Report of the Committee appointed...to inquire into the public health of the City of Dublin.

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REPORT

OF

THE COMMITTEE

APPOINTED BY THE

LOCAL GOVERNMENT BOARD FOR IRELAND

TO INQUIRE INTO THE

Public Health of the City of Dublin.

Presented to both Houses of Parliament by Command of Her Majesty.

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REPORT

TO THE

LOCAL GOVERNMENT BOARD FOR IRELAND.

GENTLEMEN,

In accordance with your letter of the 7th February, 1900, appointing us to make inquiry under the provisions of Section 209 of the Public Health (Ireland) Act, 1878, as to the cause of the high death rate in Dublin, and to recommend measures for adoption with the view of improving the health of the city, we now beg to submit our Report to you on the matters so referred to us.

After a preliminary meeting to consider the lines on which the inquiry should be conducted, we held our first public sitting in the Council Chamber of the City Hall, kindly placed at our disposal for that purpose by the Corporation of Dublin, on Tuesday, the 13th February, 1900.

We subsequently held public sittings on the 14th, 15th, 16th, 19th, 20th, 21st, 22nd, 23rd, 26th, 27th, and 28th February, and the 1st, 2nd, 20th, 21st, and 22nd March—in all seventeen days—for the reception of evidence.

At the first sitting application was made on behalf of the Corporation, the Dublin Victuallers' Association, and two large Workmen's Clubs, that these bodies might be professionally represented at the inquiry.

This question having been referred to you, we, having been made aware of the reply, dated the 13th February, which you gave to the representations made on behalf of the Corporation in favour of permitting bodies and persons interested to appear by Counsel, took the matter into consideration and resolved by a majority of four to two that Counsel need not be heard before us.

We have to thank fifty-six gentlemen and three ladies who kindly attended the inquiry (we had no power to summon witnesses) and gave us valuable information. Of these witnesses twenty-two were members of the medical profession and nine were Officers of the Dublin Corporation.

During the adjournment of the inquiry from the 2nd to the 20th of March, those of our Committee who were not personally and thoroughly conversant with the slums of Dublin inspected the poorest districts of the city, referred to in the evidence, and also the other places therein referred to—dairy yards, &c.

After this inquiry was closed we visited Manchester and Liverpool, in order to see what has been done as to the housing of the poorest classes in those cities, the disposal of house refuse, baths and wash-houses, dairy yards, &c., &c.

At Liverpool, Dr. Hope, Medical Officer of Health, who had given us most valuable information at the inquiry in Dublin, accompanied us on our inspection and pointed out the places and things he had referred to when giving evidence.

As we anticipated, we derived great advantages from our personal inspections of sanitary works in these two cities, especially by being thereby more thoroughly able to understand and appreciate the evidence given by Dr. Hope.

You are aware that the late Sir Robert Rawlinson and Dr. (now Sir Francis) MacCabe were, in September, 1879, appointed Royal Commissioners to inquire into the then existing system of sewerage and drainage in the city of Dublin, in so far as such sewerage and drainage affected the sanitary condition of the said city and the state of the River Liffey flowing therein, and whether such system is directly or indirectly prejudicial to the public health, and whether any or what changes are necessary therein with a view to sanitary improvement.

The Royal Commissioners deemed it right, beside the special duties assigned to them by the Royal Warrant, to ascertain to what extent the abnormally high death rate might be attributed to defective sewerage and drainage, and the condition of the River Liffey, and to what extent it might be considered traceable to other causes.

Acting on this view the Royal Commissioners extended their inquiry and received evidence as to:—

1. The condition of tenement houses;
2. The removal of house refuse;
3. The formation of the streets;
4. The scavenging of the city;
5. The water supply;
6. The baths and wash-houses;
7. The slaughter-houses; and
8. The Corporation refuse depots.

Inter alia we have inquired into each of these matters in its existing phase, and it may be interesting to contrast the state of things in 1900 with that which was found to exist in 1879–80.

Tenement house. In 1879 there were 9,760 houses let in tenements, of which 2,300 were unfit for human habitation; the number of registered tenement houses* is now 6,585. Then there was no regular system of domestic scavenging; now the yards of the greater number of these houses are cleansed and the refuse is removed by the Cleansing Department of the Corporation periodically, and the old privies have been almost altogether replaced by water-closets.

House refuse. In 1879 there was no system of removal of house refuse; now a large staff of men and horses is engaged in daily collecting and removing from the houses the contents of dust-bins which have to a very great extent replaced the ashpits in which refuse was kept for long periods before removal.

Scavenging. In 1879 the inefficient scavenging led the Royal Commissioners to describe Dublin as "essentially a muddy-streeted city"; now all the principal streets are swept on six nights of each week and all stuff is removed before 9 o'clock, a.m.

Formation of streets. In 1879 there were very few streets paved, all of the rest being macadamized; now all the principal and many of the minor streets have been formed with first class stone sett-paving at an expense of £360,000.

Water supply. In 1879 there was an excellent supply of water from the Vartry Reservoir, the same supply as at present; but an additional reservoir is in course of being provided to guard against any special drought such as occurred in 1893.

Baths and wash-houses. In 1879 there were no public baths except those attached to the Mendicity Institution, and no public wash-houses. Since then two large swimming baths, with a number of reclining baths and a wash-house (the latter largely used), have been provided by the Corporation.

Slaughter houses. In 1879 there were 104 private slaughter-houses, and, with very few exceptions, they were stated to be objectionable in several ways. Since then the number has been reduced to 56 and a large abattoir has been erected on the north side of the city by the Corporation.

Refuse depots. Up to 1879 all the materials collected by scavenging and the refuse removed from houses were deposited in the Corporation depots, and this was stated to be "injurious to the health of the population."

Since then a three-cell refuse-destructor has been erected at the Stanley-street Depot, and in addition 300 tons a day are sent out to sea, and there discharged by the Corporation barge *Eblana*.

We now come to consider the conclusions at which we have arrived on the evidence which has been given at our inquiry and our personal knowledge of the circumstances as to the subjects referred to us, namely:—

1. The cause of the high death rate in Dublin; and
2. The measures which we recommend for adoption with the view of improving the health of the city.

The city of Dublin contained, according to the census taken in 1891, a population of 245,001. Since then there have been no means of exactly ascertaining the increase or decrease of the population, but on the whole it may be regarded as being at present the same as in 1891.

The area comprised within the present municipal boundaries is stated by the Registrar-General to be 3,733 statute acres.

* The expression "tenement house" in the Royal Commissioners' Report, 1880, and throughout this Report, means a house let to two or more families.

The valuation, exclusive of exemptions is, on the same authority, £690,864 10*s.*

The number of inhabited houses was (in 1891) 25,764, but from the evidence given at the inquiry this number is, it appears, now reduced to about 24,000.

The numbers of families inhabiting these 25,764 houses in 1891 were as follows:—Fourth class, 19,342, or 37·3 per cent of the population—that is occupying the worst accommodation; third class accommodation, 14,536, or 28 per cent; second class accommodation, 13,279, or 25·6 per cent; and first class accommodation, 4,694, or 9·1 per cent.; and the total number of families is 51,851.

The *average* density of population in 1891 was 65·6 per statute acre.

Comparative Mortality Statistics of Dublin.

The Death Rate of Dublin from all causes.

The mean yearly death rate in Dublin from all causes during the ten years 1890–99 was 29·5 per 1,000 of the population, a rate much higher than that in London, and considerably in excess of that in any of the thirty-three large towns of England and Wales during the same period. In the decade immediately preceding—1880–89—the mean annual death rate from all causes in Dublin was 30·6, so that the improvement that took place in the ten years 1890–99 was but small. And, indeed, if the death rate in Dublin anterior to 1880 be inquired into, it appears that it was lower in years immediately antecedent to 1880 than in years following. For it was stated in evidence given by the then Registrar-General of Ireland before the Royal Commission on the Sewerage and Drainage of Dublin in 1879 (Appendix No. 16 to the Report of that Commission) that the mean yearly death rate from all causes in Dublin during the ten years 1869–78 was 28·4 per 1,000 of the population. At that time the mean death rate of Dublin was lower than that of Liverpool, Glasgow or Manchester, although greater than that of London. Since then, however, a material reduction has come about in the death rates of these four towns. There has been no such reduction in Dublin; there has, instead, been a small increase of the death rate.

Of late years, it is true, there has been a slight improvement in the Dublin death rate, which was 28·6 per 1,000 of the population in the five years 1894–8, but in 1899 the death rate rose to 33·6 per 1,000 of the population, a point higher than it had touched since 1880.

The Death Rate in Dublin in relation with age.

In an Appendix to this Report will be found a table furnished by the Registrar-General for Ireland, in which are set out the mean annual numbers of deaths, together with the mean annual death rate per 1,000 living at certain ages in Dublin during the five years 1894–8. In every year or group of years in life the death rate in Dublin is higher than in London, as may be seen by comparison of the following list of death rates per 1,000 living at each age-group in Dublin and in London, respectively. The London figures are those given by the Medical Officer of Health to the London County Council for the year 1898:—

Ages.	Dublin City.	London.	Ages.	Dublin City.	London.
0–1	245·8	189·0	15 —	7·3	2·8
1 —	100·5	64·7	20 —	9·4	3·7
2 —	41·0	24·5	25 —	13·8	6·0
3 —	27·3	15·0	35 —	20·7	11·6
4 —	19·8	9·9	45 —	30·6	19·2
			55 —	61·4	34·9
Under 5,	89·5	63·3	65 —	101·9	61·7
			75 —	170·7	142·8
5 —	11·0	4·0	85 and upwards,	282·3	262·0
10 —	6·6	1·9			

The most striking feature of these comparative figures is the relatively high mortality in Dublin between the ages of five and thirty-five. In the earliest years of life the mortality in Dublin, although proportionally higher than that in London, does not

compare so unfavourably with the London mortality as at ages between five and thirty-five, when the mortality of Dublin is more than double, and at one age-group even treble, that of London. These ages are the healthiest periods in life, and in Dublin, as elsewhere, this holds true. But although this is true, it is less true for Dublin than for London. There is, in fact, in Dublin a larger proportion of deaths at these healthy ages as compared with the less healthy ages than usually obtains.

In estimating the value of these and other comparisons subsequently made in this Report between Dublin and London, it has to be borne in mind that the birth rate of Dublin is higher than that of London, that of Dublin during the five years 1894–8 having been 33·2 per 1,000 of the population, while that of London was, during the same period, 30·1 per 1,000 of the population. Furthermore, there is a difference between London and Dublin as regards the social condition of the population in each, Dublin containing a larger proportion of the poorer classes than does London.

The Diseases more especially contributory to the high Death Rate in Dublin.

The high death rate in Dublin is not due to the mortality from every disease being consistently in excess of the mortality commonly referable to those diseases in other large towns. Indeed the average mortality from certain causes of death in Dublin is below the average mortality from these causes in other large towns. But there are other causes of death which give rise to a mortality in Dublin proportionally much greater than these causes ordinarily produce in large towns. Much detailed information on this point is given in certain tables furnished to the Committee by the Registrar-General for Ireland, and printed as an Appendix to this Report. For convenience of reference a table is here inserted in our Report, which affords means of comparison between the death rates of Dublin City and of London,* respectively, from certain causes during the period 1894–8. The death rates for Dublin have been calculated from figures supplied by the Registrar-General for Ireland, and those for London had been calculated from returns contained in the Reports of the Registrar-General for England and Wales :—

—	Dublin. Mean Yearly Death-Rate during the Five Years 1894-8 per 1,000 persons living.	London. Mean Yearly Death-Rate during the Five Years 1894-8 per 1,000 persons living.
I. Zymotic Diseases :—		
Small Pox,	0·149	0·007
Measles,	0·364	0·661
Scarlet Fever,	0·279	0·185
Typhus,	0·026	0·001
Whooping Cough,	0·692	0·475
Diphtheria,	0·106	0·529
Simple and Ill-defined Fever,	0·022	0·002
Enteric Fever,	0·447	0·136
Diarrhœa, Dysentery,	0·968	0·792
Other Zymotic Diseases,	0·992	0·478
Total,	4·049	3·270
II. Parasitic Diseases,	0·036	0·011
III. Dietetic Diseases,	0·118	0·139

* London has been selected for purposes of comparison because of its death rate from all causes being nearly that of the average death rate from all causes in the thirty-three large towns of England and Wales.

TABLE—*continued.*

	DUBLIN. Mean Yearly Death Rate during the Five Years 1894-8 per 1,000 persons living.	LONDON. Mean Yearly Death Rate during the Five Years 1894-8 per 1,000 persons living.
IV. CONSTITUTIONAL DISEASES :—		
Phthisis or Pulmonary Consumption,	3·735	1·769
Other Constitutional Diseases,	3·097	1·938
Total,	6·833	3·708
V. DEVELOPMENTAL DISEASES,	2·051	1·254
VI. LOCAL DISEASES :—		
Diseases of The Brain and Nervous System,	3·187	1·872
Diseases of Organs of Special Sense,	0·025	0·042
Diseases of Circulatory System,	2·195	1·519
Diseases of Respiratory System,	5·910	3·459
Diseases of Digestive System,	1·399	1·203
Diseases of Lymphatic System,	0·016	0·025
Diseases of Urinary System,	0·573	0·515
Diseases of Generative System,	0·040	0·063
Accidents of Child-birth,	0·063	0·052
Diseases of Locomotive System,	0·074	0·057
Diseases of Integumentary System,	0·085	0·067
Total,	13·572	8·879
VII. VIOLENT DEATHS,	0·697	0·767
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES,	1·470	0·619
DEATHS FROM ALL CAUSES,	28·830	18·651

If these groups of diseases, given in the above table, be considered in order, it will be seen that Dublin suffers somewhat more from Zymotic diseases than does London. As regards two diseases in this group, however, viz. :—Measles and Diphtheria, the disadvantage is with London, but all the other constituents of the group give rise to a higher mortality in Dublin than in London. This higher mortality in Dublin is especially marked as regards Enteric (or Typhoid) Fever, and a number of maladies classed together as "Other Zymotic Diseases."

