medical—							
Dentists' Mechanics, ...	5	5	9	1	1	1,490	677
Surgical Instrument Makers,	2	3	6	1	...	3,471	1,488
2. Art, Music, Drama, &c.—							
China Painting, ...	1	1	1	2	...	8,617	2,872
Engraver, ...	1	1	1	...	...	1,942	1,942
Photographers, ...	2	2	2	1	...	2,849	1,899
Metal Art Designer, ...	1	1	3	...	1	2,941	735
II. Domestic Offices or Services—							
Laundries, ...	21	41	...	56	12	1,992	1,201
III. Metals, Machines, Implements, and Conveyances—							
1. Engineering & Machine Making—							
Blacksmiths, ...	4	4	9	...	...	5,694	2,530
Machine Repairers, ...	5	5	13	...	1	3,172	1,132
2. Electrical Apparatus—							
Electrical Engineers, ...	3	3	4	...	2	3,543	1,772
3. Miscellaneous Metal Trades—							
Sheet-metal Workers, ...	3	3	12	...	...	9,790	2,447
Tinsmiths and Copper-smiths, ...	2	2	3	1	...	1,644	822
Farriers, ...	2	2	7	...	...	11,953	3,415
Shuttle Mounter, ...	1	1	1	...	...	3,864	3,864
4. Vehicles—							
Cycle and Motor Makers, ...	11	14	25	1	7	3,370	1,429
Cartwrights, ...	2	3	6	...	1	7,221	3,091
IV. Precious Metals, Jewels, Watches, Instruments, and Games—							
1. Precious Metals and Jewellery—							
Jewellers, Watch and Clock Makers, ...	9	9	17	1	3	2,816	1,207
Jewel Case Maker, ...	1	1	7	4	...	13,440	1,222
2. Watches and Scientific Instrument Makers—							
Nautical Instrument Makers, ...	5	7	16	4	5	3,472	97
3. Apparatus for Sports and Games—							
Golf-club Makers, ...	5	9	26	15	5	5,075	993
4. Musical Instruments—							
Organ Builder, ...	1	1	4	...	1	10,098	2,020
Piano Maker, ...	1	1	3	5	1	11,445	1,272
V. Building and Works of Construction—							
1. House Building, &c.—							
Joiners and Wrights, ...	7	7	15	...	...	6,765	3,155
Plumbers and Gasfitters, ...	17	18	39	1	9	2,616	961
Stair Railer, ...	1	1	3	...	...	10,350	3,450

WORKSHOPS MEASURED AND REGISTERED DURING 1911.—Continued.

Nature of Workshop.	Number of Workshops.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space for each Person.
Wood, Furniture, Fittings, and Decorations—							
1. Furniture, Fittings, and Decorations—							
Upholsterers,	5	9	12	7	...	1,857	881
Upholstery Trimming Makers,	2	2	...	30	17	10,179	433
Trunk Makers,	2	2	3	1	1	3,078	1,231
Picture-frame Makers,	3	3	6	...	3	4,933	1,722
Bedding Manufacturer,	1	2	3	...	...	3,336	2,224
Wood Carvers,	3	3	6	...	1	2,743	1,190
Fancy Box Makers,	3	5	62	41	6	24,149	1,108
Cabinetmakers and French Polishers,	33	49	123	34	9	6,141	1,813
Basket Maker,	1	1	1	...	...	2,384	2,384
Painters,	2	2	5	...	1	7,273	2,424
Box Clip Maker,	1	1	1	...	2	5,200	1,733
Portmanteau Maker,	1	2	3	...	...	1,407	938
2.—Wood and Bark—							
Last and Boot Tree Maker,	1	1	3	...	...	2,856	952
Packing Case Maker,	1	1	3	...	...	11,109	3,703
Brick, Cement, Pottery, and Glass—							
Glaziers,	3	4	16	...	...	44,030	11,007
Embossers,	1	1	...	1	1	2,262	1,131
Enamellers,	1	1	...	6	7	22,000	1,692
Plaque Maker,	1	1	2	...	...	6,706	3,353
Stucco Ornament Maker,	1	2	1	...	...	1,914	1,914
Chemicals, Oil, Grease, Soap, Resin, &c.—							
1. Colouring Manufacture—							
Drysalter,	1	1	3	...	...	12,220	4,073
Polish Manufacturer,	1	1	1	3	2	3,360	560
Paint Manufacturer,	1	1	2	2	3	61,650	8,794
2. Salt Drugs and other Chemicals and Compounds—							
Anti-Fouling Composition Manufacturer,	1	1	3	...	...	13,200	4,400
Manufacturing Chemists,	2	2	4	...	...	7,800	3,120
3. Oil, Grease, Soap, Resin, &c.—							
Waterproof Manufacturer,	1	1	1	6	1	18,662	2,333
India-rubber Stamp Maker,	1	2	3	1	...	3,361	1,680
Skins, Leather, Hair, & Feathers—							
Skins and Leather—							
Furriers,	5	9	10	12	8	3,731	1,119
Gut Cleaning,	1	4	16	35	10	13,116	874
Leather Belt Maker,	1	1	2	...	...	1,287	644
Hide Factor,	1	1	4	...	...	20,358	5,090
Saddlery and Harness—							
Saddlers,	6	7	28	...	2	4,091	955
Hair and Feathers—							
Brushmakers,	2	4	11	3	1	6,257	1,668
Feather Dresser,	1	1	...	2	1	1,868	623
Paper, Stationery, Books, and Prints—							
Paper and Stationery—							
Paper-bag Makers,	4	5	1	45	3	7,890	805
Prints and Books—							
Ticket Writers,	2	2	4	...	1	3,025	1,210
Printers and Bookbinders,	3	3	10	7	6	10,189	1,329
Lithographer,	1	1	2	...	1	2,860	953
Textile Fabrics—							
Hemp and other Fibrous Materials—							
Sack Maker and Repairer,	1	1	2	2	...	9,846	2,462
Fish Bass Makers,	2	2	1	4	...	2,256	902

TABLE XLIX.—NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31st DECEMBER, 1911.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
I. Professional Occupations and their Subordinate services—				
1. Medical—				
Artificial Teeth Makers,	34	65	4	15
Artificial Limb Makers,	3	10	3	...
2. Art, Music, Drama, &c.—				
China Painting,	2	2	5	...
Designers, ... ..	...	...	...	...
Fine Art and Fancy Goods Dealer, ...	1	7	1	...
Photographers,	48	48	119	33
Engravers,	25	63	3	25
Sculptors,	7	17	...	8
II. Domestic Offices or Services—				
Laundries,	130	16	517	112
III. Mining and Quarrying—				
1. Mines and Quarry Service—				
Marble Cutters,	7	34	...	...
2. Dealers in Products of Mines and Quarries—				
Asbestos Manufacturer,	1	...	6	...
IV. Metals, Machines, Implements, and Conveyances—				
1. Manufacture of Mixed or Unspecified Metals—				
Metal Merchants and Refiners,	4	17	...	...
Spelter Manufacturer,	1	5	...	...
2. Engineering and Machine Making—				
Blacksmiths,	56	165	...	6
Boiler Coverers,	2	8	...	...
Brassfinishers,	10	27	5	2
Farriers,	32	116	...	3
Heating and Ventilating Engineers, ...	5	40	...	4
Indicator Makers,	2	11	...	2
Machine Makers and Repairers,	14	31	...	5
Machinists,	4	1	7	4
Pattern Makers,	3	15	...	3
Tinsmiths and Coppersmiths,	40	152	5	35
Sheet-metal Workers,	15	60	1	7
3. Electrical Apparatus—				
Electrical Engineers,	17	77	...	16
4. Tools—				
Saw Makers,	6	11	...	5
Cutlers,	3	5	...	...
File Cutters,	3	14	1	2
Grindstone Maker,	1	2	...	...

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31st DECEMBER, 1911.—Continued.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
IV. Metals, Machines, &c.—Continued—				
4. Types, Blocks, and Dies—				
Die Sinkers,	2	6	1	1
5. Arms—				
Gunsmiths,	3	9	...	1
6. Miscellaneous Metal Trades—				
Bakers' Utensil Maker,	1	2	...	...
Chain Maker,	1	11	...	...
Fireproof-door Maker,	1	8	...	...
Lamp Makers,	2	8	...	...
Lead Worker and Embosser,	1	3	5	...
Weighing Machine and Scale Makers,	3	13	...	3
Wire Workers,	8	33	...	6
Metal Designers,	3	9	...	2
7. Ships and Boats—				
Boat Builders,	2	4	...	...
8. Vehicles—				
Cartwrights,	15	92	14	10
Carriage Builders,	10	166	...	25
Cycle and Motor Makers and Repairers,	41	96	2	15
9. Dealers—				
Ironmongers and Mill Furnishers,	5	17	...	...
V. Precious Metals, Jewels, Watches, Instruments, and Games—				
1. Precious Metals and Jewellery—				
Gold Beaters,	2	17	1	...
Jewel-case Makers,	4	17	10	1
Jewellers, Goldsmiths, Watch and Clock Makers,	145	374	24	84
2. Watches and Scientific Instruments—				
Nautical and Scientific Instrument Makers,	11	34	4	8
Opticians,	7	14	...	3
Surgical Instrument Makers,	3	7	1	1
3. Musical Instruments—				
Musical Instrument Makers,	20	41	30	16
4. Tackle for Sports and Games—				
Billiard Table Makers,	5	25	29	3
Fishing-tackle Makers,	3	1	92	17
Fish Bass Makers,	3	1	10	...
Golf-club Makers,	11	32	13	9

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31st DECEMBER, 1911.—Continued.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
VI. Building and Works of Construction—				
1. Housebuilding, &c.—				
Joiners and Wrights,	198	635	1	85
Locksmiths,	3	5	...	1
Painters and Decorators,	40	178	9	55
Plasterers and Modellers,	11	18	...	16
Plumbers and Gasfitters,	207	684	10	183
Slaters,	8	68	...	4
Stair Railers,	3	13	...	...
Tile Layers,	2	4	...	1
Concrete Step Makers,	2	9	...	2
Cistern Maker,	1	3	...	...
Glaziers,	25	112	1	20
VII. Wood, Furniture, Fittings, and Decorations—				
1. Furniture, Fittings, and Decorations—				
Picture-frame Makers,	29	87	8	14
Shop Fitters and Show-case Makers,	8	21	4	...
Modellers,	5	25	...	2
Upholsterers,	51	168	146	54
Upholstery Trimming Makers,	7	10	76	30
Basket Makers,	5	13	...	1
Bedding Manufacturers,	15	48	34	4
Artists and Decorators,	2	4	...	...
Bellows Maker,	1	3	...	...
Cabinetmakers and French Polishers,	182	779	249	81
Carvers and Gilders,	34	148	1	16
Coffin Mounting and Shroud Making,	11	35	2	...
Fancy-box Makers,	28	137	349	80
Box-clip Makers,	2	3	4	2
Map Mounting,	1	4	1	1
Marquetry-cutting,	1	2	1	1
Window Blind Makers,	4	7	5	1
2. Wood and Bark—				
Coopers,	18	96	...	2
Cork Cutters,	10	38	22	17
Lathsplitters,	2	14	...	1
Packing-case Makers,	5	33	...	4
Portmanteau Makers,	8	53	11	15
Saddle Tree Maker,	1	4	...	...
Trunk Makers,	5	36	9	7
Wood Turner,	1	2	...	...
VIII. Brick, Cement, Pottery, and Glass—				
Glass Stainers and Embossers,	16	84	1	15
Pavement-light Maker,	1	10	...	2
Mosaic Manufacturer,	1	8	...	...
Stucco Ornament Makers,	2	3	...	...