The main constituents of the last-named class are Influenza, Septic diseases, and Venereal diseases.

It is worthy of note that Typhus Fever, formerly so prevalent in Dublin, has, in recent years, caused very few deaths there.

The second group, viz. :—Parasitic diseases, is of small account, and needs no reference.

The third group, viz. :—Dietetic diseases, is a lesser cause of mortality in Dublin than in London. The main constituent of this group is Intemperance, with Starvation and Scurvy as minor factors.

From the fourth group, viz. :—Constitutional diseases, Dublin suffers much more than London. The main constituent of this group is Phthisis (consumption of the lungs); and it will be seen that the mortality from this cause in Dublin is more than double that of London.

From "Other Constitutional Diseases" also the Dublin mortality rate is much higher than that of London. A considerable number of maladies is comprised in the last-mentioned class; the principal death-causing constituents of this class being Cancer, forms of Tuberculosis other than Phthisis, and Rheumatic Affections.

The fifth group, viz.:—Developmental diseases, gives rise to a somewhat higher death rate in Dublin than in London. The chief constituents of this group are Old Age and Premature Birth. Importance, however, is not to be largely attached to figures in this group, inasmuch as high figures under the heading "Old Age" are not infrequently due rather to want of accurate specification of the real cause of death than to actual causation of death by senile decay.

The mortality caused by the sixth group, viz.:—Local diseases, is much higher in Dublin than in London. This group, however, is a large one, and it will be observed that, as regards the classes of disease it comprises, Dublin suffers somewhat less than London from diseases of the Organs of Special Sense, of the Lymphatic System and of the Generative System, while it suffers but little more than London from diseases of the Digestive, Urinary, Locomotive, and Integumentary Systems, and from Accidents of Childbirth. On the other hand, deaths from diseases of the Respiratory System and of the Brain and Nervous System are in much greater proportion in Dublin than in London, while diseases of the Circulatory System also give rise to a considerably larger relative amount of deaths in Dublin. The main constituents of the class of diseases of the Brain and Nervous System are Apoplexy, Convulsions, Inflammation of the Brain and its membranes and Hemiplegia (Paralysis); of the class of diseases of the Respiratory System the main constituents are Bronchitis and Pneumonia; and of diseases of the Circulatory System the main constituents are various diseases of the Heart.

As regards the seventh and eighth groups no comment is necessary save reference to the fact that the proportional mortality from "Ill-defined and Unspecified Causes" in Dublin is more than double that of London. This can be attributed only to less accurate specification of the cause of death as given in death certificates.

It appears, therefore, that Dublin has a proportionally higher mortality than London from a considerable number of diseases; and examination of the figures in the foregoing table shows that the diseases which mainly account for the habitually high death rate in Dublin are Phthisis and other Constitutional diseases, diseases of the Respiratory System, and diseases of the Brain and Nervous System.

The foregoing account of the diseases that mainly contribute to the habitually high death rate in Dublin is based on the statistics of the five-year period, 1894–8, so as to avoid the misleading inferences that might arise from the consideration of the mortality statistics of a single year only. It is, however, desirable to refer particularly to the year 1899, since it was characterized by a general death rate of 33·6 per 1,000 of the population, a rate largely in excess of the mean death-rate during the period 1894–8. Nearly half of this excess in 1899 was due to Measles, while the remainder was referable mainly to increase in deaths from diseases of the Respiratory System and from Constitutional diseases. The increase of mortality from Respiratory and Constitutional diseases was probably, in part at least, due to ailments associated with and following upon attack by Measles. There was also material increase in the number of deaths from Diarrhœa, the death rate from this cause having been 1·6 per 1,000 in 1899, whereas the mean yearly death rate from Diarrhœa during the period 1894–8 was 0·97 per 1,000.

A considerable amount of information is furnished also by the Registrar-General as to the mortality during the five years 1894–8 in each of the Registration Sub-districts of Dublin.* From calculations based on the figures supplied by the Registrar-General it appears that the districts known as South City No. 1, South City No. 2, and North City No. 2 have a considerably higher death rate than Dublin as a whole; while the districts known as North City No 1 East and South City No. 4 have the lowest death rates of any in Dublin. The most striking feature in the mortality figures of the three first-mentioned districts is their marked excess in the death rate from Respiratory diseases as compared with the death rate from this cause in Dublin as a whole. There is marked excess of mortality from Phthisis and the Constitutional diseases in the North City No. 2 District and South City No. 2 District; while there is also some excess of

* The mortality figures regarding these districts are not to be accepted as being in all cases strictly accurate. Since the Census of 1891, on the figures of which these rates are based, there has been much closing and also demolition of poor class houses in Dublin; and this may have led to a distribution of the population in these districts somewhat different from that which obtained at the Census.

mortality from these causes in South City No. 1 District. Diseases of the Nervous System are also in considerable excess in North City No. 2 District and in South City No. 1 District, and also in excess, although to a less degree, in South City No. 2 District. South City No. 1 District is also remarkable for its high Zymotic death rate, mainly due to deaths from Diarrhœa and the class of Zymotics named "Other Zymotic Diseases."

The distribution of Enteric Fever, as indicated by the death rates from this cause, in the several Registration Sub-districts of Dublin, also merits consideration. There are three Registration Sub-districts in which the death rate from Enteric Fever exceeds that from this cause in Dublin as a whole. These three are North City No. 3, South City No. 4, and South City No. 2, the rate being highest in the first-named. North City No. 1 East, District, has much the lowest death rate from Enteric Fever. For convenience of reference the mean death rate from this cause in each district during the five years 1894-8 is here given :—

North City, No. 1 East District,	0·29	per 1,000 of population.
,, No. 1 West District,	0·42	,,
,, No. 2 District,	0·45	,,
,, No. 3 District,	0·54	,,
South City, No. 1 District,	0·40	,,
,, No. 2 District,	0·47	,,
,, No. 3 District,	0·40	,,
,, No. 4 District,	0·52	,,
The City of Dublin,	0·45	,,

Sanitary Circumstances and Condition of Dublin.

Density of population.

The average density of the population in Dublin as ascertained by dividing the population (according to the Census Return of 1891) by the number of statute acres, appears to be 65·6 per acre. The Registrar-General stated that he found this to vary in the eight registration districts from 46·2 persons per acre to 124·4 persons per acre. These figures cannot be relied on to any great degree of exactitude, owing to the only information as to the population of each of the registration districts being that afforded by the returns of the Census taken in April, 1891, since when, not only may the total population have increased or diminished, but also the relative numbers of persons in the several registration districts have certainly changed. For example, in the case of South City No. 2 District, in which large clearances of houses have been made in recent years by the Corporation, and under the private Act obtained by Lord Iveagh for the formation of a public park.

House drains.

At the time of the Royal Commission, the drainage of the houses, even in the best streets, was very defective, since then over 6,000 new communication pipes of glazed earthenware have been laid by the Corporation from the house drains to the public sewers.

From the evidence laid before us we are of opinion that a large number of the connections made between the houses and the main drains between 1860 and 1880 were imperfectly laid, and that a great many of them still in use should be taken up, and reconstructed in a proper manner.

The Royal Commission of 1879-81 stated that they considered the first of the conditions exercising the most injurious influence upon the health of Dublin to be the state of the tenement houses, their overcrowding, their defective drainage, and the absence of any organized system for the removal of filth from their surroundings.

The tendency of the evidence given at our inquiry is to confirm the conclusion arrived at by the Royal Commissioners, although it was shown that considerable improvements have been effected in the drainage and removal of filth from houses of this class. Undoubtedly, there is great room for further measures in connection with them, in order to improve the general health of the city. This we shall refer to later on.

Scavenging and removal of refuse of all kinds.

To those who remember the little that was done in regard of such cleansing twenty years ago in Dublin, the improvement since effected must be apparent, although we shall have to point out further on several improvements under this head, which we think, should be taken in hand without delay.

The position of the barge *Eblana*, by which some 300 tons of refuse are daily removed for discharge out at sea was generally condemned, and the nuisance caused by the conveyance of refuse, and the loading of the barge therewith, was strongly commented on by some witnesses.

Sewerage. A Main Drainage system is at present in process of construction by which, when completed, all the sewage of the city will be intercepted, and conveyed by main outfall sewers to purification works at the Pigeon House Fort. This should completely remedy the state of the River Liffey, which is liable to be offensive at low water, especially in the summer months.

Water supply. As to the Vartry Water Supply we are satisfied that it is of the most excellent quality.

Hospital accommodation. The hospital accommodation for infectious cases in Dublin is larger in proportion to the population than is the case in any English city. Among the hospitals, Cork-street Hospital and the Hardwicke Hospital are reserved for cases of fever and other infectious diseases (including pneumonia), and it has been only at very rare intervals that any difficulty has arisen in obtaining admission for such cases.

There are 266 beds in Cork-street Fever Hospital, and there are 26 in the Convalescent Home at Benevin attached thereto. This Home is, however, used only for scarlatina.

This hospital used to take in patients from the North and South Dublin Unions, the Guardians contributing a fixed charge for each case of 2*s*. per head per day. There is no capitation fee from the Corporation, but there has been an annual grant. Unfortunately the effect of the recent legislation by the Local Government Act, 1898, has been to make any payments by the Guardians to this hospital for cases from those Unions *ultra vires*, and the Guardians have been obliged to discontinue them. The consequence was, that during the recent epidemic of Measles, many cases from the city such as would previously have been treated at Cork-street Hospital, had to be dealt with in the homes of the patients to their detriment and that of the other residents in their houses.

This state of things has, we think, had a decided effect in increasing the death rate in 1899. One instance was mentioned in which thirteen cases of Measles had to be treated in one tenement house because there was no hospital accommodation for them at Cork-street or elsewhere.

The present provision made for conveying cases to hospital appears to be satisfactory.

There is no Consumption Hospital in Dublin, although some cases in the advanced stages of this disease are admitted into the Royal Hospital for Incurables, at Donnybrook, and the Hospice for the Dying, at Harold's-cross. There is no separate hospital for Small-pox in Dublin, nor has any Convalescent Home for infectious cases been established under section 155 of the Public Health (Ireland) Act, 1878.

Baths and wash-houses The Corporation have constructed two swimming baths, a number of reclining baths, and a large wash-house, with complete arrangements for washing and drying clothes. Some witnesses consider that the erection of more public baths, or at any rate of more wash-houses, would conduce to an improvement of the public health, and we agree with them.

Disinfection of houses and clothes. The Corporation arrangement for this work appears to be very efficient and satisfactory.

Corporation refuse depots. There are two such depots, one at Marrowbone-lane, the other at Stanley-street.

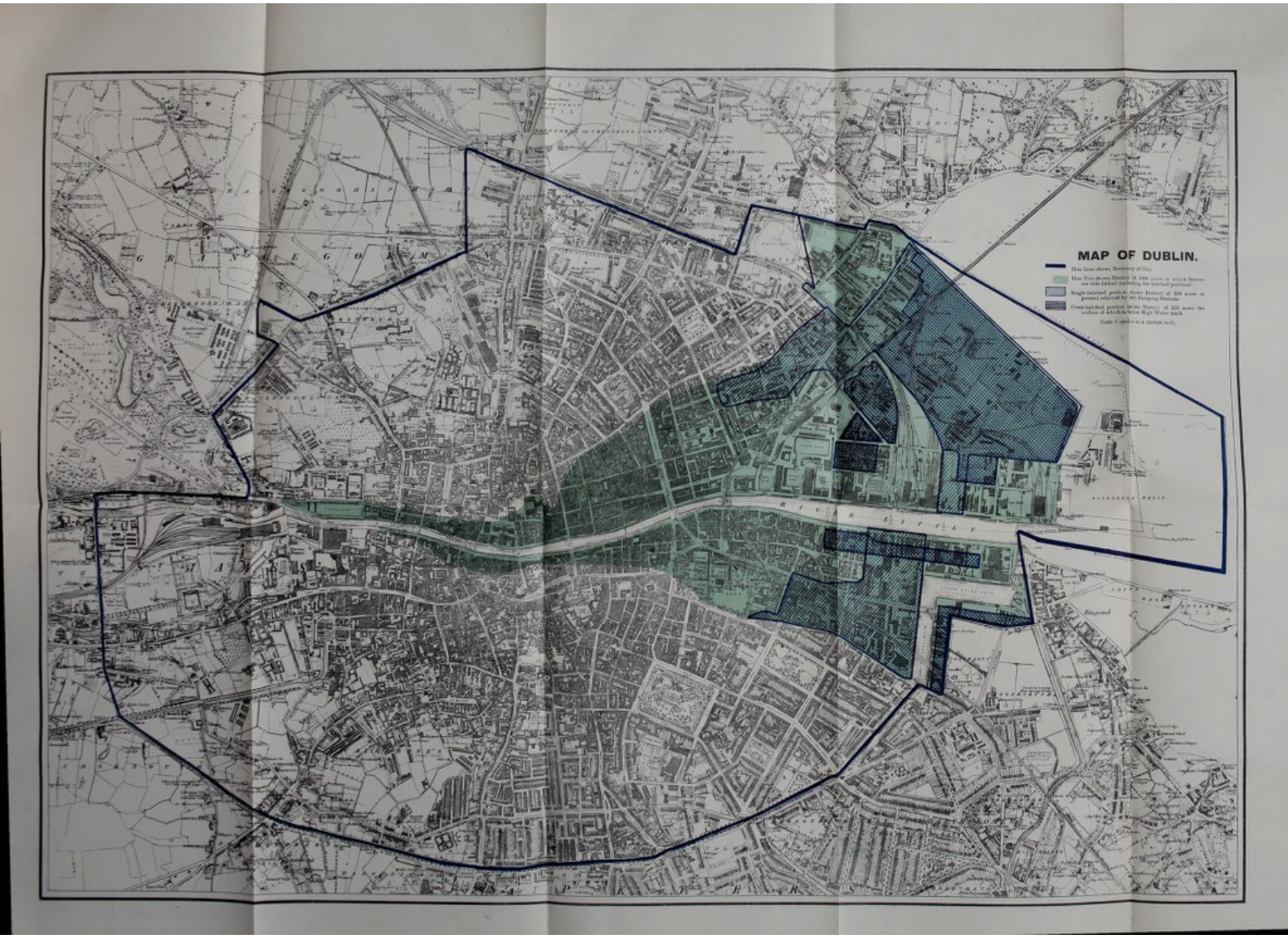
Complaints have been made as to these, and evidence was given as to the offensive condition of the former.

Slaughter-houses. There is a general feeling that private slaughter-houses should not be permitted within the city.

There are now fifty-six in Dublin, and some of them are well conducted, others are not well kept. Sir Charles Cameron, however, expressed himself as not opposed to properly conducted private slaughter-houses in the city; but he added that effective supervision of a considerable number of private slaughter-houses is impossible; a view with which we agree. The Corporation acquired powers under their local Act of 1896 which enabled them to buy up the unsanitary slaughter-houses, and as they did not proceed to put these powers in force, the Magistrates refused to convict when proceedings were taken under the general provisions of the Public Health Acts.

Evidence was given on behalf of the Victuallers' Association that their slaughter-houses were well conducted, and objections were made by them to the use by the butchers of the Corporation Abattoir on the north side of the city. We are unable to attach any weight to these objections.

MAP OF DUBLIN,
Red Lines indicate the Eight Dispensary Districts in the City.
Nº1 NORTH (WEST) CITY DISTRICT
Nº3 NORTH CITY DISTRICT
Nº2 NORTH CITY DISTRICT
Nº1 NORTH (EAST) CITY DISTRICT
Nº1 SOUTH CITY DISTRICT
Nº2 SOUTH CITY DISTRICT
Nº4 SOUTH CITY DISTRICT
Nº3 SOUTH CITY DISTRICT


MAP OF DUBLIN.
RIVER LIFFEY

Certain Causes of Death in Relationship with Particular Conditions in Dublin.

Much evidence was laid before the Committee as to conditions in Dublin which might be regarded as prejudicial to the public health. The variety of these, instanced by one or more witnesses, is very great. Some of the conditions so instanced, however, although likely to give rise to nuisance, and therefore calling for remedy, cannot be regarded as likely to lead to fatal illness, or even to ill-health; while others can have but remote concern with the diseases that more especially contribute to the high death rate of Dublin.

Again, there are still other conditions, alleged to be among the causes of excessive mortality in Dublin, which are not to be held accountable for any share in this excess. Prominent among these is the public water supply derived from the Vartry. The weight of evidence is strongly in favour of the purity of this water, and its suitability as a domestic supply. Nor do the mortality statistics furnished by the Registrar-General, considered in the light of the distribution of disease in the several sub-districts of the city, lend support to unfavourable criticism of the Vartry water. For this supply serves the whole city uniformly; while diseases, such as Enteric Fever, sometimes referable to impure water, are unequal in their degree of incidence on the various districts of Dublin. The suggestion that use of this water leads to undue prevalence of Rickets, receives no support from the statistics given by the Registrar-General on this subject, for the number of deaths referred to Rickets in Dublin during the five years 1894–8 averaged little more than three per year. These figures are so small that much importance is not to be attached to a rate based upon them: but such inference as may be drawn from the comparative death rates from this cause in Dublin and in London, respectively, are in favour of Dublin. In London the death rate from Rickets during the five years 1894–8 was five times as great as that in Dublin during the same period. But, indeed, the belief that absence of lime from drinking water may give rise to Rickets is no longer generally held.

Considerable stress also was laid on intemperance as conducive to high mortality in Dublin. Intemperance is, in all towns, directly, as well as indirectly, causative of death. The question, therefore, is not whether intemperance contributes to the death rate in Dublin, but whether its contribution is relatively greater in Dublin than in other large towns. The figures given by the Registrar-General as to deaths directly referable to intemperance in Dublin, show that the death rate from this cause is somewhat less there than it is in London. Intemperance is also indirectly contributory to the death rate mainly by causing increase of diseases of the liver (included in diseases of the Digestive System), of the Nervous System, of the Urinary System, and in some degree of Phthisis. The death rate from all these groups of diseases is higher in Dublin than in London. It should be noted, however, that the excess is small as regards diseases of the Urinary System and of the Digestive System. Nevertheless, in view of the complexity of other causes that play a part in raising the death rate from these groups of disease, coupled with absence of excess in deaths directly referable to alcoholism, it cannot properly be accepted that there is a relatively greater amount of intemperance in Dublin than in London.

Undue stress also was laid by several witnesses on the density of population on area in Dublin as a condition calculated to be detrimental to the Public Health. It is estimated that in Dublin there are 65·6 persons per acre; while in No. 2 South City District the proportion reaches 124·4 persons per acre. It is a matter of general agreement that high density of population upon area is, other things being equal, likely to be associated with a higher death rate than a low density of population upon area would be; but so complex are the circumstances of life in civilised communities that further inference than this is likely to prove misleading. As an instance of the unreliability of guidance by density of population, unqualified by other considerations, may be cited several London districts that have a much higher degree of density of population than Dublin, or any of its Registration Sub-districts, along with a markedly lower death rate; while the Borough of West Ham, with an estimated density of 60·9 persons per acre in 1898, had in that year a death rate of only 15·4 per 1,000 of the population. Indeed, in Dublin itself, the death rates in the several Registration Sub-districts are, as will be seen from the Registrar-General's statistics, far from parallel with density of population.

But the facts which came to the knowledge of the Committee clearly establish the existence in Dublin, in an exceptional degree, of several conditions which are wont to be

associated with a high rate of mortality. Especially noteworthy among these are the insanitary circumstances in which a considerable proportion of the population of Dublin lives. Large tenement houses, each room occupied by a separate family ; the house itself in a state of dilapidation ; water supply inconvenient of access ; dirty common staircases ; inadequate water-closet accommodation in a foul state ; back yards ill-paved and littered with refuse and excrement ; are conditions of life in Dublin which are frequently encountered in connection with the dwellings of the poorer classes. These conditions tend to the production of a state of lowered vitality favourable to the contraction of disease, and to fatal result of disease when contracted. They also directly encourage the spread of maladies of the infective class, which includes not Zymotic diseases only, but also ailments such as Phthisis and other forms of Tubercular disease, which are excessively prevalent in fatal form in Dublin. Conditions favourable to strict cleanliness in the home are of the first importance in the limitation of the spread of Phthisis, and these favourable conditions find no place in most of the houses occupied by the Dublin poor. And in this connection it has to be borne in mind that the proportional amount of poverty in Dublin is very large, so that these unfavourable conditions associated with the houses of the poor are widely spread throughout the city. The poverty of much of the population of Dublin is in itself, apart from the insanitary conditions referred to, a serious factor in the high death rate of the city. The concomitants of poverty, more especially insufficient and unsuitable food and scanty clothing, both directly and indirectly exert a marked influence upon the death rate.

In considering the relationship between the death rate and the sanitary circumstances of a town, it is usual to pay particular attention to the mortality in Infant Life and also to the mortality from Phthisis, Diarrhœa, and Enteric Fever.

The Infantile death rate in Dublin, while somewhat higher than that of London, is but little in excess of the average rate from this cause in the thirty-three large towns of England and Wales, and, is, indeed considerably less than the Infantile death rate of some of these towns. This comparatively satisfactory state of matters may, as suggested in evidence to the Committee, be attributable in part to climatic conditions being less favourable to Summer Diarrhœa in Dublin than in some other places. This malady is apt to be a prominent cause of death among infants. In part also it may be referred to the practice among Dublin mothers of the poorer class of suckling their children throughout the early months of infancy instead of having recourse to the feeding bottle. This practice not only provides infants with the nourishment best suited to them, but also tends to lessen the risk of their contracting Diarrhœa.

The Diarrhœa death rate in Dublin also stands in much the same relation to that in London and in the thirty-three large towns of England and Wales as does the Infantile death rate in Dublin to that in these places, and the comments made under the latter head concerning Diarrhœa afford some explanation of the reason why, with a high general death rate, the death rate from Diarrhœa is nevertheless not relatively high in Dublin.

The death rate from Enteric Fever in Dublin is, as already noted, very high. With our present lack of accurate knowledge regarding the manner of propagation of Enteric Fever it is not possible on the evidence submitted to the Committee to account for this. The suggestion made in evidence that the continued excessive prevalence of Enteric Fever in Dublin is intimately associated with certain conditions of the soil may be accepted as probably correct, but it is by no means clear what these conditions are Of recent years organic pollution of the soil has come to be looked upon as favouring the life and growth of the specific organism of Enteric Fever in that medium ; and undoubtedly in Dublin the liability of the soil to pollution is great. The soil on which Dublin stands is polluted by leakage from defective drains and by plentiful soakage of foul matters from the surfaces of filthy house-yards and ill-cleansed lanes and alleys. But, although there is agreement that the influence of such conditions is for evil and that every endeavour should be made to lessen or remove them, it is clear that even if a polluted soil favour the spread of Enteric Fever, it is far from being the only soil condition to be thought of in this way. For in Dublin it is not in the districts where potentialities of soil pollution are greatest that Enteric Fever most abounds. It was also stated in evidence before the Committee that those parts of Dublin where the soil is gravel suffer more from Enteric Fever than those where the soil is clay. But the evidence as to the disposition of the gravel and the clay underlying Dublin is not sufficiently exact to permit definite conclusion on this point; a comment which also applies to the evidence, in this connection, regarding the level of the sub-soil water in Dublin. Such facts, however, as were submitted to the Committee regarding the latter point went towards showing that the fever is less prevalent where the sub-soil water is nearer the surface.

The death rate from Phthisis in Dublin is also excessive. To this a multiplicity of causes contributes. The conditions unfavourable to cleanliness in the home, already referred to, directly encourage the spread of the disease from person to person. Another favouring circumstance is the low state of vitality engendered by poverty, of which there is so much in Dublin; aided, it may be, by resort to stimulants on the part of the insufficiently fed. The conditions, also, of many cow sheds and dairy yards in the city are such as to favour Tuberculosis among cattle kept in these places; and therefore to give rise to serious risk of disseminating Phthisis and other Tubercular diseases by means of milk. In less degree like danger arises from the use of meat derived from ill-kept private slaughter-houses, of which there are not a few in Dublin.

In addition to the mortality due to deaths among infants, as well as to Diarrhœa, Enteric Fever and Tubercular diseases, it is desirable also to make particular reference to the high mortality in Dublin from Respiratory and from Nervous diseases. The high death rate from Respiratory diseases may be referred in part to the lessened resisting power caused by insufficient food and clothing. Partly also, however, it is attributable to the home conditions that so often, in Dublin, favour spread of infection. For no small share of Respiratory disease follows upon attacks of Influenza and Measles; while Pneumonia itself, which is a large contributor to this group of diseases, is in a large proportion of cases an infectious disorder.

The low vitality of a considerable section of the population is also to be reckoned as aiding the high death rate from Nervous diseases; to which also the injudicious use of alcohol may contribute, although, for reasons already given, it is difficult to lay stress on this factor. But this excessive mortality from Nervous diseases in Dublin is more apparent than real, inasmuch as the excess of the Dublin rate over the London rate is due to deaths from "Convulsions." The death rate from "Convulsions" in Dublin is 1·74 per 1,000 of the population, while that in London is 0·41 per 1,000 of the population. Accordingly, the mortality from Nervous diseases is not so great as would appear, since "Convulsions" is a loose expression frequently indicative of want of accurate diagnosis. More correct diagnosis would lead to the classification of many deaths thus described in groups of disease other than Diseases of the Nervous System.

Regarding the mortality in Dublin from the whole group of Zymotic diseases some comment is necessary. From certain maladies of this group Dublin suffers less, from others more, than do other large towns. In Dublin the necessity for hospital isolation as a means of lessening prevalence of those diseases is greater than in most towns, because of the relatively large proportion of the population without satisfactory means of isolation of the infectious sick in their homes. It appeared in evidence, indeed, that the number of beds in hospitals for infectious diseases is considerably larger in proportion to population in Dublin than elsewhere. But it also appeared that at times these beds are not all available, as was the case in 1899. The sufficiency of hospital accommodation for infectious sickness in Dublin would seem, therefore, to be less certain than it appears to be, although such accommodation has at no time fallen below that of other large towns. Inadequate means of isolation of the infectious sick, it need hardly be pointed out, constitute a grave hindrance to control of epidemic disease. Hindrance also arises in Dublin from lack of power on the part of the Sanitary Authority to close day schools with a view to preventing spread of infectious disease. This measure is of undoubted utility in some circumstances, and might have proved of service in checking the spread of the Measles epidemic, which, in 1899, contributed so largely to the Dublin death rate. The absence, too, of compulsory notification of infectious disease in certain of the townships, which are essentially suburbs of Dublin, and in some adjoining rural districts, adds to the difficulties of the Sanitary Authority in endeavouring to cope with epidemic outbreaks of disease.