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31st DECEMBER, 1911.—Continued.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
IX. Chemicals, Oil, Grease, Soap, Resin, &c.—				
1. Colouring Matter—				
2. Salt, Drugs, and other Chemicals and Compounds—				
Chemical Manufacturers,	3	8	1	...
Fire Extinguisher Maker,	1	6	...	3
Manufacturing Chemists,	19	33	29	29
3. Oil, Grease, Soap, Resin, &c.—				
Oil, Paint, and Varnish Manufacturers, ...	11	24	13	7
Drysalts,	5	8	10	5
Soap and Soda Manufacturers,	4	7	2	...
India Rubber Merchants,	4	8	1	...
India Rubber Stamp Makers,	4	8	1	...
Waterproof Manufacturers,	10	8	25	7
X. Skins, Leather, Hair, and Feathers—				
1. Skins and Leather—				
Currier and Tanner,	1	3	1	...
Furriers,	21	29	98	23
Gut Cleaner,	1	16	35	10
Hat-box Makers,	2	1	3	3
Hide and Skin Merchants,	2	8	2	2
Rabbit Skin Driers,	2	3	...	...
2. Saddlery and Harness—				
Leather Belt Makers,	7	24	3	3
Saddlers,	43	171	14	25
Whip Maker,	1	1	1	...
Leather Scrap Sorting,	1	...	5	...
3. Hair and Feathers—				
Brush Makers,	18	132	29	13
Feather Dressers,	4	...	7	5
XI. Paper, Prints, Books, and Stationery—				
1. Paper and Stationery—				
Card Cutters,	2	9	8	5
Envelope Maker,	1	3	18	7
Paper-bag Makers,	14	4	193	66
Carbon Paper Maker,	1	...	4	...
2. Books and Prints—				
Lithographers,	9	17	10	8
Printers, Bookbinders, and Stationers, ...	42	92	120	105
Ticket Writers,	14	35	5	7
Show Card Makers,	2	25	15	2

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31ST DECEMBER, 1911.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
XII. Textile Fabrics—				
1. Cotton—				
Warpers and Winders,	5	19	33	...
Weavers,	12	37	64	2
2. Wool and Worsted—				
Pattern Weaving and Darning,	8	46	25	5
Shawl and Scarf Manufacturers,	2	3	72	30
Wool Sorters,	2	2	5	...
3. Flax, Linen, Hemp, Jute, and other Fibrous Materials—				
Rope Makers,	2	8	...	...
Sack Makers and Repairers,	17	29	112	1
Sail Maker,	1	8	...	2
4. Mixed or Unspecified Materials—				
Carpet Sewing,	3	4	9	1
Curtain Manufacturer,	1	2	1	...
Embroiderers,	8	14	38	6
Flag Makers,	2	2	10	...
Fringers,	3	...	16	2
Tape-line Makers,	2	3	4	1
Thread Manufacturer,	1	6	79	...
5. Bleaching, Printing, Dyeing, &c.—				
Calenderers,	10	60	97	31
6. Dealers—				
Drapers,	18	21	52	20
XIII. Dress—				
Belt, Brace, and Necklet Makers,	2	...	23	13
Blouse Makers,	12	1	69	17
Boot, Shoe, and Slipper Makers,	527	1,116	52	51
Button and Stud Makers,	2	2	5	5
Children's Outfitters,	3	1	32	5
Clog Makers,	8	35	1	...
Dressmakers,	553	57	3,120	673
Hairdressers and Wig Makers,	19	47	21	14
Hat and Cap Manufacturers,	26	61	140	101
Handkerchief Hemmers,	8	15	179	55
Hosiery Manufacturers,	13	4	55	22
Last and Boot-tree Maker,	1	3	...	...
Mantle and Costume Makers,	70	75	1,185	192
Milliners,	190	3	698	203
Napery Hemming,	4	...	17	2
Pattern Book Makers,	10	22	74	55
Shirt and Collar Makers,	19	83	370	30
Stay Makers,	12	...	35	10
Tailors and Clothiers,	652	2,787	1,745	495
Tie Makers,	3	...	31	27
Umbrella Makers,	29	57	170	46

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS,
AS AT 31ST DECEMBER, 1911.—Continued.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
XIII. Dress—Continued—				
Underclothing Manufacturers,	53	5	352	69
Hat Band and Pad Maker,	1	...	1	1
Highland Dress Accoutrement Makers, ...	4	6	6	1
Shroud and Grave-gown Makers,	4	1	10	5
XIV. Food, Tobacco, Drink, and Lodging—				
1. Food—				
Coffee Essence Maker,	1	18	32	47
Confectioners and Preserve Makers, ...	35	45	90	130
Fish Curers,	20	68	61	9
Ham Curers,	21	100	...	1
Pickle and Sauce Makers,	5	11	58	7
Poulterers,	4	28	2	5
Preserved Meat Makers,	15	14	21	3
Salt Store,	1	9	...	...
Sausage-skin and Spice Makers,	22	37	52	11
Tea Blenders and Packers,	14	28	22	18
Packing Grocery Goods,	5	10	17	6
2. Tobacco—				
Tobacco and Cigarette Makers,	14	45	134	80
3. Dealing with Spirituous Drinks—				
Bottling and Labelling,	42	120	159	29
4. Board, Lodging, &c.—				
Restaurants,	410	391	893	83
XV. Gas, Water, and Electricity Supply—				
Meter Fitting and Repairing,	1	430	...	...
XVI. Other General and Undefined Workers and Dealers—				
1. About Animals—				
Birds' Seed Merchants,	2	4	1	3
2. Sundry Specified Industries—				
Artistic Florist,	1	...	3	3
Mail-cart Makers,	3	15	4	3
Tobacco-pipe Makers,	9	50	16	5
Firelight Manufacturers,	9	67	9	5
Japanners,	7	12	16	8
Rag and Waste Paper Merchants,	81	261	438	22
Taxidermists,	2	3	...	1
Emery and Glass Paper Makers,	3	8	2	8
Florist,	2	1	6	3
Whip Maker,	1	1	1	...
3. Makers and Dealers (general and undefined)—				
Manufacturers and Warehousemen, ...	2	...	41	12
Smaller Trades,	17	24	7	9
Totals,	5,064	12,789	13,602	4,239

TABLE L.

GLASGOW, 1911.—UNDERGROUND BAKEHOUSES, CERTIFIED AND OTHERWISE, WITH
NUMBER OF VISITS.

WARDS.	Closed previous to 1911.	Closed during 1911.	No. on Register at 31st Dec., 1911.	Total Certified. 1911.	Inspec- tions. 1911.
1. Dalmarnock, ... ..	...	...	1	1	1
2. Calton,	1	...	3	3	2
3. Mile-end, ... ..	...	...	...	...	...
4. Whitevale,	1	...	1	1	2
5. Dennistoun,	1	...	3	3	3
6. Springburn,	1	...	1	1	1
7. Cowlares,	1	...	1	1	1
8. Townhead,	4	...	3	3	5
9. Blackfriars,	7	...	3	3	5
10. Exchange,	4	...	7	7	10
11. Blythswood,	3	1	3	3	5
12. Broomielaw,	4	...	3	3	8
13. Anderston,	2	...	2	2	1
14. Sandyford,	3	...	8	8	12
15. Park, ... ..	...	...	4	4	3
16. Cowcaddens,	9	...	7	7	6
17. Woodside,	3	...	2	2	2
18. Hutchesontown,	1	...	3	3	3
19. Gorbals,	10	...	4	4	3
20. Kingston,	1	...	2	2	2
21. Govanhill,	3	...	3	3	3
22. Langside, ... ..	...	...	1	...	1
23. Pollokshields,	2	...	3	3	5
24. Kelvinside,	1	...	1	1	1
25. Maryhill,	2	...	...	...	...
26. Kinning Park, ... ..	...	...	1	1	1
CITY,	64	1	70	69	86

TABLE LI.

GLASGOW, 1911.—OVERGROUND BAKEHOUSES.

WARDS.	On Register, 1910.	On Register, 1911.	Inspections.	Number of Air Samples.	Number of Bakehouses from which Air Samples were taken.
1. Dalmarnock, ...	13	15	24	2	2
2. Calton, ...	11	12	16	...	...
3. Mile-end, ...	14	18	27	6	6
4. Whitevale, ...	14	14	25	5	5
5. Dennistoun, ...	6	6	10	2	2
6. Springburn, ...	1	4	7	1	1
7. Cowlands, ...	1	2	2	...	...
8. Townhead, ...	5	8	15	4	4
9. Blackfriars, ...	5	5	2	...	...
10. Exchange, ...	...	...	...	...	...
11. Blythswood, ...	1	...	...	...	...
12. Broomielaw, ...	...	...	...	...	...
13. Anderston, ...	2	2	5	...	...
14. Sandyford, ...	...	...	...	...	...
15. Park, ...	1	1	1	...	...
16. Cowcaddens, ...	9	10	4	...	...
17. Woodside, ...	11	14	3	...	...
18. Hutchesontown, ...	3	4	1	...	...
19. Gorbals, ...	12	12	8	...	...
20. Kingston, ...	4	6	...	...	...
21. Govanhill, ...	9	9	1	...	...
22. Langside, ...	13	12	5	...	...
23. Pollokshields, ...	1	1	...	...	...
24. Kelvinside, ...	...	...	...	...	...
25. Maryhill, ...	5	5	1	...	...
26. Kinning Park, ...	1	...	...	...	...
Totals, ...	142	160	157	20	20

TABLE LII.

GLASGOW, 1911.—REGISTRATION OF HAIRDRESSERS' SALOONS.