From several other diseases than those that have been particularly considered, the mortality of Dublin is somewhat in excess of that usual in large towns, but not in such degree as to call for special reference.

Measures for Improving the Health of the City.

We now come to the second point referred to us—that is, what measures we recommend for adoption with the view of improving the health of the city.

First, as to "tenement houses." Any improvements in these numerous and widely scattered insanitary dwellings must re-act favourably on the health of Dublin. The walls and structural parts of many of the large houses, which were formerly the

residences of only one family each, but which are now occupied by a number of separate families, are in fairly good order. But the structural conditions of many tenement houses more recently built are much less favourable. In the inadequacy of sanitary accommodation for these houses, danger to public health also arises. We are of opinion that provision of at least one water-closet should be made for every two families, and that water should be supplied to each floor. It will take time for these improvements to become general. If, however, commencement be made at once it is to be expected that they will spread with a markedly beneficial effect directly on the health of the thousands inhabiting these houses, and indirectly the health of the population generally. We are aware of the difficulties as to expenses of such improvements and of providing for displaced persons, but these will have to be faced. The obvious remedy for the latter difficulty is the erection of new dwellings, and with the object of providing ways and means we are of opinion that loans for that purpose should not, to their *full* extent, restrict the margin of borrowing power under the Public Health Act. At the same time we would not wholly free them from the limits imposed, but only to such extent as the Local Government Board for Ireland may in each case fix.

With regard to the cost of compulsorily acquiring sites for this purpose it does not appear to be generally known that recent legislation (Public Health (Ireland) Act, 1896, 59 & 60 Vic., Ch. 54, Sec. 8) has very much reduced the liability of a sanitary authority to pay more than the fair market value of the lands thus acquired, and the enormous expenditure for such purpose in Dublin as referred to in the evidence cannot occur again.

The question of the housing of the poor of Dublin is one of magnitude. The provision of an adequate number of healthy dwellings by way of relief for the present overcrowding of population under unhealthy conditions in congested districts of the city, must, of necessity, be on a considerable scale, and would probably involve several schemes for this purpose. Accordingly, in schemes for the provision of dwellings for the poor, there would be advantage in selecting sites in neighbourhoods less densely populated then those now inhabited by the class for which such provision should be made. These sites could best be obtained outside the city, in localities within easy access of the principal business quarters of Dublin. In these schemes it should be borne in mind that healthy dwellings are especially needed in Dublin for the very poor. Houses, therefore, intended with this object should be of the plainest kind, in order that such schemes may not entail heavy loss upon the ratepayers.

It appears from the evidence that in some cases the letting of stables as dwellings is attended with bad results, and we think that the Sanitary Authority should have direct control in this matter.

A large number of lanes and alleys in Dublin had not been scavenged by the Corporation prior to the present year, when, however, on the suggestion of the Local Government Board, this work was immediately taken in hand by the Corporation, and is now being carried out. The failure of the Corporation until recently, to scavenge these lanes and alleys, would appear to have been due to the fact that they have not taken them " in charge ", so that many of them are very defective as regards sewerage and paving. It is clearly in the interests of the public health that all streets, lanes and alleys in the city, whether in charge of the Corporation or not, should be scavenged by them. This measure would be facilitated by the sewering, levelling and paving of these streets, lanes, and alleys, where necessary ; works which the Corporation are empowered to compel owners to carry out, by Section 28 of the Public Health (Ireland) Act, 1878.

With regard to the removal of house refuse, we consider there is room for great improvement :—

1. The removal from tenement houses occupied by more than one family should be *daily*.
2. All dust bins should be covered.
3. All dust carts should be covered and have an arrangement by which the bins may be emptied into them without the contents being scattered, and where necessary, provision should be made for the removal of the bins and the substitution of another bin.

The present methods of disposal of street scavenge and house refuse are liable to give rise to serious nuisance. For the same reason the position of the barge *Eblana* is objectionable, as also are the situations of the refuse depots in Marrowbane-lane and

Stanley-street. These conditions call for the immediate attention of the Corporation, who should consider the question of provision of additional destructors, and whether a more suitable position can be found for the *Eblana*.

The completion of the system of main drainage, now in course of construction, at as early a date as possible is much to be desired. Systematic inquiry as to the condition of house drains in Dublin, with a view to detection of the defects which are suspected to exist in relation with many of them, should be continued by the Corporation, who have already done useful work in this direction.

With regard to dairy yards, we are of opinion there is no valid objection to their being in the city, provided that they are not in congested districts, and the regulations of the Corporation of Dublin, relative to dairies, cow sheds, and milk-shops are *strictly* enforced, which we consider has not hitherto been the case.

Every encouragement should be given to the sterilization of milk in Dublin, particularly in the warmer seasons of the year, when the use of sterilized milk would serve as a check on the dissemination of Enteric Fever and on the prevalence of diarrhœal disease among young children.

As to private slaughter-houses within the city, we think they should be reduced in number by degrees, and that the bye-laws as to them should be rigorously enforced. It would be very desirable that another abattoir should be provided for the south side of the city.

It appears from the evidence that improvement of the public health would result from the provision of more baths and wash-houses on both sides of the city.

Notification of Diseases Act, 1889 (52 & 53 Vic., cap. 72).

It was the general opinion of all witnesses who dealt with this subject that notification of infectious diseases should be made compulsory in the districts surrounding Dublin. In this opinion we concur, and would point out that such notification is already compulsory throughout Great Britain; as it ought to be throughout Ireland.

It was also stated by many of the witnesses that Tuberculosis should be added, under the provisions of Section 7 of the Act, to the diseases specifically mentioned in Section 6 of that Act.

There are serious administrative difficulties in the way of making notification of all tuberculous diseases, or even Phthisis alone, compulsory; but a system of voluntary notification of Phthisis may be expected to prove workable and to give useful results. Such a voluntary system should, at the outset, be of limited application, as in Manchester and Liverpool, where this measure is now being tried with apparent success.

Sanitary condition of schools.

Evidence was also given to the effect that there are schools in Dublin which are in an unhealthy condition and provided with inadequate sanitary accommmodation. The Committee, in the course of inspections made by them in various quarters of the city, visited several schools and inquired into their condition. Most of them were in fair sanitary state; with, however, one exception, in which there was serious overcrowding. But in nearly all the schools visited the amount of sanitary accommodation was found to be inadequate; and usually there was no provision of lavatory basins for the use of children attending the school. In some instances, too, the area available as play-ground is much too small. In these respects there is great room for improvement. In addition to the benefit to health that would result from improvement in these directions, there would also accrue educational advantage in the greater appreciation of habits of personal cleanliness that would be brought about by proper sanitary and lavatory accommodation. Instructions in the elementary rules of hygiene would also be helpful to this end. The hours of attendance also are calculated to exert a prejudicial influence upon the health of children attending school. At present these hours are from 9.30 a.m. to 3.30 p.m., with only half an hour allowed for food and recreation; this interval is too short, and it appeared in evidence that, as a result, children are apt to be insufficiently fed, which would render them less fit to withstand the strain of the too continuous period of educational hours.

Closing of schools.

In England the Sanitary Authority of its own motion may, under Article 88 of the English Education Code for Day Schools, 1899, on the appearance of an epidemic of infectious disease close any primary school in its district, but there is no such power in Ireland.

In Dublin the Public Health Committee advise the School Managers at once on becoming aware of any of the scholars being resident in a house in which there are cases of infectious disease, and such children are, as a rule, forbidden to come to school for the time being.

Some School Managers are against the power of closing a school during an

epidemic being given to the Local Authority, and this, for various reasons into which we need not enter; but we see no reason why the Local Authority here should not have the same power as Local Authorities have in England.

Sanitary staff of the Corporation

The Inspectorial Staff of the Public Health Department consists of:—

Sanitary Sub-Officers,	27
Inspector of Food,	1
Inspector of Slaughter houses,	1
Inspectors under Food and Drugs Act,	3
Inspectors of Dairies,	5
Temporary Lady Inspectors,	4
	41

Sir Charles Cameron stated that one-third of the Inspectors' time is wasted in the Police Courts waiting for cases to come on. This, of course, reduces the efficiency of the staff as judged by its numerical strength. He suggests that some means might be devised by which this waste of the Inspectors' time might be prevented, or at any rate greatly reduced. He also suggests that the Magistrate's decision on a Public Health summons should be final and without appeal, for the purpose of saving time in dealing quickly with nuisances.

Dr. Hope, Medical Officer of Health for Liverpool, considers this Inspectorial Staff sufficient if the quality of work done by the Inspectors is good. He also stated that the Inspectorial Staff should be selected from persons whose previous occupation and training especially fit them for the discharge of their duties.

Professor W. R. Smith, Medical Officer of Health for Woolwich, also considers the number of the Inspectorial Staff to be sufficient, but more of them ought to be women. He also agrees with Dr. Hope as to the selection of Inspectors.

We would direct attention to Professor Smith's evidence, in which he says that, in his opinion, work connected with Architectural, Finance, and Engineering Departments should be separated from the Public Health Department.

Bye-laws.

Several suggestions were made as to additions and alteration of bye-laws, but as we understand the Corporation are at present engaged preparing new bye-laws, we do not think we need refer further to the matter here.

New legislation.

Evidence was given by several witnesses, notably by the Right Honourable the Lord Mayor, that additions to and alterations of the law as contained in the Public Health Acts would conduce to the more effective working of those Acts, and thereby assist in improving the public health.

It has been suggested that the following changes should be made:—

(1.) In Section 21 of the Public Health Acts Amendment Act, 1890, to insert after "dwelling houses," "or by two or more families occupying one dwelling house." (The reason for proposed addition is that it has been decided on appeal to the Superior Court that this Section does not apply to the Dublin tenement houses.

(2.) In Section 2 of the Public Health (Ireland) Act, 1878, after the definition of "land and premises" to add "the word premises for the purposes of the sections of this Act relating to nuisances includes and applies to a single room."

(A magistrate has decided in a Dublin case that a single room did not mean "premises.")

(3.) Power should be got to prevent houses being turned into tenement houses until they are certified as structurally fit for that purpose.

(It seems doubtful that this could be effected by a bye-law under Section 100 of the Public Health (Ireland) Act, 1878.)

(4.) For the purpose of Section 100 of the Public Health (Ireland) Act, 1878, the word "owner" shall mean "landlord," and the word "occupier" shall include "roomkeeper."

(5.) Power should be given to limit the number of inhabitants in a house.

(A bye-law made under the Public Health (Ireland) Act, 1878, cannot prescribe or enforce a specified air-space for each occupant.

The number of occupants of a "tenement house," however, can be limited by a bye-law under Section 100.)

(6.) To require a license to be taken out annually for each tenement house.

(7.) That owners of tenement houses should be compelled to appoint a responsible caretaker.

(8.) There should be a special magistrate, or a defined time, set apart for sanitary cases.

(9.) Power should be given to inspect country dairy yards from which milk comes into Dublin.

(10) Compulsory notification under 52 & 53 Vic., c. 72, should be enacted for the whole of Ireland.

(11.) There should be power to close public day schools during epidemics.

(12.) That loans for purposes of the Housing of the Working Classes Act, 1890, should not be reckoned against the borrowing powers of the Corporation.

We agree with most of these proposed changes so far as fresh legislation is required, but we think that loans referred to under heading (12) should only be exempted to a certain extent and not in full. We do not agree with No. (4), which we think would introduce an element of confusion, and we think No. (5) is unnecessary, as Section 100, Public Health (Ireland) Act, 1878, provides for the limitation of numbers in tenement houses. We also think that the general application of No. (7) would be impracticable.

The evidence laid before us leads to the belief that the provision of Section 11 of the Public Health (Ireland) Act, 1878, whereby each Dispensary Medical Officer is obliged to act as Medical Officer of Health for his Dispensary District, has worked unsatisfactorily in Dublin, and should be altered.

RECOMMENDATIONS.

1. Tenement houses. That in "tenement houses" water should be laid on to each floor, and separate sanitary accommodation should be provided for at least every two families.

2. Stables. That no stables should be let as dwellings without a licence having been first obtained from the Corporation.

3. Housing of the working classes. That schemes for housing a large number of the labouring and poorer classes should be taken in hand at once, and if suitable sites cannot be obtained in the city powers should be given to the Corporation to acquire sites outside the city whereon the buildings can be erected. These blocks of buildings should be erected before any further clearances of areas be carried out.

4. Street scavenging. That all streets, lanes and alleys in the city, whether in charge of the Corporation or not, should be scavenged by them.

5. Removal and disposal of refuse. That *all* dust bins be covered and emptied into covered carts, and that the contents of dust bins from tenement houses be collected daily.

That an additional "Destructor" be provided at Marrowbone-lane, and the number of cells at Stanley-street Destructor be largely increased.

That a more suitable berth should be got for the barge *Eblana*.

6. Dairy yards. That the regulations as to dairy yards and cow sheds be most rigorously enforced.

7. Slaughter houses. That an abattoir be provided for the south side of the city and the number of private slaughter-houses should be gradually reduced.

8. Bath and wash-houses That more wash-houses and swimming and reclining baths be erected in several parts of the city.

9. Sanitary condition of public elementary day schools.

(*a.*) That a sufficient amount of floor space and cubic space should be provided in all instances.

(*b.*) That a sufficient area of play-ground should be provided in each case.

(*c.*) That instruction should be given in the elementary rules of hygiene.

(*d.*) That the present hours of attendance be altered so as to allow a proper interval for recreation and food between morning school and afternoon school.

(*e.*) That every school should have adequate sanitary accommodation and a sufficient number of lavatory basins, properly equipped.

10. Closing day-schools. That the Corporation should have power to close day schools during epidemics.

11. Notification of infectious disease and phthisis. That notification of infectious disease under the Act of 1889, which is in force in Dublin, should be made compulsory at least in all the districts surrounding Dublin. We further recommend that a system of voluntary notification of Pulmonary Consumption should be adopted in Dublin as in Manchester and Liverpool.

12. Hospital accommodation. That arrangements should be made by which the vacant beds in the existing fever hospitals may be made available whenever required for cases of infectious disease.

That these hospitals should not be used for Smallpox, for which disease a separate hospital should be provided sufficiently distant from populous neighbourhoods. That convalescent homes for patients recovering from infectious diseases should be provided.

(1.) That the duties of Medical Officer of Health should no longer be discharged by the sixteen Dispensary Medical Officers (as referred to on page 15); and that, in future, these duties should be discharged by an Assistant Medical Officer of Health, who should receive an adequate salary, and who should give his whole time to the duties of his office. 13. Sanitary staff.

(2.) That, in future, all persons appointed by the Corporation to act as Sanitary Inspectors, should be specially fitted for the discharge of their duties by their previous occupation and training, and that the number of Lady Inspectors should be increased, and their appointments made permanent.

(3.) That all work now done by the Public Health Department, which properly is of an engineering or architectural nature, should in future be under the control of the Borough Engineer or the City Architect.

That new legislation should be introduced, as suggested above at pages 14 and 15, with the exceptions already indicated. 14. New legislation.

That the legal procedure in cases of prosecution for sanitary defects and nuisances should be materially shortened, and that there should be no appeal from the magistrate's decision on matters of fact.

Section 11 of the Public Health (Ireland) Act, 1878, by which the Medical Officer of a Dispensary District is constituted the Medical Officer of Health for that district, should be amended, so as to enable effect to be given to Recommendation 13 (1).

We again express our thanks to the witnesses who came before us, and especially are we indebted to the Registrar-General, not only for his evidence, but also for the voluminous returns which, at a time when we know there is a great pressure in his work and office, he has so kindly prepared for us.

We propose to print the Appendices, and issue them, with maps, as soon as we can.

All this we submit to you as our Report.

CHARLES P. COTTON, *Chairman.*

JOSEPH M. MEADE, Alderman.

JOHN WILLIAM MOORE, M.D., President, Royal College of Physicians of Ireland.

R. L. SWAN, President of the Royal College of Surgeons in Ireland.

THEODORE THOMSON.

P. DOWD, Alderman.

W. H. WILSON,
Secretary

Dublin, 14th May, 1900.

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REPORT

OF

THE COMMITTEE

APPOINTED BY THE

LOCAL GOVERNMENT BOARD FOR IRELAND

TO INQUIRE INTO THE

Public Health of the City of Dublin.

Presented to both Houses of Parliament by Command of Her Majesty.

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PUBLIC HEALTH OF DUBLIN.

MINUTES OF EVIDENCE

TAKEN BEFORE THE

COMMITTEE

APPOINTED TO INQUIRE INTO THE PUBLIC HEALTH OF THE CITY OF DUBLIN;

WITH APPENDICES.

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PUBLIC HEALTH (IRELAND) ACT, 1878. (SECTION 209).

DEATH RATE IN DUBLIN CITY.

PUBLIC INQUIRY

FIRST DAY.—TUESDAY, FEBRUARY 13, 1900.

The First Public Sitting of the Committee appointed by the Local Government Board for Ireland, in pursuance of the provisions of Section 209 of the Public Health (Ireland) Act, 1878, to inquire and report to them as to (1), the cause of the high Death Rate in Dublin; and (2), the measures which in their opinion should be adopted with the view of improving the health of the city, was held in the Council Chamber, City Hall, Cork Hill, Dublin, on Tuesday, the 13th day of February, 1900.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; Right Honorable JOSEPH M MEADE, P.C.; J. W. MOORE, Esq., M.D., President Royal College of Physicians, Ireland; R. L. SWAN, Esq., President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Mr. *Seymour Bushe*, Q.C., and Mr. *Macinerney*, Q.C., instructed by Mr. *H. Bonass*, Law Agent, Dublin Corporation, attended on behalf of the Urban District Council of Dublin.

Mr. *J. O'Mahony*, instructed by Mr. *Laurence Dennehy*, appeared on behalf of the Dublin Victuallers' Association.

Mr. *M. J. Dunn* appeared for other persons interested.

1. CHAIRMAN.—This is an inquiry ordered by the Local Government Board, who have written to me the following letter:—

> "SIR,—I am directed by the Local Government Board to inform you that they hereby appoint the following gentlemen to make inquiry under the provisions of section 209 of the Public Health (Ireland) Act, 1878, and to report to them as to (1) the cause of the high death rate in Dublin, and (2) the measures they recommend for adoption with the view of improving the health of the city, viz.:—
>
> Charles P. Cotton, Esq., M.Inst. C.E., Chairman.
>
> Right Honorable Joseph M. Meade, P.C.
>
> J. W. Moore, Esq., M.D., President Royal College of Physicians, Ireland.
>
> R. L. Swan, Esq., President Royal College of Surgeons, Ireland.
>
> Theodore Thomson, Esq., M.D., Medical Inspector, Local Government Board, England.
>
> Patrick Dowd, Esq., Alderman.
>
> I have the honour to be, Sir,
>
> Your obedient Servant,
>
> H. M. SWAINE,
>
> *Secretary.*"

You are aware, I suppose, that in 1879 there was an exhaustive inquiry made by a Royal Commission, consisting of Sir Robert Rawlinson and Dr. (now Sir Francis) MacCabe. That inquiry was primarily as to the main drainage of the city, but the general question of the health of the city was fully investigated. The main drainage question has been settled, and the works are now far advanced, and many other sanitary improvements have been effected which, no doubt, we shall hear of in evidence. We propose to examine, first, the Acting Registrar-General, who continued the statistics from the former inquiry up to date, and Sir Francis MacCabe has kindly offered to give evidence as to what has occurred since 1880 bearing on the matters referred to us. Afterwards we hope to have the evidence of several medical officers of health, and of Corporation officials, and of others who, in the judgment of the Committee, can give us information bearing directly on the subjects of our inquiry. This inquiry differs from the ordinary inquiries of the Local Government Board, inasmuch as we have no power to call for witnesses or to administer an oath. I am sure that will give rise to no difficulty, for I know all evidence will be freely offered. We do not propose to hear counsel or solicitors for any of the parties.

2. Mr. *Seymour Bushe*, Q.C.—Before you come to a decision on that point I have a respectful application to make to you, and that is, that the Corporation of the City of Dublin, on whose behalf I appear with Mr. Macinerney, should be at liberty to appear and attend,

and be heard by counsel during the progress of this inquiry. I am of course, sir, quite aware that this is an investigation into a matter of public health; but it is not a mere investigation into a matter of public health of a scientific character, or an abstract inquiry in a matter of pathology or chemical analysis, or even of hygiene—it is something much more than that, judging by the advertisement which has appeared publicly. This is an inquiry into the existing increased death rate, and into its causes and into its remedies. Sir, the Corporation of Dublin is the Sanitary Authority for this city, and in that position it accepts its full measure of responsibility, and it courts and welcomes every inquiry—every full and real inquiry—into the manner in which it has discharged its responsibilities. Now, sir, everybody can imagine an increased death rate for which the Sanitary Authority might be in whole or in part responsible. Everybody, on the other hand, can imagine an increased death rate for which the sanitary authority would be in no way responsible; but nobody can imagine an increased death rate in which some one would not say—could not say—that the Sanitary Authority was in some degree responsible, and that is especially the case as regards the Corporation at the present moment, when it is a matter to all our knowledge that the Corporation, having to promote certain large schemes which they consider indispensable to the public health, have excited in certain quarters a measure of animosity, which arises, perhaps, from natural local or personal jealousy where local importance is threatened. Now, sir, the form of your advertisement invites anybody and everybody to come in here and have their say as to what they think are the causes of this increased death rate, and the natural answer to that advertisement will be that there are attending here amongst others at any rate persons or bodies who will direct charges against the Corporation of the City of Dublin. In that state of things, no matter what the intentions of this Commission may be, you cannot avoid—you will not be able to avoid—this inquiry taking at some period or another the form of a litigation, in which the Corporation of Dublin may be like a defendant against whom charges are brought. Under these circumstances, we, the Corporation, ought to have and be placed in the same position as any other body against whom charges may be brought, of having an opportunity of meeting and repelling these charges in the same way as any other body would have if they were brought in any other place. For these reasons I ask that they should be allowed to attend and appear, and be heard by counsel, and that they be allowed, if charges are brought, to sift and examine these charges by the ordinary methods by which persons in such a position are allowed to protect themselves, and, if they deem it expedient, to call evidence to refute these charges, that they may be at liberty to do so under the direction of counsel. That is the application of the Corporation. They meet, they court, they welcome, as I have said, every inquiry; but they wish, when inquiry is entered upon, it may be full, real, and exhaustive.

3. CHAIRMAN.—We have discussed and considered the question, and have come to the conclusion that it is perfectly unusual, at an inquiry of the kind, to allow counsel to appear. It has never been done, and Mr. Bushe knows that the Corporation are very well represented on the Committee by Alderman Meade and Alderman Dowd, who are perfectly able to conduct any question that might want to be asked on behalf of the Corporation. We must decline to hear counsel, but the Corporation can apply to the Local Government Board if they like. Alderman Meade wishes me to say that our decision on this point was not unanimous, but was by a majority of votes.

4. Mr. *S. Bushe*, Q.C.—Do I understand you to undertake, in the event of the Local Government Board expressing their view that counsel should be heard, that you will act upon that recommendation; because if not it would be quite useless to apply to the Local Government Board for a mere academic opinion.

5. CHAIRMAN.—I don't see how we can do anything but comply with the wishes of the Local Government Board if they are so expressed to us; but I do not see the object of doing it myself. I have been on several Commissions of the kind, and I never saw counsel employed, and for myself I never saw the necessity for counsel.

6. Mr. *S. Bushe*, Q.C.—The reason I take the liberty of expressing my views at any rate is that in its true character this inquiry differs from an ordinary inquiry. I may also add that I don't think the presentation of evidence by the Corporation, or the evidence adduced on any side can be as well conducted by or ought to come from members of the tribunal. I am quite aware there are two members of the Corporation on the tribunal; but they are here as judges, and it would be impossible and it would be improper for them to marshal the evidence, and direct what witnesses should be called or to examine them. That is the office of an advocate, not a judge, and that is the reason why I appear here.

7. CHAIRMAN.—I can only say it has been the custom of every Committee or Commission of the kind that I have been on before, that the whole examination should be carried on by the members of the Commission. On the former Royal Commission, held by Mr. Rawlinson and Sir Francis MacCabe, there was no counsel appearing.

8. Mr. *S. Bushe*, Q.C.—That may be; but, of course, as you know, one Commission differs from another very much, and there the state of circumstances was not such as they are now, and on other Commissions, as you are aware, there were counsel; for instance, the Exham Commission was entirely conducted by counsel. The Royal Commission in 1879 was only investigating sewage and drainage, and that is a purely technical matter, and was conducted just in the same way, as I am well aware—a recent Committee sitting in different parts of England investigating a matter of tuberculosis, was conducted, namely, without counsel, and I cannot conceive anything more absurd than the appearance of counsel there, for that is a matter to be conducted entirely by a committee of experts; but you are now inviting the public to make their statement as to what each man considers is the cause of the existing death rate.

9. CHAIRMAN.—I think that is going a little beyond the advertisement.

10. Mr. *S. Bushe*, Q.C.—The advertisement states:—"The Committee appointed by the Local Government Board for Ireland to inquire into and report as to (1) the cause of the high death rate in Dublin, and (2) the measures which in their opinion should be adopted with the view of improving the health of the city, hereby give notice that any persons desirous of coming forward to give evidence on the subject matter of the inquiry should, without delay, transmit to me, at the Office of the Local Government Board, a short summary of the evidence they would be prepared to give."

11. CHAIRMAN.—Kindly read on—

12. Mr. *S. Bushe*, Q.C.—"In order that the Committee may judge if it be necessary to ask their attendance as witnesses."