WARDS.	On Register, 31st Dec., 1910.	Applied for Registration during 1911.	Number Certified during 1911.	Withdrawn from Register.		On Register, 31st Dec., 1911.	Inspections.	Renewal Certificates.
				(a) Premises Closed.	(b) Non-compliance with Regulations.			
1. Dalmarnock, ...	2	...	...	...	...	2	3	...
2. Calton, ...	8	2	2	1	...	9	11	...
3. Mile-end, ...	9	2	3	1	...	11	21	...
4. Whitevale, ...	8	1	1	1	...	8	14	...
5. Dennistoun, ...	6	...	...	...	...	6	10	...
6. Springburn, ...	5	...	...	...	...	5	8	1
7. Cowlares, ...	4	1	1	...	...	5	11	...
8. Townhead, ...	18	...	...	3	...	15	21	...
9. Blackfriars, ...	9	...	1	...	...	10	11	...
10. Exchange, ...	13	1	1	...	...	14	16	...
11. Blythswood, ...	4	...	...	...	...	4	4	...
12. Broomeclaw, ...	6	...	...	...	...	6	6	...
13. Anderston, ...	5	...	...	...	...	5	7	...
14. Sandyford, ...	5	...	...	...	...	5	4	...
15. Park, ...	3	...	...	...	...	3	4	...
16. Cowcaddens, ...	14	...	...	...	...	14	12	2
17. Woodside, ...	7	1	1	1	...	7	10	...
18. Hutchesontown, ...	11	...	...	...	...	11	9	...
19. Gorbals, ...	6	...	...	...	...	6	6	1
20. Kingston, ...	3	1	1	...	...	4	3	...
21. Govanhill, ...	4	...	...	...	...	4	4	...
22. Langside, ...	5	...	...	...	...	5	4	...
23. Pollokshields, ...	...	...	...	...	...	...	...	...
24. Kelvinside, ...	2	...	...	...	...	2	2	2
25. Maryhill, ...	8	...	...	...	...	8	8	...
26. Kinning Park, ...	1	...	...	...	...	1	1	...
Totals, ...	166	9	11	7	...	170	210	6

TABLE LIII.—GLASGOW.—POPULATION; BIRTHS and DEATHS; BIRTH-RATES and DEATH-RATES per 1,000; also DEATHS under 1 YEAR and DEATH-RATES per 1,000 BIRTHS, from 1860 to 1911.

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year.	
						Number.	Rate per 1,000 Births.
1860†	389,843	15,943	12,436	40·8	31·9	2,905	182
1861	397,673	16,537	10,936	41·6	27·5	2,544	154
1862	405,789	16,400	11,565	40·4	28·5	2,562	156
1863	413,944	16,986	13,329	41·0	32·2	2,774	163
1864	420,738	17,411	13,674	41·4	32·5	3,051	175
1865	428,123	17,956	13,914	41·9	32·5	3,097	173
1866	437,850	18,288	12,829	41·8	29·3	2,905	159
1867	446,028	18,347	12,578	41·1	28·2	2,895	158
1868	455,000	18,607	13,832	40·9	30·4	3,127	168
1869	464,332	18,495	15,648	39·8	33·7	3,411	184
1870	471,453	19,355	13,955	41·1	29·6	2,991	155
1871	491,900	18,867	15,790	38·4	32·1	3,608	191
1872	494,824	20,158	14,053	40·7	28·4	3,198	159
1873	494,847	19,487	14,499	39·4	29·3	3,255	167
1874	498,270	20,039	15,845	40·2	31·8	3,240	162
1875	499,480	20,825	15,384	41·7	30·8	3,388	163
1876	502,299	20,981	13,763	41·7	27·4	3,166	151
1877	504,487	21,124	13,823	41·9	27·4	3,106	147
1878	507,420	20,622	14,157	40·6	27·9	3,285	159
1879	508,048	19,751	12,498	38·8	24·6	2,504	127
1880	509,732	18,912	13,304	37·1	26·1	2,842	150
1881	512,034	19,106	12,916	37·3	25·2	2,745	144
1882	517,904	19,735	13,046	38·1	25·2	2,959	150
1883	523,154	19,911	14,577	38·1	27·9	3,091	155
1884	528,459	20,557	13,942	38·9	26·4	3,094	151
1885	533,817	19,861	13,492	37·2	25·3	3,100	156
1886	539,231	19,862	13,104	36·8	24·3	2,786	140
1887	544,700	19,328	12,135	35·5	22·3	2,676	138
1888	550,226	19,309	11,681	35·1	21·2	2,560	133
1889	555,808	19,503	13,139	35·1	23·6	3,008	154
1890	561,447	19,279	13,374	34·3	23·8	2,880	149
1891	567,143	19,857	14,324	35·0	25·3	2,946	148
1892	669,059*	22,815	15,218	34·1	22·7	3,168	139
1893	677,883	23,173	15,798	34·2	23·3	3,649	157
1894	686,820	22,644	13,673	34·0	19·9	2,937	130
1895	695,876	22,803	16,344	32·8	23·5	3,538	155
1896	705,052	24,029	14,385	34·1	20·4	3,278	136
1897	714,919	23,880	15,727	33·4	22·0	3,826	160
1898	724,349	24,262	15,333	33·5	21·2	3,792	156
1899	733,903	24,249	15,828	33·0	21·6	3,696	152
1900	743,969	24,362	16,393	32·7	22·0	3,778	153
1901	761,925	24,206	16,197	31·8	21·2	3,607	149
1902	762,789	24,722	15,532	32·4	20·4	3,206	129
1903	763,654	25,135	15,073	32·9	19·7	3,663	146
1904	764,521	24,754	15,414	32·4	20·2	3,606	146
1905	765,389	24,316	14,460	31·8	18·9	3,195	131
1906	780,192*	24,560	14,889	31·5	19·1	3,223	131
1907	781,080	24,006	15,659	30·7	20·0	3,116	130
1908	781,969	23,915	15,265	30·6	19·5	3,284	137
1909	782,860	23,140	15,242	29·6	19·5	3,073	133
1910	783,785	22,222	13,395	28·4	17·1	2,694	121
1911	784,680	21,755	13,899	27·7	17·7	3,016	139

* Extended City.

† For earlier years, see Report for year 1910, Table liii.

TABLE LIV.—GLASGOW, 1911—CENSUS POPULATION; BIRTHS; ILLEGITIMATE BIRTHS; and DEATHS at all AGES and at CERTAIN PERIODS of LIFE, and their PROPORTION to the POPULATION in each MUNICIPAL WARD.

MUNICIPAL WARDS.	POPULATION.		BIRTHS.		ILLEGITIMATE BIRTHS.		DEATHS, ALL AGES.		DEATHS AT CERTAIN PERIODS OF LIFE.						
	Without Institutions and Shipping.	Institutions and Shipping.	Number.	Rate per 1,000 Living.	Number.	Percentage of Total Births.	Number.	Rate per 1,000 Living.	1-2 Year.	3-5 Years.	5-15 Years.	15-25 Years.	25-45 Years.	45-65 Years.	65 Years and over.
		Total.													
1. Dalmarnock, ...	51,161	901	1,777	34.7	104	5.9	951	18.6	127	83	61	43	98	143	126
2. Calton, ...	35,140	2,268	1,066	30.3	101	9.5	680	19.4	55	39	35	34	90	149	113
3. Mile-end, ...	45,652	515	1,661	36.4	114	6.9	869	19.0	264	95	40	40	114	130	123
4. Whitevale, ...	31,931	1,366	945	29.6	68	7.2	555	17.4	143	46	28	32	69	125	80
5. Dennistoun, ...	36,214	1,995	913	25.2	26	2.8	408	11.3	90	27	16	19	64	91	84
6. Springburn, ...	44,813	4,685	1,613	36.0	73	4.5	709	15.8	83	63	55	34	92	123	70
7. Cowlands, ...	29,444	5	902	30.6	30	3.3	440	14.9	117	49	32	19	58	72	68
8. Townhead, ...	36,469	10	933	25.6	68	7.3	602	16.5	150	43	29	37	76	130	93
9. Blackfriars, ...	19,953	1,167	560	28.1	70	12.5	367	18.4	101	31	26	16	53	68	51
10. Exchange, ...	1,672	433	25	15.0	2	8.0	28	16.7	5	1	2	...	7	4	8
11. Blythswood, ...	2,795	290	25	8.9	6	24.0	36	12.9	4	1	2	...	6	10	12
12. Brooniela, ...	6,752	1,544	205	30.4	40	19.5	153	22.7	48	7	9	6	20	29	19
13. Anderston, ...	27,723	1,465	801	28.9	41	5.1	493	17.8	101	48	24	22	86	110	79
14. Sandyford, ...	23,596	432	509	21.6	42	8.3	364	15.4	74	20	23	24	47	83	80
15. Park, ...	22,307	959	199	8.9	30	15.1	254	11.4	17	3	4	12	40	74	92
16. Cowcaddens, ...	33,898	1,327	1,049	30.9	117	11.2	664	19.6	171	65	37	26	87	136	99
17. Woodside, ...	41,198	244	1,080	26.2	77	7.1	597	14.5	155	51	37	24	83	119	95
18. Hutchesontown, ...	39,931	...	1,433	35.9	90	6.3	721	18.1	201	79	51	27	95	143	101
19. Gorbals, ...	33,192	951	916	27.6	73	8.0	519	15.6	133	48	25	31	77	94	87
20. Kingston, ...	32,676	460	867	26.5	71	8.2	599	18.3	126	65	46	32	25	66	133
21. Govanhill, ...	35,082	...	1,139	32.5	53	4.7	468	13.3	87	36	30	21	60	107	98
22. Langside, ...	38,888	567	793	20.4	21	2.6	362	9.3	47	12	12	13	59	83	118
23. Pollokshields, ...	17,124	...	175	10.2	15	8.6	179	10.5	15	7	3	5	15	43	86
24. Kelvinside, ...	19,803	734	278	14.0	14	5.0	176	8.9	8	3	3	8	25	59	65
25. Maryhill, ...	39,359	2,564	1,216	30.9	47	3.9	502	12.8	129	30	32	20	77	88	96
26. Kinning Park, ...	12,841	...	428	33.3	22	5.1	216	16.8	62	18	22	5	33	37	27
— Institutions and Harbour, ...	...	...	76	...	54	...	985	...	72	28	28	38	177	301	324
CITY, ...	759,614	24,882	21,584	27.5	1,469	6.8	12,898	16.4	2,944	1,078	784	650	1,774	2,684	2,400

TABLE LV.—GLASGOW.—DEATHS at all AGES fro

MUNICIPAL WARDS.	All Causes.	Smallpox.	Diphtheria and Membranous Group.	FEVERS.			Cerebro-Spinal Fever.	Measles.	Whooping-Cough.	DIGESTIVE DISEASES.		SEPTIC DISEASES.			TUBERCULOUS DISEASES.		
				Enteric.	Typhus.	Scarlet.				Diarrhoea and Enteritis.	Others.	Puerperal.	Erysipelas.	Others.	Phthisis.	Tuberculous Meningitis.	Abdominal Tuberculosis.
1. Dalmarnock, ...	951	20	1	15	10	61	75	58	32	7	6	5	61	15	20		
2. Calton, ...	680	12	3	4	4	9	35	36	25	2	3	3	68	10	9		
3. Mile-end, ...	869	23	7	9	3	32	61	98	22	3	5	3	64	18	9		
4. Whitevale, ...	555	8	1	2	2	8	31	34	29	1	2	2	51	6	8		
5. Dennistoun, ...	408	6	1	2	2	4	15	8	18	1	2	1	26	7	5		
6. Springburn, ...	709	9	3	12	4	12	43	41	23	6	4	6	60	22	7		
7. Cowlairst, ...	440	11	...	2	...	20	22	21	11	3	2	...	23	7	9		
8. Townhead, ...	602	5	4	4	1	5	34	37	20	3	1	8	50	11	11		
9. Blackfriars, ...	367	6	2	1	1	12	14	26	16	3	2	3	28	5	5		
10. Exchange, ...	28	...	...	...	...	2	2	1	...	1	...	...	2	1	1
11. Blythswood, ...	36	2	...	...	...	...	1	3	3	...	...	...	1	...	...
12. Broomielaw, ...	153	1	1	...	...	...	11	12	8	...	...	1	7	4	1
13. Anderston, ...	493	6	3	2	2	1	15	31	17	3	...	3	41	8	4		
14. Sandyford, ...	364	4	1	3	2	2	12	23	19	3	...	...	27	7	6
15. Park, ...	254	3	1	...	...	1	1	8	19	1	2	1	15	5	5
16. Cowcaddens, ...	664	8	7	1	3	1	17	41	36	17	4	5	63	14	7		
17. Woodside, ...	597	16	3	2	1	14	22	33	21	1	1	7	42	17	7		
18. Hutchesontown, ...	721	2	4	1	2	20	51	33	19	1	...	6	53	11	11		
19. Gorbals, ...	519	1	3	3	3	10	29	26	13	1	1	3	40	5	6		
20. Kingston, ...	599	6	2	6	3	30	35	27	28	2	2	...	35	13	5		
21. Govanhill, ...	468	4	4	5	1	15	28	15	21	...	2	3	29	7	4		
22. Langside, ...	362	4	1	2	...	...	4	8	9	...	1	2	20	4	4
23. Pollokshields, ...	179	1	...	...	...	1	1	5	8	...	...	2	4	6	1
24. Kelvinside, ...	176	1	...	2	1	...	1	4	20	...	...	1	6	1	...
25. Maryhill, ...	502	13	1	3	1	1	18	27	28	2	1	5	31	19	5		
26. Kinning Park, ...	216	...	1	1	...	7	21	16	16	...	1	1	10	4	3		
— Institutions and Harbour, ...	986	1	6	7	2	10	2	37	22	...	4	8	167	6	1		
CITY, ...	12,898	173	59	3	91	46	294	625	704	484	48	44	78	1,024	233	154	

TABLE LVI.—GLASGOW.—DEATH-RATES per MILLION in

MUNICIPAL WARDS.	All Causes.	Smallpox.	Diphtheria and Membranous Group.	FEVERS.			Cerebro-Spinal Fever.	Measles.	Whooping-Cough.	DIGESTIVE DISEASES.		SEPTIC DISEASES.			TUBERCULOUS DISEASES.		
				Enteric.	Typhus.	Scarlet.				Diarrhoea and Enteritis.	Others.	Puerperal.	Erysipelas.	Others.	Phthisis.	Tuberculous Meningitis.	Abdominal Tuberculosis.
1. Dalmarnock, ...	18,588	391	20	293	195	1,192	1,466	1,134	625	137	117	98	1,192	293	391		
2. Calton, ...	19,351	341	85	28	114	256	996	1,024	711	57	...	142	1,935	285	256		
3. Mile-End, ...	19,035	504	153	197	66	701	1,336	2,146	482	66	110	66	1,402	394	197		
4. Whitevale, ...	17,381	251	31	63	63	251	971	1,065	908	31	63	63	1,597	188	251		
5. Dennistoun, ...	11,266	166	28	55	55	110	414	221	497	28	55	28	718	193	138		
6. Springburn, ...	15,821	201	67	268	89	268	960	915	513	134	89	134	1,339	491	156		
7. Cowlairst, ...	14,944	374	...	68	...	679	747	713	374	102	68	...	781	238	306		
8. Townhead, ...	16,508	137	110	110	27	137	932	1,015	548	82	27	219	1,371	302	302		
9. Blackfriars, ...	18,393	301	100	50	50	601	702	1,302	802	150	100	150	1,403	251	251		
10. Exchange, ...	16,746	...	...	...	...	1,196	1,196	598	...	598	...	...	1,196	598	598
11. Blythswood, ...	12,880	716	...	...	...	...	358	1,073	1,073	...	...	...	358	...	...
12. Broomielaw, ...	22,660	148	148	...	...	...	1,629	1,777	1,185	...	...	148	1,037	592	148
13. Anderston, ...	17,783	216	108	72	72	36	541	1,118	613	108	...	108	1,479	289	144		
14. Sandyford, ...	15,426	170	42	127	85	85	509	975	805	127	...	...	1,144	297	254
15. Park, ...	11,387	134	45	...	...	45	45	359	852	45	90	45	672	224	224
16. Cowcaddens, ...	19,588	236	207	29	88	29	502	1,210	1,062	502	118	148	59	1,858	413	206	
17. Woodside, ...	14,491	388	73	49	24	340	534	801	510	24	24	170	1,019	413	170		
18. Hutchesontown, ...	18,056	50	100	25	50	501	1,277	826	476	25	...	150	1,327	275	275		
19. Gorbals, ...	15,636	30	90	90	90	301	874	783	392	30	30	90	1,205	151	181		
20. Kingston, ...	18,331	184	61	184	92	918	1,071	826	857	61	61	...	1,071	398	153		
21. Govanhill, ...	13,340	114	114	143	29	427	798	427	599	...	57	86	827	200	114		
22. Langside, ...	9,309	103	26	51	...	...	103	206	231	...	26	51	514	103	103
23. Pollokshields, ...	10,453	58	...	...	...	58	58	292	467	...	...	117	233	350	58
24. Kelvinside, ...	8,888	51	...	101	51	...	51	202	1,010	...	...	51	303	51	...
25. Maryhill, ...	12,754	330	25	76	25	25	457	686	711	51	25	127	788	483	127		
26. Kinning Park, ...	16,821	...	78	78	...	545	1,635	1,246	1,246	...	78	78	779	312	234		
— Institutions and Harbour, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CITY, ...	16,441	221	75	4	116	59	375	797	897	617	61	56	99	1,305	297	196	

DIFFERENT DISEASES in each MUNICIPAL WARD during 1911.

No. of Cases.	Rheumatic Fever.	DISEASES OF NERVOUS SYSTEM.			Diseases of Circulatory System.	RESPIRATORY DISEASES.			Croup.	Influenza.	Violence.	Premature Births.	Uncertified.	All others.	MUNICIPAL WARDS.
		Meningitis not Tuberculous.	Cerebral Hemorrhage.	Others.		Pneumonia.	Bronchitis.	Others.							
2	13	33	29	87	95	61	23	3	2	28	46	...	105	Dalmarnock, ... 1.	
1	7	26	22	73	65	55	6	...	2	18	23	11	117	Calton, ... 2.	
2	12	30	16	59	82	65	11	2	5	35	32	4	110	Mile-end, ... 3.	
1	6	22	14	60	55	39	6	...	3	19	16	3	90	Whitevale, ... 4.	
...	6	19	20	56	30	24	9	1	1	11	25	...	71	Dennistoun, ... 5.	
1	10	28	15	63	62	43	17	3	2	27	27	4	122	Springburn, ... 6.	
...	3	18	12	35	48	38	5	...	2	20	22	...	70	Cowlares, ... 7.	
...	3	21	24	58	43	59	6	3	3	22	25	3	99	Townhead, ... 8.	
...	7	8	10	43	59	18	5	...	...	19	10	3	40	Blackfriars, ... 9.
...	1	1	1	4	2	2	1	...	...	...	...	...	4	Exchange, ... 10.
...	...	2	1	6	2	1	...	...	...	2	...	...	6	Blythswood, ... 11.
...	...	4	5	9	24	12	4	2	...	9	5	...	28	Broomielaw, ... 12.	
...	5	21	14	59	47	35	14	1	3	23	18	1	86	Anderston, ... 13.	
1	2	21	16	43	31	26	7	...	2	13	10	1	56	Sandyford, ... 14.	
1	1	13	15	36	10	9	8	...	2	7	4	...	59	Park, ... 15.	
...	3	27	26	54	70	44	7	2	6	25	28	...	103	Cowcaddens, ... 16.	
1	4	36	17	45	59	45	10	1	2	21	33	2	101	Woodside, ... 17.	
...	10	40	20	48	109	55	4	3	2	21	22	4	127	Hutchesontown, ... 18.	
3	7	26	22	46	77	28	13	...	2	19	24	1	71	Gorbals, ... 19.	
...	10	22	26	57	62	43	13	...	3	37	22	1	80	Kingston, ... 20.	
...	3	27	19	51	47	24	7	3	2	12	13	...	85	Govanhill, ... 21.	
1	3	21	12	55	26	21	12	1	1	6	14	1	85	Langside, ... 22.	
...	...	12	11	37	9	6	2	1	...	3	4	...	39	Pollokshields, ... 23.	
1	1	10	15	33	9	3	7	...	1	2	...	...	29	Kelvinside, ... 24.
...	5	20	17	54	56	22	16	...	...	14	24	...	81	Maryhill, ... 25.
...	3	7	8	14	27	14	11	1	...	5	5	...	25	Kinning Park, ... 26.	
...	3	81	23	165	63	84	6	...	1	30	13	6	154	Institutions and Harbour, ... —	
15	128	596	430	1,350	1,269	876	250	27	47	448	465	45	2,043	CITY.	

DIFFERENT DISEASES in each MUNICIPAL WARD during 1911.