13. CHAIRMAN.—Exactly; it does not follow that we will hear everyone that comes forward.

14. Mr. *S. Bushe*, Q.C.—I am quite sure of that, for the inquiry will probably be endless if you did; but the result of that is that at the present moment there are lodged in the Local Government Office documents which we have never seen, and which contain *ex-parte* statements of persons who may be animated by the greatest hostility to us, and we have no indication which are to be selected. The net result may be, that if you open the inquiry now, in five minutes there may be sitting in the witness chair some gentleman who has drawn up a detailed account of his views of the cause of the death rate which may be a summary of charges of neglect, default, misfeasance, or incompetence against the Corporation of Dublin, and are we

to be told that we are to have no opportunity of protecting ourselves against that evidence, and that we are not to have the assistance of counsel in marshalling the evidence which is to refute these charges! Under these circumstances I submit that this is an inquiry entirely different from an inquiry into mere abstract questions—matters of tuberculosis or matters of hygiene—all of importance in themselves but not involving controversial matters. This inquiry has enormous scope, and apparently the form of the advertisement has placed us a good deal at the mercy of any person in Dublin or the neighbourhood—of whom there are some—who may wish to bring charges against the Corporation, and especially in an inquiry of this kind, where the witnesses are not placed under the obligations of an oath. From the point of view of the Corporation we were going to ask that this inquiry should be upon oath.

15. CHAIRMAN.—There is no power to do that.

16. Mr. *S. Bushe*, Q.C.—Technically, I am well aware there is no power to administer an oath, but the presence of a Local Government Board Inspector would meet that difficulty. The view the Corporation take is this, and I respectfully submit it—that if this inquiry is to lead to anything, if it is to be hereafter submitted in its results to either branches of the Legislature, for instance, unless the evidence is given under the sanction of an oath, the whole matter would be futile and vain. If this is to have any real effect we would ask that those who come here to give evidence should give it under the sanction of an oath.

17. CHAIRMAN.—All I can say on that point is that the present Committee have no power to administer an oath.

18. Mr. *S. Bushe*, Q.C.—I am aware of that.

19. CHAIRMAN.—We have no power to compel the attendance of witnesses, or to administer an oath, and any application in reference to these matters must be made to the Local Government Board.

20. Mr. *J. Byrne*.—Before you make up your mind I wish to say, as a person who has been in communication with the Committee, that I have pointed out in two or three particulars what I consider are the causes of the death rate, and I want to put in a word in favour of the Corporation being heard; because in my communication I pointed out two or three shortcomings which, in my opinion, the Corporation were guilty of. I do not think it would be fair to them or satisfactory to the public, unless the utmost latitude was given to the Corporation for the investigation of these charges, and for the refutation of them if they don't bear investigation.

21. CHAIRMAN.—I must repeat that any application that the Corporation be heard by counsel must be made to the Local Government Board.

22. Mr. *Macinerney*, Q.C.—May I say a word before you decide the matter. If you decide, as I understand you have done that you won't hear counsel in the ordinary sense, we don't apply to conduct this investigation as other inquiries have been conducted before you; but the portion of the application which I wish to press—the necessity for which Mr. Byrne has brought sharply before you—is this. We are the Sanitary Authority of Dublin, your inquiry will be into the sanitation of Dublin, and if any charge is made against us that we have neglected our statutory duties, or performed them in a wrong way, it is the first principle of common justice that any court of law or inquiry like this that allows a charge to be made must, in common justice, allow the person charged to make his defence. The Sanitary Authority can only act by their representatives, they have appointed Mr. Bushe and myself to represent them, and if any charge is made against them of misconduct we are the people who, on their behalf, should meet that charge, and what Mr. Byrne says shows at once what is in our mind. The first charge that would be made would be that the Corporation have not discharged their sanitary duties, and that that has caused the increased death rate in Dublin. We must be allowed to meet that by producing such evidence as we think it advisable to lay before you, and on the second branch of the inquiry as to the remedies to be devised—isn't it manifest that the evidence of the Corporation must be given in some collected and orderly manner?—You are to report on what methods should be adopted to improve the health of the city, and in order to decide anything on that subject you must first decide what are the facilities and the provisions made for the health of Dublin already, and must not the Corporation officers and their books be produced in order to see what further steps are necessary in that direction?

23. CHAIRMAN.—We certainly hope it will be done.

24. Mr. *Macinerney*, Q.C.—And must not the Corporation explain why they have not done certain things, and what further power it will be necessary to have in order to carry out any recommendations you may make?—That evidence must be presented in the way in which evidence is usually presented, namely, in the way my friend and myself think it advisable to present it. The witnesses may be examined or cross-examined, but the evidence will then be presented in the manner in which it will be understood, and it is idle to suppose that the Corporation can do that—that any corporate body can do that—except in the ordinary way, namely, by their representatives. If you decide that you won't hear counsel in the ordinary way don't decide at present that you won't allow the Corporation—the Sanitary Authority—of the city to defend themselves in the ordinary way if you allow charges to be made against them. My friend and I will wait here for the present, for we are sure it is only when the investigation develops you will really see how far it would be necessary to hear us. We will wait for the present to hear the evidence as it goes along, and we will again ask you if occasion arises to hear us.

25. CHAIRMAN.—I can only say again that any application of the kind must be made to the Local Government Board. The majority of this Committee has decided that they will not hear counsel. The Local Government Board think that the interests of the Corporation are amply protected by the presence on the Committee of Alderman Meade and Alderman Dowd.

26. Mr. *J. O'Mahony*.—Perhaps I may be allowed to intervene on behalf of the Dublin Victuallers' Association, who are the owners of sixty-three licensed slaughter-houses in the city. We find in Sir Charles Cameron's report there is a suggestion made that these slaughter-houses should be compulsorily abolished. We have complied with your advertisement, and sent to the Local Government Board a list of gentlemen who are interested in the trade and familiar with the working of these places, who are prepared to assist you by giving evidence as to the way in which these slaughter-houses are conducted at present. We wish to contest the evidence which Sir Charles Cameron, and those who support him, give in support of his conclusions, and we think we are entitled to be heard here as we have vested interests which may be imperilled by the decision of this Committee. I refer to section 214 of the 41st & 42nd Victoria—the Public Health Act of 1878, which says in the second note as to Provisional Orders by the Board, "Before making any such Provisional Order the Local Government Board shall consider any objections which may be made to them by any persons affected thereby, and in cases where the subject matter is one to which a local inquiry is applicable, shall cause to be made a local inquiry, of which public notice shall be given in manner aforesaid, and at which all persons interested shall be permitted to attend and make objections."

27. CHAIRMAN.—That is only in reference to Provisional Orders?

28. Mr. *J. O'Mahony*.—But by analogy from that if you receive evidence in support of a statement like this, which is in Sir Charles Cameron's report—"There are sixty-three private slaughter-houses in

the city, many of these are situated in congested localities. The Corporation have established an abattoir at the north-west boundary of the city, but only a small number of butchers make use of it. The Corporation have the power of compulsory purchase of the private slaughter-houses." If you hear evidence in support of that we think we should be heard in reply.

29. CHAIRMAN.—Hasn't it been intimated to you that we will hear your witnesses?

30. Mr. *J. O'Mahony.*—Yes; but our position is this—we think you cannot elucidate exactly the details we wish to present—at least we are under the apprehension that we cannot elicit the exact evidence we wish you to hear unless there is someone here in a professional capacity to assist our witnesses.

31. CHAIRMAN.—Dr. Moore has drawn my attention to the fact that all these matters were a subject of inquiry by a former Commission, at which counsel did not appear. This is what Sir Robert Rawlinson says in his report—"We have arranged our report under four heads: introductory, present system of sewage and drainage, condition of the River Liffey, and certain matters connected with the public health of the city of Dublin, which were submitted to us during the course of our inquiry. Before commencing to take evidence relative to the various matters referred for inquiry, we deemed it our duty to make personal inspection of the River Liffey and the city generally. We, therefore, extended our inspection to the back streets, courts and yards, slaughter-houses, cow sheds, and scavenging depots within the inhabited area, the state of the tenement houses, the sanitary condition of Dublin," and so on. That shows that the subject matters to come before us are almost identical with the subject matters that came before the Rawlinson Commission at which counsel did not appear.

32. Mr. *J. O'Mahony.*—In that case there was no application to hear counsel, and my clients are under the impression they are prejudiced by not having counsel. I think we are in a stronger position than the Corporation, for, as you have stated, the Corporation have two representatives on the Committee, but we have no one on the Committee to protect the vested interests of these people.

33. Mr. *S. Bushe,* Q.C.—Possibly you may see your way to adjourn until to-morrow, as there seems to be a strong feeling in so many quarters that this is an inquiry in which the various interests should be represented by counsel, and I shall cause communication to be sent to the Local Government Board within an hour, asking their decision on the subject of counsel.

34. CHAIRMAN.—No; I don't think we can do that, but we have no objection to proceed to-day without counsel, and then to reconsider the matter; but I would rather you made application to the Local Government Board.

35. Mr. *S. Bushe,* Q.C.—Do you mean that you will reconsider the matter yourselves in the meantime or wait until we have approached the Local Government Board?

36. CHAIRMAN.—No; but we will hear the evidence of the Acting Registrar-General and Sir Francis MacCabe to-day without counsel, as we don't think it necessary counsel should appear up to that stage of the inquiry.

37. Mr. *S. Bushe,* Q.C.—But you intimated a little time ago that you would act on the intimation of the Local Government Board and nothing else; therefore, it was our intention to approach the Local Government Board forthwith, but if you will reconsider the matter yourselves, without the Local Government Board being approached at all, we are prepared of course to leave the matter with you.

38. Mr. *J. O'Mahony.*—We have already intimated to the Local Government Board our desire to appear by counsel, but we have not received any reply.

39. CHAIRMAN.—Alderman Meade understood Mr. Bushe to suggest that there was some way in which we could get power to examine witnesses on oath.

40. Mr. *S. Bushe,* Q.C.—Yes, by associating with you an Inspector of the Local Government Board If they do that you will see under section 213 of the Public Health Act "Inspectors of the Local Government Board shall, for the purposes of any inquiry directed by the Board, have, in relation to witnesses and their examination, the production of papers and accounts, and the inspection of places and matters required to be inspected, similar powers to those conferred upon Poor Law Inspectors by the Poor Law Acts."

41. CHAIRMAN.—There is no doubt about the power of an Inspector to take evidence on oath, but we are none of us Inspectors of the Local Government Board for Ireland.

42. Mr. *S. Bushe,* Q.C.—I am quite aware of that, but there would be no difficulty in associating with you an Inspector of the Local Government Board.

43. CHAIRMAN.—I must ask the Corporation to refer to the Local Government Board on both points.

44. Mr. *S. Bushe,* Q.C.—I would formally ask you to adjourn the inquiry until the opinion of the Local Government Board be obtained, and that will be to-morrow, of course.

45. Right Hon. Alderman MEADE.—I think as the evidence to-day will be purely technical that there is no necessity for adjourning, as we have here from England a gentleman whose time is valuable.

46. Mr. *S. Bushe,* Q.C.—I entirely submit my view to your better judgment, and if there is merely evidence of a character not calling for the intervention of counsel, I see no objection to your proceeding.

Mr. *M. J. Dunne.*—As counsel for two large workmen's clubs, who are intimately connected with this subject, and on behalf of several philanthropic bodies, who during their investigation have come into possession of very material facts, I wish to add a word to what Mr. Bushe has said. We have such a large body of evidence that we would not think of sending up our witnesses one by one, as it would take too much time, whereas if we are allowed to appear by one representative, and to select a few witnesses, we will be able to shorten the inquiry, and for that reason we make a similar application.

48. CHAIRMAN.—You must also apply to the Local Government Board.

Mr. ROBERT E. MATHESON examined by the CHAIRMAN.

49. You are Acting Registrar General?—Yes.

50. What is the area of the city of Dublin?—3,733 statute acres.

51. What was its valuation in 1891?—£669,184.

52. What was the number of inhabited houses in 1891?—25,764.

53. Do you know the valuation now?—No; you will have to apply to the Valuation Office for that.

54. What is the population of Dublin?—The population in 1891 was 245,001.

55 That was within the municipal area?—Yes, the city.

56. How many persons does that give on an average to each house?—9·5 to an inhabited house.

57. What are the number and percentage of families occupying each house?—In each class of accommodation the families occupying houses are as follows:—Fourth class, 19,342, or 37·3 per cent. that is occupying the worst accommodation; third class accommodation, 14,536, or 28·0 per cent.; second class accommodation, 13,279, or 25·6 per cent.; and first class accommodation, 4,694, or 9·1 per cent.; and the total number of families is 51,851.

58. What was the density of the population in 1891?—65·6 persons per statute acre.

59. What is it at present, can you say?—No; we have got no population figures since 1891 to work on. Of course we are coming near another census.

60. Right Hon. Alderman MEADE.—Have you no means of telling the population in any year by the returns?—No, we could not make any estimate; we could not get the migration, and it would be impossible to estimate the population.

CHAIRMAN.—Have you anything further to say as to the density of the population?—This is a table I have prepared, which shows the density of the population in each registration district; of course it is on the population of 1891—it shows the area in statute acres, the population, and the persons per acre.

62. Right Hon. Alderman MEADE.—Have you a map showing these registration districts?—Yes; I have one here.

63. CHAIRMAN.—Are the registration districts the same as the dispensary districts?—Yes; the boundaries of the districts are coloured red; they have two medical officers each. This is a Thom's Directory map coloured by wards. The vermilion shows the different districts.

64. Right Hon. Alderman MEADE.—It would be better if we had a map with the four districts only marked?—There are four on the north and four on the south—four on each side of the city, and I shall have a map made showing them.

65. Let it have nothing but the colour showing registration districts only—nothing about the wards?—Yes; the reason that was done was that we had the map ready, and this table explains it.

66. Dr. T. THOMSON.—You have eight registration districts—four on the north and four on the south?—Yes.

66A. In talking of them how are you to distinguish between the north and south, if they are simply marked 1 and 2 on each side?—The river divides them.