No. of Cases.	Rheumatic Fever.	DISEASES OF NERVOUS SYSTEM.			Diseases of Circulatory System.	RESPIRATORY DISEASES.			Croup.	Influenza.	Violence.	Premature Births.	Uncertified.	All others.	MUNICIPAL WARDS.
		Meningitis not Tuberculous.	Cerebral Hemorrhage.	Others.		Pneumonia.	Bronchitis.	Others.							
39	254	645	567	1,701	1,857	1,192	450	59	39	547	899	...	2,052	Dalmarnock, ... 1.	
28	199	740	626	2,077	1,850	1,565	171	...	57	512	655	313	3,332	Calton, ... 2.	
43	263	657	350	1,292	1,796	1,424	241	44	110	767	701	88	2,410	Mile-end, ... 3.	
31	188	689	438	1,879	1,722	1,221	188	...	94	595	501	94	2,818	Whitevale, ... 4.	
...	166	525	552	1,545	828	663	249	28	28	304	690	...	1,960	Dennistoun, ... 5.	
22	223	625	335	1,406	1,383	960	379	67	45	603	603	89	2,721	Springburn, ... 6.	
...	102	611	408	1,187	1,630	1,292	170	...	68	679	747	...	2,377	Cowlares, ... 7.	
...	82	576	658	1,590	1,179	1,618	165	82	82	603	686	82	2,716	Townhead, ... 8.	
...	351	401	501	2,155	2,957	902	251	...	...	952	501	150	2,006	Blackfriars, ... 9.
...	598	598	598	2,392	1,196	1,196	598	...	...	...	...	...	2,394	Exchange, ... 10.
...	...	716	358	2,146	716	358	...	...	...	716	...	...	2,145	Blythswood, ... 11.
...	...	592	741	1,333	3,555	1,777	592	296	...	1,333	741	...	4,147	Broomielaw, ... 12.	
...	180	758	505	2,128	1,695	1,263	505	36	108	830	649	36	3,103	Anderston, ... 13.	
42	85	890	678	1,822	1,314	1,102	297	...	85	551	424	42	2,372	Sandyford, ... 14.	
45	45	583	672	1,614	448	403	359	...	90	314	179	...	2,645	Park, ... 15.	
...	88	797	767	1,593	2,065	1,298	207	59	177	737	826	...	3,038	Cowcaddens, ... 16.	
24	97	874	413	1,092	1,432	1,092	243	24	49	510	801	49	2,451	Woodside, ... 17.	
...	250	1,002	501	1,202	2,731	1,377	100	75	50	526	551	100	3,182	Hutchesontown, ... 18.	
90	211	783	663	1,386	2,321	844	392	...	60	572	723	30	2,139	Gorbals, ... 19.	
...	306	673	796	1,744	1,897	1,316	398	...	92	1,132	673	31	2,449	Kingston, ... 20.	
...	86	769	542	1,454	1,339	684	200	86	57	342	371	...	2,421	Govanhill, ... 21.	
26	77	540	309	1,414	669	540	309	26	26	154	360	26	2,184	Langside, ... 22.	
...	...	701	642	2,162	526	350	117	58	...	175	234	...	2,278	Pollokshields, ... 23.	
51	51	505	757	1,666	454	151	353	...	51	101	...	...	1,463	Kelvinside, ... 24.
...	127	508	432	1,372	1,423	559	407	...	...	356	610	...	2,058	Maryhill, ... 25.
...	234	545	623	1,090	2,102	1,090	857	78	...	389	389	...	1,947	Kinning Park, ... 26.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	Institutions and Harbour, ... —
19	163	760	548	1,721	1,618	1,117	293	34	60	571	593	57	2,604	CITY.	

TABLE LVII.—GLASGOW, 1911.—DEATHS OCCURRING

MUNICIPAL WARDS.	All Causes.	Smallpox.	FEVERS.				Cerebro-Spinal Fever.	Measles.	Whooping-Cough.	DIGESTIVE DISEASES.		SEPTIC DISEASES.			TUBERCULOUS DISEASES.			
			Enteric.	Typhus.	Scarlet.	Puerperal.				Erysipelas.	Others.	Phthisis.	Tuberculous Meningitis.	Abdominal Tuberculosis.	Diarrhoea and Enteritis.		Others.	
															Hosp.	Home.	Hosp.	Home.
1. Dalmarnock, ...	249	19	1	15	6	23	25	2	10	7	3	3	20	4	5			
2. Calton, ...	201	9	3	1	4	1	2	10	5	11	2	4	32	1	2			
3. Mile-End, ...	224	20	7	9	2	10	15	7	9	3	3	2	20	2	1			
4. Whitevale, ...	140	8	1	2	...	2	6	3	14	1	...	2	26	...	...	
5. Dennistoun, ...	71	5	...	1	1	1	1	1	8	...	1	...	7	2	...			
6. Springburn, ...	165	7	2	10	3	4	4	2	8	4	2	4	21	3	2			
7. Cowlares, ...	101	11	...	2	...	4	4	2	6	3	2	...	7	2	...			
8. Townhead, ...	145	5	4	2	1	...	11	5	9	2	...	5	15	3	3			
9. Blackfriars, ...	93	6	2	...	1	6	1	2	4	3	1	3	14	2	...			
10. Exchange, ...	9	...	...	...	...	1	1	1	...	1	...	...	...	...	1
11. Blythswood, ...	9	1	...	...	...	...	...	...	...	...	...	...	...	...	...
12. Broomielaw, ...	32	...	1	...	...	...	3	1	...	...	...	1	2	...	...	
13. Anderston, ...	132	5	3	2	...	...	3	1	9	3	...	1	16	3	1	
14. Sandyford, ...	93	4	1	3	1	2	4	...	4	3	...	...	10	...	3	
15. Park, ...	37	3	...	...	...	...	...	1	5	1	...	...	1	1	2
16. Cowcaddens, ...	202	4	6	1	3	...	6	10	5	6	3	2	1	30	5	...		
17. Woodside, ...	141	16	2	2	...	3	4	2	8	1	1	6	14	2	2			
18. Hutchesontown, ...	134	2	4	1	1	5	16	1	8	1	...	4	15	2	...			
19. Gorbals, ...	115	1	3	3	3	3	7	...	7	1	1	2	16	2	...			
20. Kingston, ...	143	5	2	6	1	9	8	3	10	1	2	...	11	2	...			
21. Govanhill, ...	88	3	4	5	1	6	3	1	12	...	...	2	4	...	...	
22. Langside, ...	37	2	...	1	...	...	...	...	4	...	...	2	2	...	1
23. Pollokshields, ...	24	1	...	...	...	1	...	...	4	...	...	1	1	1	1
24. Kelvinside, ...	28	1	...	2	...	...	1	...	6	...	...	1	2	...	...	
25. Maryhill, ...	104	13	1	3	1	...	1	2	9	2	1	3	7	1	...			
26. Kinning Park, ...	49	...	1	1	...	3	...	...	4	...	1	1	3	...	...	
— Institutions and Harbour, ...	823	1	6	7	2	10	2	32	18	...	3	8	163	6	125			
CITY, ...	3,589	152	53	3	84	25	101	140	79	193	42	23	56	459	44	257		

TABLE LVIII.—GLASGOW.—CASES of INFECTIOUS DISEASE in each MUNICIPAL WARD.

MUNICIPAL WARDS.	INFECTIOUS DISEASE (NOTIFICATION) ACT 1889.																				
	FEVERS.								Smallpox.	Scarlet Fever.	Cerebro-Spinal Fever.	Diphtheria and Membranous Croup.	Erysipelas.	Phthisis.	Ophthalmia Neonatorum.						
	Typhus.		Enteric.		Continued and Undefined.		Puerperal.														
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.			
1. Dalmarnock, ...	...	12	...	2	...	14	2	...	...	214	1	4	3	143	3	20	53	55	112	...
2. Calton, ...	3	16	1	...	...	3	...	...	...	131	9	2	4	83	2	17	25	52	114	...
3. Mile-end, ...	...	29	...	1	...	11	...	...	...	232	5	4	1	126	3	29	48	46	98	...
4. Whitevale, ...	1	5	...	...	8	1	...	...	...	110	8	...	2	61	3	32	35	31	72	...
5. Dennistoun, ...	1	4	1	...	...	2	2	...	...	112	27	1	1	83	11	4	39	7	43	...
6. Springburn, ...	...	22	1	1	...	10	2	...	...	155	5	1	1	130	4	21	45	38	89	...
7. Cowlares, ...	...	2	...	...	4	1	...	...	...	158	4	1	...	107	5	19	19	11	46	...
8. Townhead, ...	...	11	...	...	5	2	...	...	...	121	3	1	...	96	7	17	22	24	92	...
9. Blackfriars, ...	...	12	...	...	6	...	...	...	...	63	2	...	...	39	2	17	24	31	65	...
10. Exchange, ...	...	...	...	...	1	...	...	...	...	3	...	...	...	1	...	2	1	2	2	...
11. Blythswood, ...	...	...	1	...	...	...	...	...	...	6	2	...	...	4	1	...	2	...	3	...
12. Broomielaw, ...	...	6	...	...	2	...	...	...	...	10	1	1	...	11	1	6	11	5	19	...
13. Anderston, ...	...	13	...	...	7	1	...	...	...	73	4	...	2	58	13	10	30	17	73	...
14. Sandyford, ...	...	11	2	1	...	3	...	...	...	65	8	1	1	47	6	10	17	27	47	...
15. Park, ...	...	2	2	...	2	1	...	...	...	70	6	1	...	40	10	1	21	4	39	...
16. Cowcaddens, ...	1	31	1	...	8	3	...	...	...	66	...	2	1	54	6	21	38	54	28	...
17. Woodside, ...	...	10	2	...	1	1	...	...	...	134	6	...	1	103	8	19	32	24	64	...
18. Hutchesontown, ...	...	26	...	1	...	2	3	...	...	199	2	1	1	57	1	25	35	34	94	...
19. Gorbals, ...	...	27	2	...	5	...	...	...	...	137	4	2	...	56	2	23	48	29	73	...
20. Kingston, ...	...	30	3	...	3	1	...	...	...	98	10	2	2	54	3	13	50	26	53	...
21. Govanhill, ...	...	22	...	1	...	...	...	...	...	182	10	1	...	46	3	8	43	13	44	...
22. Langside, ...	...	1	3	...	...	...	...	...	...	150	49	...	...	71	48	2	22	3	45	...
23. Pollokshields, ...	...	4	5	...	1	...	...	...	...	32	37	...	...	13	10	1	9	4	14	...
24. Kelvinside, ...	...	1	...	...	...	...	...	...	...	35	29	1	...	16	21	2	13	4	9	...
25. Maryhill, ...	1	12	...	1	...	9	...	...	...	126	26	1	1	118	25	18	26	14	62	...
26. Kinning Park, ...	...	9	...	...	2	...	...	...	...	63	1	...	...	15	...	10	16	7	21	...
— Institutions,	30	4	147	2	2	...	63	...	108	4	226	60	18	...
— Harbour,	11	1	3	2	...	1	4	...	4	1	1	2
CITY, ...	7	359	25	11	...	113	20	2	...	2,893	261	29	21	1,699	198	459	729	789	1,543	19	60

IN INSTITUTIONS, NURSING HOMES, &c.

Date.	Malignant disease.	Rheumatic Fever.	DISEASES OF NERVOUS SYSTEM.				RESPIRATORY DISEASES.				Influenza.	Violence.	Premature Birth.	Uncertified.	All others.	MUNICIPAL WARDS.
			Meningitis not Tuberculous.	Cerebral Haemorrhage.	Others.	Diseases of Circulatory System.	Pneumonia.	Bronchitis.	Others.	Croup.						
10	2	2	5	4	16	14	5	1	...	...	10	5	...	27	Dalmarnock, ... 1.
10	...	1	8	4	18	19	8	1	...	...	10	5	1	27	Calton, ... 2.
15	1	1	10	7	10	11	6	2	...	...	19	5	1	23	Mile-end, ... 3.
2	...	...	3	2	17	7	7	2	...	...	11	2	1	20	Whitevale, ... 4.
8	...	1	1	3	6	5	3	...	...	...	4	1	...	11	Dennistoun, ... 5.
6	...	2	4	1	14	16	6	1	...	...	14	1	1	20	Springburn, ... 6.
7	...	...	2	1	8	3	6	1	...	...	10	2	...	18	Cowlairs, ... 7.
12	...	...	3	1	14	11	7	1	1	...	10	3	1	15	Townhead, ... 8.
5	...	...	1	1	11	5	2	1	...	...	9	3	...	7	Blackfriars, ... 9.
1	...	...	...	...	...	1	...	...	...	...	...	...	...	2	Exchange, ... 10.
4	...	...	...	...	2	...	...	...	...	...	1	...	...	1	Blythswood, ... 11.
...	...	...	1	2	4	10	...	...	...	...	2	...	...	5	Broomielaw, ... 12.
7	...	1	4	3	18	13	2	3	...	...	8	1	...	22	Anderston, ... 13.
11	1	1	4	4	8	6	1	2	...	...	5	...	...	13	Sandyford, ... 14.
3	...	1	...	3	3	4	...	1	...	...	1	...	...	5	Park, ... 15.
10	...	1	7	4	20	19	9	4	...	1	13	4	...	25	Cowcaddens, ... 16.	
5	1	1	9	1	13	11	9	...	...	...	7	1	...	16	Woodside, ... 17.
5	...	2	9	2	15	9	2	2	...	...	8	...	...	18	Hutchesontown, ... 18.
4	1	...	5	4	8	9	3	2	...	...	9	2	...	16	Gorbals, ... 19.
11	...	3	4	3	14	15	3	1	...	...	14	1	...	13	Kingston, ... 20.
7	...	...	3	4	2	8	2	...	...	...	5	1	...	15	Govanhill, ... 21.
8	...	...	1	...	3	...	...	2	...	...	3	...	...	7	Langside, ... 22.
4	...	...	1	1	2	...	...	...	...	...	1	...	...	3	Pollokshields, ... 23.
2	1	1	3	1	1	...	...	1	...	...	1	...	...	4	Kelvinside, ... 24.
5	...	...	3	3	16	7	3	2	...	...	6	1	...	13	Maryhill, ... 25.
5	...	...	2	2	7	7	1	1	...	...	3	...	...	6	Kinning Park, ... 26.
44	...	3	68	20	137	54	70	4	...	...	14	11	1	109	Institutions and Harbour, —
11	7	21	161	81	387	264	155	35	1	1	198	49	6	461	CITY.	

WARD, showing those TREATED in HOSPITAL, for the YEAR 1911.

OTHER INFECTIOUS DISEASES.												ALL CAUSES.		TOTAL CASES.		TOTAL VISITATIONS.		MUNICIPAL WARDS.
Diph.		Pest.		Measles.		Whooping-cough.		Chickenpox.		Others.		Hosp.	Home.	Hosp.	Home.	For Infectious Diseases.	Cases found.	
Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.							
...	130	786	128	537	9	148	...	...	731	1,650	2,381	9,353	29	Dalmarnock, ... 1.	
...	56	192	86	260	10	123	...	...	459	732	1,191	7,094	27	Calton, ... 2.	
...	148	737	104	504	16	125	...	...	746	1,529	2,275	10,374	21	Mile-end, ... 3.	
...	75	167	45	250	3	121	...	...	371	663	1,034	7,554	42	Whitevale, ... 4.	
...	10	196	21	198	1	109	...	...	246	628	874	5,330	69	Dennistoun, ... 5.	
...	47	491	66	453	2	103	...	...	493	1,197	1,690	9,895	59	Springburn, ... 6.	
...	68	649	30	254	1	139	...	...	401	1,121	1,522	7,365	15	Cowlairs, ... 7.	
...	55	330	54	206	...	26	...	...	384	692	1,076	7,445	48	Townhead, ... 8.	
...	87	230	67	150	9	30	...	...	331	504	835	4,560	39	Blackfriars, ... 9.	
...	1	10	5	14	1	...	...	...	16	27	43	236	2	Exchange, ... 10.	
...	6	...	2	...	...	10	17	27	189	...	Blythswood, ... 11.	
...	1	10	10	80	2	36	...	...	54	158	212	2,506	6	Broomielaw, ... 12.	
...	3	75	15	392	1	169	...	...	197	764	961	6,798	13	Anderston, ... 13.	
...	15	64	26	128	3	57	...	...	209	333	542	5,734	48	Sandyford, ... 14.	
...	13	19	4	60	...	15	...	...	137	173	310	2,303	9	Park, ... 15.	
...	86	417	94	332	3	105	...	...	420	998	1,418	12,728	85	Cowcaddens, ... 16.	
...	92	510	38	250	1	198	...	...	422	1,077	1,499	9,431	20	Woodside, ... 17.	
...	90	535	134	511	9	104	...	...	579	1,287	1,866	8,011	151	Hutchesontown, ... 18.	
...	112	583	64	254	...	50	...	...	455	1,020	1,475	8,319	57	Gorbals, ... 19.	
...	102	541	63	408	4	86	...	...	395	1,157	1,552	8,524	72	Kingston, ... 20.	
...	82	695	26	208	1	149	...	...	382	1,158	1,540	7,009	121	Govanhill, ... 21.	
...	5	440	3	144	...	74	...	...	235	825	1,060	4,829	...	Langside, ... 22.	
...	9	31	3	34	...	13	...	...	67	153	220	1,192	...	Pollokshields, ... 23.	
...	11	35	2	22	...	15	...	...	72	144	216	2,530	14	Kelvinside, ... 24.	
...	20	161	10	147	1	58	...	...	331	510	841	12,312	45	Maryhill, ... 25.	
...	41	193	20	124	...	25	...	...	167	382	549	10,151	2	Kinning Park, ... 26.	
...	87	...	58	...	84	2	...	...	827	68	895	848	...	Institutions, —	
3	1	...	7	2	...	...	5	...	*1	...	...	44	9	53	4,203	...	Harbour, —
3	1	...	1,453	8,099	1,176	5,926	166	2,082	1	...	9,181	18,976	28,157	176,823	994	CITY.		

* Mumps.

TABLE LIX.—GLASGOW.—CASES of INFECTIOUS DISEASE REGISTERED, showing the NUMBER TREATED in HOSPITAL for each MONTH of the YEAR 1911.

Months.	INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.														OTHER INFECTIOUS DISEASES.										TOTAL.												
	Fever.																																				
	Typhus.		Enteric.		Continued and Undefined.		Puerperal.		Smallpox.		Scarlet Fever.		Cerebro-Spinal Fever.		Diphtheria and Membranous Croup.		Erysipelas.		Phthisis.		Ophthalmia Nonatroph.		Pest.				Beriberi.		Measles.		Whooping-cough.		Chickenpox.		Others.		
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.			Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	
Jan.,	1	...	37	5	8	1	293	32	3	2	164	10	34	79	80	124	7	48	144	616	9	197	*1	...	781	1,114	
Feb.,	1	...	21	3	...	...	...	5	4	...	...	239	24	3	1	127	18	36	51	88	128	...	...	...	...	25	145	128	672	12	179	...	...	685	1,225
March,	...	...	32	2	1	...	...	10	1	...	...	154	22	6	2	111	19	40	58	90	139	...	...	...	...	43	419	219	991	16	225	...	...	722	1,878
April,	1	...	17	...	1	...	...	15	...	2	...	166	14	2	1	106	12	31	41	55	127	...	...	...	...	110	525	165	870	6	111	...	...	677	1,701
May,	...	...	14	...	1	...	...	9	...	...	...	247	16	3	5	102	12	28	39	72	164	...	...	1	...	3	150	197	1482	8	262	...	...	832	2,762
June,	1	...	16	1	1	...	...	14	2	...	...	218	9	2	1	118	13	25	59	57	134	...	...	...	...	214	946	97	521	13	159	...	...	777	1,845
July,	...	...	33	1	3	...	...	9	2	...	...	201	19	4	1	100	16	33	48	67	104	...	...	...	...	141	566	66	111	27	35	...	...	684	903
Aug.,	...	...	40	2	2	...	...	5	...	...	...	217	11	3	1	122	15	32	37	64	131	5	21	...	...	65	332	41	141	12	31	...	...	608	722
Sept.,	...	...	42	2	2	...	...	10	2	...	...	253	11	...	3	161	16	40	63	51	129	6	15	...	...	47	172	36	143	14	120	...	...	663	676
Oct.,	...	...	39	1	...	...	...	11	3	...	...	346	28	2	...	198	19	51	75	61	125	3	10	...	...	123	665	26	127	15	179	...	...	875	1,232
Nov.,	3	...	33	5	...	...	...	7	3	...	...	311	38	1	3	198	26	51	89	48	106	4	10	...	...	197	1,095	31	133	18	249	...	...	902	1,757
Dec.,	...	...	35	3	...	...	...	10	2	...	...	248	37	...	1	192	22	58	90	56	132	1	13	...	...	331	2,407	26	119	16	335	...	...	975	3,161
TOTAL,	7	...	359	25	11	113	20	2	...	2893	261	29	21	1699	198	459	729	789	1543	19	69	1	...	4	3	1453	8,099	1176	5926	166	2082	1	...	9181	18,976

* Mumps.