67. But in making reference to the registration districts how are we to understand which of them you mean when you say No. 1?—One is North City and the other is South City.

68. Will the reference be to No. 1 North and No. 1 South?—Yes; I will read it out, beginning at the north side—No. 1 East, area, 674 statute acres, population in 1891, 27,147, persons per acre, 40·3; North City No. 1 West, 321 acres, 34,836 inhabitants; persons per acre in that district, 108·5; No. 2 North City, 232 acres; population, 28,871; persons per acre, 124·4. That is the highest number of persons per acre.

69. Right Hon. Alderman MEADE.—On the north?—On either. There is one which approaches it on the south side; but that is the highest in the whole city. No. 3 North City, 564 acres; population, 26,055, or 46·2 persons per acre; South City No. 1, 797 statute acres; population, 33,194, or 41·6 persons per acre; No. 2, that is a district nearer the river, 161 acres; population, 18,547, or 115·2 persons per acre. That is the highest on the south side; the highest on the north being 124·4. No. 3 District, 397 statute acres; population, 40,558, or 102·2 persons per acre; No. 4 District, 587 statute acres; population, 35,793, or 61·0 persons per acre. Total, North City, in statute acres, 1,791; population, 116,909, and the persons per acre 65·3. Total on the south side, 1,942 statute acres; population, 128,092, or 66·0 persons per acre. The area of the whole city is 3,733 acres; the population, 245,001, and the persons per acre 65·6. I should say there have been great clearances in certain areas since 1891, and, of course, that would affect the density of the population, because we are working on the 1891 population.

70. CHAIRMAN.—In what districts are these clearances?—Chiefly in Nos. 2 and 3 South City, and also some on the north side. You see of course, the population has shifted, and some places have decreased and some increased, and if you go too much into detail you can hardly rely on these figures, but they are correct for 1891, and they are given subject to that explanation.

71. What is the social condition of the inhabitants by two groups of classes?—I have prepared a table which shows that persons of the upper and middle classes formed 22·5 per cent., and those of the artizan, petty shopkeepers, and labouring class and inmates of workhouses formed 77·5 per cent. of the population.

72. These particulars were all given at the previous inquiry?—Oh no, they were specially abstracted on the census in connection with the occupation department of the census.

73. Was the same information not given at the former inquiry on the census of 1881?—The former inquiry was in 1879. The first time this was done was in 1881, and we repeated it in 1891.

74. Right Hon. Alderman MEADE.—So that this is the first time there was an opportunity of giving it?—Yes.

75. CHAIRMAN.—That explains why it does not appear in the former report?—Yes, the heads are all clubbed together.

76. Right Hon. Alderman MEADE.—Have you copies of this table?—I can get them.

77. Because I think each member of the Committee should have a copy of it, so that we can have it before us when the evidence is being given?—Certainly; but it was with difficulty I got one or two copies of each table ready within the time.

78. CHAIRMAN.—What is the birth rate of the city?—34 per 1,000 in 1899, and the average rate for the preceding ten years was 32·3.

79. Right Hon. Alderman MEADE.—Thirty-four per 1,000 in 1899 on the census of 1891, I suppose?—Yes.

80. CHAIRMAN.—Can you tell what was the general death rate by years from 1881—what is the total given?—The rate for 1899 was 33·6 per 1,000, being 4·6 over the average for the preceding ten years, and 3·6 over the average for eight years, 1881–1888. The mortality in 1899 was exceptionally heavy, the deaths numbering 8,231, or 1,090 over the average for the preceding ten years; the increase is due to an epidemic of measles in the latter part of the year, the prevalence of inflammatory diseases of the respiratory system in the closing months, and a heavy mortality from diarrhœa in the 3rd quarter. The diarrhœal mortality, as well as the deaths from measles, was chiefly amongst young children. Influenza also contributed to the excess, as also did diphtheria. It is a remarkable coincidence that in the year 1887, when the mortality rate very nearly approached that of last year, the chief causes of the excess were measles, diarrhœa, and diseases of the respiratory system.

81. Dr. THOMSON.—Does that account for all the excess over the average?—Oh, no, not for all; but it accounts for a great portion of it.

82. How much of it?—The total excess was 4·6; the increase of the seven zymotic diseases 2·5, and we have the respiratory diseases bringing it up considerably more.

83. Right Hon. Alderman MEADE.—What was the zymotic death rate for the last year?—The rate for 1899 was 5·4 per 1,000, being nearly double the average, 2·9, for the preceding ten years, and 1·9 over the average for the eight years, 1881 to 1888. The principal zymotic diseases are — Small-pox, measles, scarlatina, typhus, whooping cough, diphtheria, simple and ill-defined fever, enteric fever diarrhœa, and dysentery.

84. Dr. T. THOMSON.—What I want to know is first, what is the proportion in excess during 1899 over the average, and what part of that excess is due to the causes you specify—measles, diarrhœa, and diseases of the respiratory organs?—We can give you the figures of that exactly. The total excess was 4·6; the zymotic rate was 5·4, being an increase of 2·5, so that the zymotic rate was nearly doubled, and the respiratory diseases were one-sixth higher than the average.

85. Then there is about 1 per 1,000 not accounted for by these three causes?—Yes.

86. CHAIRMAN.—What are the total deaths from phthisis, diseases of the respiratory system, and from violence for the years 1881 to 1899?—First, may I say that the zymotic death rate for 1899 was 5·4 per 1,000 — nearly double the average for the preceding ten years, and 1·9 over the average for the eight years from 1881 to 1888. The deaths from phthisis, diseases of the respiratory system, and violence from 1881 to 1899 are also shown in the table. The deaths from phthisis last year numbered 1,006, or 4·1 per 1,000, being slightly in excess of the average; those from inflammatory diseases of the respiratory system 1,708, or 7·0 per 1,000, being 222, or 15 per cent., above the average for the preceding ten years, and 84 over the average number for the eight years 1881 to 1888.

87. Dr. T. THOMSON.—The table does not show all the causes of death?—Oh, no; but I have such a table here.

88. The table does not account for everything. One wants to be able to see where there has been change in the death rate from year to year, and this does not entirely appear from this table before us. I don't see how we can do without the full table?—This is the average for the ten years. The other was intended to summarise it.

89. CHAIRMAN.—What is the mortality by social classes?—To begin with, we have not got the mortality by social classes for the city as distinguished from the registration area, but I give you what I have.

90. What is the registration area?—It is the Dublin registration area, which comprises the city and the townships round and out as far as Kingstown—it includes Kingstown, and Blackrock, Pembroke and Rathmines. It does not quite coincide with the townships, but practically it does.

91. Dr. J. W. MOORE.—Perhaps you would read from your own return the description of the district—it is at the bottom of the return?—In addition to the city, there is Clontarf and Howth, Coolock and Drumcondra, Finglas and Glasnevin (part of), Palmerston (part of), Crumlin (part of), Rathmines, Donnybrook, Blackrock, Kingstown Nos. 1 and 2, and that with the city comprises the whole of the registration area. That is the Dublin registration area, but these are the Registrars' districts, not the townships. In three cases they are conterminate with the townships of Blackrock, Rathmines, and Kingstown. You asked me about social statistics and deaths. I have a table showing the average annual mortality in the Dublin registration area from 1892 to 1897 in upper and lower social groups, divided into the same groups as in the other table I have given. This table shows that for the whole registration area the death rate for the lower group is practically 50 per cent. above that for the upper.

92. Right Hon. Alderman MEADE.—You have two groups—one 22,000 and the other 77,000—is that in the 77,000 group?—But this is for the whole registration area.

93. CHAIRMAN.—The 77,000 was for the city only?—Yes. The upper group consists of 97,048 people, and the lower of 252,546, in the Dublin registration area, and this table shows that the deaths in the lower group are 50 per cent. more than those in the upper. I have unfortunately not got the figures for the city, but only for the whole registration area, and it shows that the death rate is nearly 50 per cent. higher in one group than in the other.

94. But the same proportion could not be taken as applying to the city only?—No; but I should say the excess in the lower group would be greater for the city. I have not got the figures, but presumably that would be the result.

95. That the 50 per cent. would be increased?—Yes.

96. What are the deaths by ages?—The same difficulty exists here—the figures are not available for the city as distinguished from the registration area, but I can give you the deaths under one year; one year and under sixty, and sixty and upwards in the city for the years 1894–5–6–7–8, and the average for 1894–98 and the figures for the year 1899.

97. What is the result?—These tables show that the average infantile mortality for the five years 1894–1898, calculated per 1,000 births, was slightly more in the city of Dublin than the mean rate for 33 English towns, and about 11 per cent. greater than in London, the respective rates being Dublin, 178; 33 towns, 171; London, 159.

98. What is the death rate in Dublin as compared with English cities and towns?—Among persons from 1 to 60 years of age, the rate of mortality in Dublin is about 75 per cent. above that of the English rates, the respective rates being per 1,000—Dublin, 18·1; London, 10·4; 33 English towns, 10·5.

99. Dr. J. W. MOORE.—What are the ages?—That is from 1 to 60; I have eliminated the children under 1 and the persons above 60. This is for the large class in between, and it is 75 per cent. above that of the English rates. Among persons of 60 and upwards the respective rates are—Dublin, 94·2 per 1,000; London, 67·9; 33 English towns, 70·6, showing a large excess in Dublin.

100. What is the excess in Dublin at the age of 60 and upwards?—Dublin is 94·2 per 1,000; London, 67·9, and the 33 English towns, 70·6.

101. What is the percentage above the English towns?—More than 30 over the 33 English towns.

102. CHAIRMAN.—What are the causes of the existing excessive general death rate in Dublin?—Very little of the excessive mortality was caused by what are known as principal zymotic diseases, and, but for the epidemics of measles and whooping-cough in the year 1897, the Dublin average rate would have been below the English town rates, that is for the years 1894 to 1898.

103. What is the birth rate in Dublin?—The birth rate is higher in Dublin by about 8 per cent.; the respective birth rates being Dublin, 33·2; London, 30·1; 33 English towns, 30·7.

104. What is the comparative infant mortality?—I have already dealt with that in Table 5. The deaths under 1 year in Dublin are about 178 per 1,000 births as against 171 in English towns (average); and as Dublin birth rate is above average of English towns birth rate, more of the excessive general death rate is accounted for by the infant mortality than would appear from these figures.

105. What are the principal causes of death in the population?—The principal diseases, other than zymotic diseases, causing mortality, are phthisis, other forms of tuberculosis, inflammatory diseases of the respiratory system, and diseases of the brain and nervous system. Dublin death rate from phthisis is nearly double that of London; in 1898 it was more than double. The average rate in London for 10 years, 1888 to 1897, was 2·0 per 1,000; in Dublin the rate was 3·8. In the year 1898 the respective rates were—London, 1·8; Dublin, 3·9. In 1899 the Dublin rate rose to 4·1.

106. What are the other diseases?—First, other forms of tuberculosis. The deaths in this group include those from mesenteric disease, tubercular meningitis, and those under the heading "Scrofula, tuberculosis." They numbered last year 613, or 2·5 per 1,000 of the population. The mortality from these causes in London is comparatively low, the average rate for the ten years, 1888–97, being 0·8, and the rate for 1898, 0·7 per 1,000. As to inflammatory diseases of the respiratory system (bronchitis, pneumonia, &c.), during the ten years 1888–97 deaths from these diseases yielded an average rate of 6·0 per 1,000, against a rate of 4·3 in London. In 1898 the Dublin rate was 5·7 and the London 3·3, and in 1899 the Dublin rate reached 7·0.

107. Right Hon. Alderman MEADE.—When you

told us the death rate in London, you mean greater London?—Well, not what is now known as greater London, but the registration area.

108. What is the population of greater London?—Four and-a-half millions; that is the London Registration area, and it is not fair to compare greater London with a city like Dublin.

109. Can you make any comparison between Dublin and a portion of London that would nearly approach Dublin in population?—I cannot at the present moment.

110. Have you no sanitary district in London with a population of about quarter of a million?—I find that Pancras, Hackney, and Camberwell Registration Districts have each about that number.

111. But the Registration District of London has a population of four and a-half millions?—Yes.

112. Dr. J. W. Moore.—Are the figures you are giving for the city of Dublin, and not for the Dublin registration area?—Yes, for the city.

113. Right Hon. Alderman Meade.—They are for congested Dublin?—Yes. I have given the city wherever it is possible, and where I have not been able to give that, I have given the next best thing—the registration area.

114. Chairman.—Would you give the deaths from diseases of the brain and nervous system, including convulsions?—The death rate in London in 1898 was 1·8, and in Dublin, 2·9; the 1899 rate for Dublin was 3·2.

115. What do you say as to overcrowding?—Well I have made a note of a few of the matters that occurred to me as the causes of the high death rate, and the first is overcrowding as shown by the density of the population. I have given a table showing that very clearly. This is a town with the highest density of population in the United Kingdom.

116. That is Dublin?—Yes; the next is West Ham, and then London. London is 60 and West Ham is 63, and Dublin is 65·6.

117. Right Hon. Alderman Meade.—Are we dealing with larger London again—the place with 4,500,000 of population?—Yes; and that is 60.

118. Dr. T. Thomson.—You are talking of the census of 1891?—Yes.

119. And since then the density of population has increased in London?—The density is on the estimated population of 1898, but here we are dealing with the 1891 population.