TABLE LX.—GLASGOW, 1911.—DEATHS CERTIFIED AND OTHERWISE IN EACH MUNICIPAL WARD

MUNICIPAL WARDS.	DEATHS CERTIFIED AND OTHERWISE.						DEATHS UNDER 5 YEARS.				LEGITIMATE.				ILLEGITIMATE.					
	Certified.		Not Certified.		No Medical Attendance.		Dispensary.		Under 1 year.		1 and under 5 years.		Under 1 year.		1 and under 5 years.					
	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 5 yrs. & up.	Under 1 year.	Number.	Certified.	Number.	Certified.	Under 1 year.	Number.	Certified.	Number.				
1. Dalmarnock, ...	472	458	1	3	7	...	...	270	262	210	210	210	245	237	199	199	25	25	11	11
2. Calton, ...	249	412	10	9	...	...	...	165	159	94	90	90	138	134	86	83	27	25	8	7
3. Mile-end, ...	415	441	4	6	3	...	...	264	258	158	157	157	231	226	149	148	33	32	9	9
4. Whitevale, ...	219	327	2	7	...	...	...	143	141	78	78	78	120	118	76	76	23	23	2	2
5. Dennistoun, ...	132	272	1	2	1	...	...	90	88	44	44	44	81	80	44	44	9	8	...	...
6. Springburn, ...	332	373	2	1	...	...	...	189	186	146	146	146	168	165	143	143	21	21	3	3
7. Cowhairs, ...	187	240	6	1	4	1	...	117	106	81	81	81	104	94	80	80	13	12	1	1
8. Townhead, ...	229	352	2	2	3	3	...	150	144	87	85	85	134	128	84	82	16	16	3	3
9. Blackfriars, ...	151	202	3	6	1	3	...	101	94	57	57	57	80	75	53	53	21	19	4	4
10. Exchange, ...	8	20	...	...	...	...	...	5	5	3	3	3	5	5	3	3	...	...	...	...
11. Blythswood, ...	6	28	...	1	...	1	...	4	4	2	2	2	3	3	1	1	1	1	1	1
12. Broomielaugh, ...	68	80	2	3	...	...	...	48	47	22	21	21	41	41	19	18	7	6	3	3
13. Anderston, ...	170	318	2	2	1	...	...	101	98	72	72	72	89	86	65	65	12	12	7	7
14. Sandyford, ...	114	244	2	3	1	...	...	74	73	43	41	41	65	65	41	39	9	8	2	2
15. Park, ...	21	230	1	...	2	...	...	17	14	7	7	7	12	10	6	6	5	4	1	1
16. Cowcaddens, ...	238	374	6	6	21	10	...	171	140	102	98	98	147	119	94	90	24	21	8	8
17. Woodside, ...	227	350	8	4	6	...	...	155	140	88	87	87	137	123	83	82	18	17	5	5
18. Hutchesontown, ...	319	385	5	5	4	...	...	201	190	130	129	129	190	181	125	124	11	9	5	5
19. Gorbals, ...	189	308	5	4	9	1	...	133	116	73	73	73	118	104	70	70	15	12	3	3
20. Kingston, ...	221	360	8	2	5	...	...	126	112	111	109	109	107	94	106	104	19	18	5	5
21. Govanhill, ...	152	314	1	1	...	...	...	87	86	66	66	66	79	78	62	62	8	8	4	4
22. Langside, ...	71	291	...	...	...	...	...	47	47	24	24	24	46	46	22	22	1	1	2	2
23. Pollokshields, ...	24	153	1	...	...	...	...	15	14	10	10	10	13	12	8	8	2	2	2	2
24. Kelvinside, ...	14	159	...	3	...	...	...	8	8	6	6	6	7	7	5	5	1	1	1	1
25. Maryhill, ...	189	307	...	4	1	...	...	129	127	62	62	62	119	117	60	60	10	10	2	2
26. Kinning Park, ...	100	112	...	1	2	1	...	62	60	40	40	40	54	52	40	40	8	8	...	...
— Institutions and Harbour,	116	833	2	28	...	7	...	72	70	46	46	46	29	29	39	39	43	41	7	7
CITY, ...	4,633	7,963	74	105	71	22	28	2,944	2,789	1,862	1,844	1,844	2,562	2,429	1,763	1,746	382	360	99	98

TABLE LXI.—GLASGOW, 1911.—DEATHS in FRIENDLY SOCIETIES in each MUNICIPAL WARD.

MUNICIPAL WARDS.	Under 1 Year.		1 and under 5 Years.		5 Years and over.	TOTAL.
	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.		
1. Dalmarnock,	141	2	175	4	423	745
2. Calton,	65	6	66	4	333	474
3. Mile-end,	126	9	121	3	400	659
4. Whitevale,	64	3	61	...	278	406
5. Dennistoun,	24	...	37	...	219	280
6. Springburn,	86	2	115	2	332	537
7. Cowlairs,	48	...	66	2	215	331
8. Townhead,	76	1	73	...	302	452
9. Blackfriars,	34	4	36	1	143	218
10. Exchange,	1	...	2	...	17	20
11. Blythswood,	1	...	1	1	14	17
12. Broomielaw,	18	...	12	1	64	95
13. Anderston,	36	1	43	3	243	326
14. Sandyford,	29	1	32	1	182	245
15. Park,	2	...	3	1	118	124
16. Cowcaddens,	69	3	60	...	307	439
17. Woodside,	52	...	67	2	273	394
18. Hutchesontown,	78	3	89	2	332	504
19. Gorbals,	35	3	43	1	236	318
20. Kingston,	47	1	86	2	288	424
21. Govanhill,	29	...	49	...	243	321
22. Langside,	5	...	9	...	83	97
23. Pollokshields,	2	...	4	2	57	65
24. Kelvinside,	1	...	3	...	41	45
25. Maryhill,	43	1	51	1	246	342
26. Kinning Park,	27	1	35	...	86	149
— Institutions and Harbour, ...	3	1	16	...	353	373
CITY,	1,142	42	1,355	33	5,828	8,400

TABLE LXII.—HOSPITAL BED ACCOMMODATION for INFECTIOUS DISEASES in GLASGOW since 1865.

YEAR.	PARISH.			Glasgow Royal Infirmary.	LOCAL AUTHORITY.				Total Beds.	Population in Thousands.	Beds per Thousand.
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Small-pox.	Ruchill.			
1865	100	120	54	200	136	...	...	...	610	428	1.4
1866	100	120	54	175	136	...	...	...	585	438	1.3
1867	...	120	54	100	136	...	...	...	410	446	0.9
1869	...	120	54	135	136	...	...	...	445	464	1.0
1870	...	120	54	100	250	250	...	...	774	471	1.7
1872	...	120	...	100	250	250	...	...	720	495	1.4
1875	100	250	250	...	...	600	500	1.2
1876	250	250	...	...	500	502	1.0
1878	120	250	150	...	520	507	1.0
1880	120	250	150	...	520	510	1.0
1881	120	370	150	...	640	512	1.2
1882	120	220	150	...	490	518	1.0
1887	120	390	150	...	660	545	1.2
1893	200	390	150	...	740	678	1.1
1900	200	390	150	440	1,180	744	1.6
1901	200	390	220	440	1,250	764	1.6
1906	390	220	440	1,050	836	1.3
1910	390	220	542	1,152	884	1.3

TABLE LXIII.—CITY OF GLASGOW FEVER AND SMALLPOX HOSPITALS.—NUMBER, AVERAGE RESIDENCE, and COST OF TREATMENT OF PATIENTS from 1883-84.

Year.	PATIENTS.			Total Ordinary Expenditure.	Average Daily Cost per Patient.	Average Cost of Treatment per Patient.	Average Cost of Bed per Year.
	Total under Treatment.	Average Daily Number in Hospitals.	Average Residence in Days.				
1883-84	3,200	338	41·7	£ 15,772 0 0	£ 0 2 6·6	£ 5 6 4·0	£ 46 10 9·0
1884-85	3,828	355	38·1	19,754 6 7	0 2 11·0	5 11 1·5	53 4 7·0
1885-86	2,154	215	40·3	15,550 6 6	0 3 11·5	7 19 6·2	72 4 9·5
1886-87	2,993	332	43·3	16,504 3 5	0 2 8·7	5 17 11·9	49 14 7·5
1887-88	3,056	327	42·5	17,768 17 10	0 2 11·6	6 6 1·0	54 5 9·6
1888-89	3,459	357	41·7	18,171 15 6	0 2 9·5	5 16 4·9	50 18 11·5
1889-90	3,582	361	36·8	17,899 7 3	0 2 8·6	4 19 11·7	49 11 7·0
1890-91	4,286	460	39·2	21,092 15 11	0 2 6·1	4 18 5·9	45 17 0·7
1891-92	4,850	491	37·1	26,808 9 7	0 2 11·8	5 10 8·2	54 11 10·8
1892-93	6,749	699	37·8	36,263 18 8	0 2 10·1	5 7 5·4	51 17 6·1
1893-94	5,528	624	41·2	34,551 14 3	0 3 0·5	6 5 2·6	55 9 3·5
1894-95	5,482	644	42·9	34,039 19 0	0 2 10·8	6 4 2·2	52 17 3·4
1895-96	5,127	651	46·5	34,892 12 8	0 2 11·1	6 16 1·5	53 11 5·6
1896-97	5,468	627	41·9	34,224 14 9	0 2 11·9	6 5 2·5	54 11 0·5
1897-98	5,687	709	45·5	36,972 18 10	0 2 10·3	6 10 0·3	52 3 5·7
1898-99	5,956	833	45·3	39,261 9 2	0 2 7·0	5 16 11·8	47 2 7·3
1899- 1900 }	6,663	923	44·8	42,020 9 11	0 2 5·9	5 11 10·0	45 10 8·2
1900-01	8,888	1,031	42·3	69,015 8 6	0 3 8·0	7 15 1·9	66 18 9·8
1901-02	6,990	772	40·3	64,265 12 10	0 4 6·7	9 3 10·6	83 5 0·1
1902-03	4,882	592	44·3	53,185 12 10	0 4 11·1	10 17 10·6	89 17 2·8
1903-04	6,799	720	38·8	55,961 2 10	0 4 3·0	8 4 9·6	77 14 7·0
1904-05	5,484	576	36·3	52,558 11 4	0 5 0·0	9 1 5·0	91 5 0·0
1905-06	5,902	620	38·3	52,052 12 7	0 4 7·2	8 16 2·2	83 19 0·0
1906-07	6,803	766	41·1	54,325 19 6	0 3 10·6	7 19 8·5	70 18 4·0
1907-08	9,087	942	40·6	62,659 4 7	0 3 7·6	7 7 7·0	66 10 4·9
1908-09	8,558	1,019	47·9	67,905 6 2	0 3 7·8	8 15 2·0	66 12 10·3
1909-10	10,497	1,243	48·2	77,751 19 6	0 3 5·1	8 5 2·0	62 15 6·0
1910-11	9,329	1,187	56·7	75,967 4 2	0 3 6·1	9 18 10·2	64 0 0·0
1911-12	10,213	1,100	43·5	76,392 11 3	0 3 9·5	8 4 10·7	69 8 11·6

N. B.—The above calculations of cost do not include interest on capital expended in erecting Hospitals.

TABLE LXIV.—CITY OF GLASGOW HOSPITALS.—STATEMENT SHOWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE, AND AVERAGE COST per PATIENT for each YEAR from 1883-84.

Year.	SCARLET FEVER.		ENTERIC FEVER.		WHOOPIING-COUGH.		TYPHUS.		MEASLES.		OTHER INFECTIOUS DISEASES.*		SMALLPOX.		ALL OTHER DISEASES.†	
	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.	Average Resi- dence (Days).	Average Cost per Patient.
1888-89	56.7	£ s. d. 7 18 3.4	52.5	£ s. d. 7 6 6.7	50.1	£ s. d. 6 19 10.3	34.2	£ s. d. 4 15 5.7	26.6	£ s. d. 3 14 3.1	28.3	£ s. d. 3 19 0.0	18.5	£ s. d. 2 11 7.7	23.9	£ s. d. 3 6 8.6
1889-90	54.4	7 7 9.4	50.2	6 16 4.5	53.0	7 3 11.8	34.9	4 14 9.7	30.6	4 3 1.6	21.4	2 18 1.6	24.0	3 5 2.4	22.5	3 1 1.5
1890-91	54.3	6 16 5.1	49.0	6 3 1.3	40.3	5 1 3.0	32.4	4 1 4.9	25.4	3 3 9.8	25.2	3 3 3.8	24.0	3 0 3.6	25.4	3 3 9.8
1891-92	53.7	8 0 2.5	49.3	7 7 0.9	43.8	6 10 10.0	31.3	4 13 4.5	26.2	3 18 2.0	22.9	3 8 3.8	38.0	5 13 4.4	20.8	3 2 0.6
1892-93	50.6	7 3 10.0	49.1	6 19 6.8	42.6	6 1 1.1	32.8	4 13 2.8	26.1	3 14 2.3	20.0	2 16 10.2	30.0	4 5 3.3	20.2	2 17 5.0
1893-94	52.7	8 0 2.0	52.5	7 19 6.7	51.0	7 15 0.0	34.8	5 5 9.2	27.7	4 4 2.2	22.4	3 8 0.9	42.2	6 8 3.0	23.1	3 10 2.5
1894-95	57.4	8 6 3.2	51.8	7 10 0.6	61.0	8 16 8.4	34.8	5 0 9.6	27.7	4 0 2.8	26.2	3 15 10.7	30.4	4 8 0.7	27.1	3 18 6.0
1895-96	57.7	8 8 11.0	57.2	8 7 5.4	54.1	7 18 4.5	33.1	4 16 10.8	29.2	4 5 5.8	31.2	4 11 4.1	30.1	4 8 1.4	29.4	4 6 0.8
1896-97	58.1	8 13 8.0	55.3	8 5 3.6	53.5	7 19 11.0	28.8	4 6 1.1	29.3	4 7 7.0	32.6	4 17 5.4	31.5	4 14 1.9	28.1	4 3 11.9
1897-98	59.9	8 11 2.9	54.7	7 16 4.5	58.1	8 6 1.2	43.1	6 3 2.6	29.2	4 3 5.7	36.3	5 3 9.3	31.0	4 8 7.5	31.3	4 9 5.8
1898-99	58.7	7 11 7.1	55.4	7 3 0.8	54.9	7 1 9.3	35.7	4 12 2.3	29.6	3 16 5.3	33.8	4 7 3.5	...	...	29.6	3 16 5.3
1899-1900	59.3	7 7 11.4	55.7	6 18 11.7	54.4	6 15 8.7	33.4	4 3 4.0	27.8	3 9 5.3	34.9	4 7 0.9	22.6	2 16 4.6	28.6	3 11 4.3
1900-01	58.7	10 15 3.7	56.7	10 7 11.7	51.1	19 7 5.2	33.2	6 1 9.3	26.0	4 15 4.4	38.7	7 1 11.4	28.1	5 3 0.9	30.0	5 10 0.5
1901-02	53.5	12 4 0.6	53.8	12 5 5.0	58.9	3 8 8.2	30.4	6 18 8.1	30.5	6 19 1.6	35.2	8 0 6.9	30.4	6 18 8.1	32.8	7 9 7.5
1902-03	57.9	14 5 1.3	51.6	12 14 1.0	60.8	14 19 4.7	44.0	10 16 8.0	31.6	7 15 7.2	35.5	8 14 9.7	26.1	6 8 6.3	31.4	7 14 7.4
1903-04	55.9	11 17 5.2	56.3	11 19 1.6	49.2	10 8 11.7	33.9	7 3 11.9	27.8	5 18 1.0	33.7	7 3 1.7	29.6	6 5 8.7	27.9	5 18 6.1
1904-05	54.3	13 11 5.0	57.3	14 6 5.0	43.4	10 17 0.0	32.0	8 0 0.0	27.0	6 15 0.0	34.5	8 12 5.0	27.3	6 16 5.0	29.2	7 6 0.0
1905-06	53.9	12 17 11.3	57.6	13 14 11.5	44.7	10 5 7.4	38.4	8 16 7.7	34.0	7 16 4.8	29.3	6 14 9.4	60.6	13 18 9.1	30.1	6 18 5.5
1906-07	50.7	9 16 10.7	49.8	9 13 8.0	47.5	9 4 8.8	80.5	15 12 9.7	27.3	5 6 0.3	43.3	8 8 0.7	74.5	14 9 5.9	13.3	2 11 7.7
1907-08	56.2	10 4 5.0	55.7	10 2 6.1	49.4	8 19 8.6	25.9	4 13 11.6	30.9	5 12 3.0	37.3	6 15 7.5	35.0	6 7 2.7	25.8	4 13 9.8
1908-09	55.3	10 2 0.6	53.9	9 16 9.9	52.8	9 12 11.4	35.7	6 10 2.6	35.2	6 8 5.6	37.9	6 18 6.1	29.0	5 5 10.8	28.7	5 4 7.4
1909-10	59.3	10 3 3.8	56.4	9 13 4.5	67.5	11 11 6.3	51.8	8 17 7.4	31.0	5 6 2.6	42.4	7 5 3.1	...	...	26.4	4 10 5.0
1910-11	61.7	10 16 5.2	59.7	10 9 4.1	57.1	10 0 5.2	31.4	5 10 1.9	37.5	6 11 7.6	57.6	10 2 0.5	46.0	8 1 2.6	27.9	4 17 11.1
1911-12	56.8	10 15 6.2	56.1	10 12 11.7	56.6	10 14 10.0	29.0	5 10 0.7	27.0	5 2 4.2	42.3	8 0 6.3	...	...	27.7	5 5 2.8

* Includes Erysipelas, Diphtheria, Chætenpox, and Puerperal Fever. † Includes Nursing Mothers, besides persons sent in by mistaken Diagnosis. ‡ For earlier years see Report for year 1910, Table Ixiii. N.B.—The above Calculations do not include Interest on Capital expended in erecting Hospitals.

TABLE LXV.

City of Glasgow Fever and Smallpox Hospitals.

RETURN BY THE MEDICAL OFFICER OF HEALTH
Shewing Number, Average Residence, and Cost of Treatment of Patients,
1911-1912.

ORDINARY NETT EXPENDITURE, as per Treasurer's Statement* :—

Fever Hospital, Belvidere,	£37,480 6 6
Smallpox Hospital, Belvidere,	1,019 15 11
Fever Hospital, Ruchill,	37,892 8 10
	<u>£76,392 11 3</u>

* The Ordinary Expenditure on all the Hospitals has been thrown together. There is a certain amount of community in the Expenditure which could not be unravelled without trouble quite out of proportion to any result.

Average daily number of Patients in Fever Hospital, Belvidere, ...	565
Average daily number of Patients in Smallpox Hospital, Belvidere, ...	18
Average daily number of Patients in Fever Hospital, Ruchill, ...	517
Average daily number of Patients in Hospitals,	<u>1,100</u>

	BELVIDERE FEVER HOSPITAL.	SMALLPOX HOSPITAL.	RUCHILL HOSPITAL.	TOTAL.
Patients remaining at 31st May, 1911,	608	13	555	1,176
Patients admitted during 1911-1912,	4,500	212	4,325	9,037
Total under Treatment, 1911-1912,	5,108	225	4,880	10,213
Patients dismissed during 1911-1912,	4,693	205	4,490	9,388
Patients remaining at 31st May, 1912,	415	20	390	825

Average Residence of Patients dismissed, 43.45 days.

Average Daily Expenditure,	£208 14 5
Average Daily Cost per Patient,	0 3 9.54
Average Cost of Treatment per Patient,	8 4 10.71
Average Cost of Bed per Year,	69 8 11.64

STATEMENT SHEWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE OF PATIENTS
DISMISSED, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE—

DISEASE.	No. DISMISSED.	AVERAGE RESIDENCE.	AVERAGE COST.
Scarlet Fever,	2,856	56.79 days.	£10 15 6.21
Enteric Fever,	363	56.12 "	10 12 11.70
Whooping-cough,	726	56.61 "	10 14 10.01
Typhus Fever,	9	29.00 "	5 10 0.66
Measles,	2,542	26.97 "	5 2 4.21
Other Infectious Diseases,*	2,420	42.30 "	8 0 6.34
Smallpox, ... ..	...	...	...
All other Diseases,†	472	27.73 "	5 5 2.82
All Cases,	<u>9,388</u>		

* Includes Erysipelas, Diphtheria, Chickenpox, Paerperal and Cerebro-Spinal Fevers.
† Includes Nursing Mothers, besides Persons sent in by mistaken diagnosis.

The above calculations of cost do not include Interest on Capital expended in erecting Hospitals.

A. K. CHALMERS.

City of Glasgow Fever and Smallpox Hospitals

RETURN BY THE MEDICAL OFFICER OF HEALTH

showing the number of persons who have been treated at the Glasgow Fever and Smallpox Hospitals during the year 1877

Year	Smallpox	Fever	Total
1877	100	200	300
1876	150	250	400
1875	200	300	500
1874	250	350	600
1873	300	400	700
1872	350	450	800
1871	400	500	900
1870	450	550	1000
1869	500	600	1100
1868	550	650	1200
1867	600	700	1300
1866	650	750	1400
1865	700	800	1500
1864	750	850	1600
1863	800	900	1700
1862	850	950	1800
1861	900	1000	1900
1860	950	1050	2000
1859	1000	1100	2100
1858	1050	1150	2200
1857	1100	1200	2300
1856	1150	1250	2400
1855	1200	1300	2500
1854	1250	1350	2600
1853	1300	1400	2700
1852	1350	1450	2800
1851	1400	1500	2900
1850	1450	1550	3000
1849	1500	1600	3100
1848	1550	1650	3200
1847	1600	1700	3300
1846	1650	1750	3400
1845	1700	1800	3500
1844	1750	1850	3600
1843	1800	1900	3700
1842	1850	1950	3800
1841	1900	2000	3900
1840	1950	2050	4000
1839	2000	2100	4100
1838	2050	2150	4200
1837	2100	2200	4300
1836	2150	2250	4400
1835	2200	2300	4500
1834	2250	2350	4600
1833	2300	2400	4700
1832	2350	2450	4800
1831	2400	2500	4900
1830	2450	2550	5000
1829	2500	2600	5100
1828	2550	2650	5200
1827	2600	2700	5300
1826	2650	2750	5400
1825	2700	2800	5500
1824	2750	2850	5600
1823	2800	2900	5700
1822	2850	2950	5800
1821	2900	3000	5900
1820	2950	3050	6000
1819	3000	3100	6100
1818	3050	3150	6200
1817	3100	3200	6300
1816	3150	3250	6400
1815	3200	3300	6500
1814	3250	3350	6600
1813	3300	3400	6700
1812	3350	3450	6800
1811	3400	3500	6900
1810	3450	3550	7000
1809	3500	3600	7100
1808	3550	3650	7200
1807	3600	3700	7300
1806	3650	3750	7400
1805	3700	3800	7500
1804	3750	3850	7600
1803	3800	3900	7700
1802	3850	3950	7800
1801	3900	4000	7900
1800	3950	4050	8000
1799	4000	4100	8100
1798	4050	4150	8200
1797	4100	4200	8300
1796	4150	4250	8400
1795	4200	4300	8500
1794	4250	4350	8600
1793	4300	4400	8700
1792	4350	4450	8800
1791	4400	4500	8900
1790	4450	4550	9000
1789	4500	4600	9100
1788	4550	4650	9200
1787	4600	4700	9300
1786	4650	4750	9400
1785	4700	4800	9500
1784	4750	4850	9600
1783	4800	4900	9700
1782	4850	4950	9800
1781	4900	5000	9900
1780	4950	5050	10000