120. Are your figures based on the 1891 census of London?—No, it is the estimated population in 1898. The Registrar-General of London has estimated the population in 1898; but we have not been able to do that here, and it is impossible to say whether the Dublin population has increased or decreased.

121. As to the congestion of the poorer classes in the city of Dublin, what do you say?—I have shown by a table that 77 per cent. of the people in Dublin belong to the lower classes.

122. Right Hon. Alderman Meade.—Where do you draw the line?—I tried to do it; it is in the table I have given—the callings or social positions are in five classes.

123. The first, No. 1—the upper class—has 15,000?—The first and second classes are taken as the upper group—that is the independent and middle class—and then the others are the artisans, petty shopkeepers, and workmen; the lower group is 77·5 per cent., and then the difference is made up of the others.

124. Chairman.—The two groups are the professional and independent and middle classes, 22·5 per cent.; and the artisans, &c., 77·5?—Yes.

125. Right Hon. Alderman Meade.—This table takes 15,579 as the population of the first class, and 81,469 as the population of the second class, and that would be 96,000?—That is the total registration area.

126. But it would not be 22 to 77?—The two classes you refer to make up the higher group for the Dublin registration area, and the figures in the table are for the city.

127. Then this table is of no use in comparing Dublin proper?—No it is only to show how the groups are made up.

128. I see in Table 2, "Social Condition of Inhabitants," 55,000 is the population of the professional, independent, and middle classes; and 189,000 is the population of what are called artisans, petty shopkeepers, general service class, and inmates of workhouses, and that gives a percentage of 22·5 to 77·5; while in the suburban districts, the population of the first class is 42,000 against 62,000 of the other classes, and that gives a percentage practically of 40 to 60?—Yes, that shows the great difference of the composition inside the city area as against the outside; there is not only overcrowding, but it is congestion of the lower classes.

129. Chairman.—As to house accommodation?—There is no doubt that another cause of the high death rate is the bad house accommodation. I know a great deal about the tenement houses in Dublin, for I have had an extensive experience of them, and they are very bad, and no doubt that must add largely to the increased death rate.

130. Right Hon. Alderman Meade.—We don't personally know what the composition of these houses is. Some of the Commissioners do not know the character of the tenement houses, and perhaps you would explain it?—For a great number of years back, in certain localities in Dublin, houses that were formerly occupied by the better classes have gradually become houses which are let in tenements, and occupied room by room by the poorer classes, and you will consequently have a great number of families or individuals living in one of these houses. It is a common thing in many streets, not only on the north side, but also all over the city, that houses gradually descend, from being let to the better class of people, to being let in these tenements or lodgings, and the condition of many of these houses is undoubtedly very, very bad.

131. Chairman.—Not only the houses are divided, but the rooms are divided?—Yes. I stated in my evidence before the Boundaries Committee of the House of Lords, that a case came under my own notice where there was in the Coombe in Dublin, a room, the four corners of which were let out to tenants, and the landlady lived in the middle. It was one of the occupants of a corner that I was interested in, and she told me the fact, and how much each paid in the week, and that the landlady had a sort of little screen in the centre, and there she lived in the centre of the room.

132. To what other causes do you attribute the high death rate?—Another cause is poverty, and the want of proper clothing, particularly boots. You see children going about without any boots, and no doubt, in this climate it must be very injurious. There can be no doubt poverty, and want of proper clothing and proper food contribute to the death rate.

133. Is there any other cause you specify?—Then a very serious cause of the high death rate is intemperance I am sorry to say.

134. Have you any statistics as to that?—I have the convictions for drunkenness, and according to the Police Report for 1898 there were 28 per 1,000 of the people of the Metropolitan Police District convicted for drunkenness.

135. Right Hon. Alderman Meade.—Can you say how many of these would be habitual offenders, convicted more than once in this year?—I could not answer that now, but very likely we have got it in the report.

136. Chairman.—Can you contrast that figure with any other towns?—Well, I tried to do it, but I had not time. I had very short notice, and it was not possible to do it in the time.

137. Well we would be very happy to hear evidence from you again when you have more matured on that subject—you also specify neglect of sanitary precautions?—Yes, that is another thing in these tenement houses; the tenants are utterly regardless, speaking generally, of sanitary arrangements. If you go into these places you will see they are utterly regardless of what is provided for their use as a rule, and when a number of these people get together, and there is that general neglect, it must affect, more or less, the death rate of the locality.

138. As regards slaughter houses and dairies, what have you to say?—There are a large number of private slaughter houses in the city, which I understand are in congested areas, and there are dairy yards also in the congested portions of the city.

139. Right Hon. Alderman MEADE.—Do you object to dairy yards as dairy yards, or dairy yards that are unsanitary?—It would be better to have them outside any congested area. They are not the best places to keep milk, and it is certainly not desirable to have it in them.

140. CHAIRMAN.—But you can only give us general information about that?—Yes.

141. Insanitary areas—what do you mean by that as one of the causes of death?—I think there are large blocks of streets that are, from their position, insanitary from the surroundings, and there are lanes where the houses are close together, and the people are huddled together in these very narrow lanes, and I think the only thing for them is to clear them.

142. You don't refer to any particular area?—No.

143. What do you say as to scavenging?—I understand in Dublin the practice is only to clear the ash-bins three times a week; but in the township where I live—Kingstown—the carts go round every day, and the bins are cleared, so much so that I had an ashpit in my garden, and that is now turned into an ornamental plantation—we had no further use for it. They come every day and remove the ashes from the bin, so that there is no necessity for having any accumulation of ashes or refuse of any kind.

144. How do the ruined houses affect the death rate?—They do in this way. If they are not properly fenced they become places for the accumulation of filth; anyone will see that where these ruins are in existence. I understand that in the principal streets the refuse is collected daily, and that it is only in the streets with tenement houses that the bins are cleared three times a week only; but these are the worst, and they ought to be cleared every day.

145. What do you say as to private lanes and streets—I understand that there are a number of localities not under the jurisdiction of the Corporation?—I think the Corporation ought to have jurisdiction over everything inside the city boundaries. How can they keep these streets unless they have that jurisdiction? But I suppose the Corporation will give evidence about that.

146. Have you any evidence as to the geological formation of the city?—Yes, I have a geological map of Dublin, but you can have an officer from the Geological Survey to testify as to that. The fact is perfectly well known and not disputable as to the peculiar unhealthy geological formation of the city site (map produced).

147. You cannot tell us the precise quantity of drift?—No; but there is a department specially for that—the Geological Survey—and you have nothing to do but ask one of the officers to attend and explain this map.

148. What do you say as to underground streams?—I took the trouble to make out a map showing as far as could be made out the course of the underground streams in Dublin—it is not generally known, perhaps, that there are a number of underground streams in Dublin. They are shown in blue, red, green, and yellow on the map, and I believe myself these streams have a great deal to do with the death rate.

149. But the portions under ground are not defined?—No, some are over ground and some under ground; for instance, there is the Poddle; part of it is open, and it goes under portion of Patrick-street, and runs underneath the houses and close to the houses, and the rats, no doubt, burrow from these underground streams in all directions. A case came under my notice in the suburbs of a river that is not marked on that map, where illness and death were caused by rats burrowing from one of these underground streams through the bottom of the house, and that was a house occupied by well-to-do people.

150. How many of these underground streams are there?—Mr. Harty will be better able to tell than I could. There was one that went under Trinity College, but I am told it is partly intercepted. I have no doubt the existence of these streams has a good deal to do with the increased death rate in these congested districts.

151. Do you wish to say anything about the suggested remedies?—Well the overcrowding and congestion of the lower classes might be remedied by providing increased accommodation for the artisan and labouring classes outside the present city area; and as regards tenement houses I am afraid you will have to get increased legislative powers for dealing with them. With regard to the poverty, I don't know what can be done about that; and as to intemperance I think there ought to be some limitation on the licences to sell drink, and also legislative prohibition against selling drink to children. You will see them going into public-houses, where little children ought not to be sent at all.

152. Dr. J. W. MOORE.—During your evidence you have been dealing with the population of Dublin as calculated in 1891?—Yes.

153. You are aware that the population of Belfast is estimated to the middle of the present year?—Yes.

154. How has that been done?—Well, that has only recently been done, and it was done upon special evidence that was tendered to the late Registrar-General by the Lord Mayor of Belfast as to the number of houses, and he considered he had enough evidence to warrant him in making a change in the population; but we have not got that evidence in Dublin.

155. As a matter of fact in your report now that amended population of Belfast is given?—Yes.

156. And the same thing exists in London by your own showing?—Yes.

157. Is there any reason why the population of Dublin could not have been estimated year by year?—You can only estimate on certain data, and these we had not; and as regards the two previous censuses—one went one way and the other went the other way—so that you could not tell which way the population was moving. In 1851 the population of the city was 258,369, in 1861 it fell to 254,808, in 1871 it fell to 246,326, in 1881 it rose to 249,602, but in 1891 it fell to 245,001, so that you see it was fluctuating. We know what we are dealing with when we have the 1891 census, but here you might be making an estimate which would be quite fallacious, and that is the reason the late Registrar-General did not feel at liberty to make an estimate.

158. You know the births and deaths, and so far it is plain sailing, and a calculation could be made?—Yes.

159. But you do not know the emigration?—No, not for the city as distinguished from the county of Dublin, neither do we know the migration.

160. You have given the zymotic death rate for 1899 in Dublin as 5·4 per 1,000?—Yes.

161. I presume that table on the wall is the Corporation table?—Yes.

162. I see there the figure 4·47 as the zymotic death rate?—Yes.

163. Have you deducted in your estimate the deaths of persons admitted into public institutions in Dublin from outside districts?—I have.

164. Then I cannot explain the discrepancy. One return is for the registration district, and I have given the figures for the city.

165. In giving the death rates you mentioned that between the ages of 1 and 60 years the death rate in Dublin is 75 per cent. above the English rates, the figures being 18·1 for Dublin, and 10·5 for the 33 English towns, and 10·4 for London?—Yes, that is between 1 and 60.

166. Is that, in your opinion, partly explained by the high phthisical death rate in Dublin, which, of course, falls on the young and middle periods of life?—I think so, largely.

167. Phthisis must largely account for it. You mentioned that the Dublin death rate from consumption was nearly double that in London?—Yes.

168. And you also mentioned that the mesenteric form of tuberculosis was very prevalent in Dublin?—Yes.

169. Are you of opinion that the milk supply had a good deal to say to that?—I don't know. That is rather a question for the Local Government Board.

170. Dr. T. Thomson.—You told us about house accommodation, and you divided it into four classes. I wish you to be quite clear as to your distinction between those classes?—I read from the census report:—"The accommodation which houses afford has been arranged in four classes, namely—first class accommodation, consisting of first class houses, occupied by one family; second class accommodation, consisting of second class houses, occupied by one family, and of first class houses occupied by two or three families; third class accommodation, comprising third class houses, with one family each, second class houses with two or three families, and first class houses, occupied by four or five families; fourth class includes all fourth class houses, third class houses with more than one family, second class houses with four or more families, and first class houses, inhabited by six or more families." You will also see the principle upon which it is done.

171. It is rather like the definition of a nuisance; a nuisance is a nuisance—a first class house is a first class house; but how is a first-class house otherwise defined?—By the value of the house. It depends on a certain number of things—the number of rooms, the solidity and durability shown by the walls and roof, and such like conditions.

172. You gave us some information, also, about the social groups of Dublin population, and you added them up into two main groups formed out of five. In these particulars that you gave, do you deal with the whole registration district?—No, I have given them for the city. I put in the suburban districts just for the purpose of comparison, but the table is one for the city.

173. You have given one table for the city, and you have also a table of the deaths for the whole registration area?—Yes.

174. These figures were got, I presume, by adding together the figures from the registration sub-districts?—The figures with regard to the social condition were got at the time of the census.

175. Was not that information, at the time of the census, got in each of the sub-districts?—Yes.

176. Was not the information provided from each registration sub-district, and the total added together to make the information for the whole registration district?—Yes, the information would have to be made up. It was made from the original householders' census forms, and it would be made up from the sub-districts.

177. And that being so, is it possible to get at the information as regards each registration sub-district?—It would be a heavy piece of work.

178. The Committee desire to consider the health of particular areas in Dublin as well as of the whole city, and if this information be provided for each of the sub-districts, it will materially help the Committee, as they will be able to consider the influence of social and other conditions on particular localities. Is that class of information available for sub-districts of the city of Dublin?—You want the relative proportion of upper and lower classes by sub-districts.

179. Yes?—We can do that.

180. We have a similar feeling about a good deal of your statistics. We wish to have information for smaller areas. It would be a distinct advantage if we had the particulars of the sub-districts, so as to contrast one neighbourhood with another. This table gives certain information with regard to sub-districts, but not information concerning all causes of death?—If you want it in detail——

181. Is this class of information readily available as regards causes of death other than those contained in this table?—We will have to go back over the sheets; but if you indicate what you wish I will do my best to give every information. There is one thing we can give you in the direction in which you ask. We can take out the deaths by causes, and by streets, and even by houses. You could see not only the deaths that occurred in every street, but the deaths that have occurred in each house in each street. It will take some time to do it, and of course it will not be for a very long period, as it would involve too much work, but for two or three years you can get it.

182. It is not necessary to give such information to such an extent as that; but it would be an advantage to have information regarding sub-districts. You have also given us the deaths under 1 year of age, 1 to 60, and over 60, and there again it occurs to me it would be an advantage to have more detailed information. Is it not practicable to group the deaths from 1 to 60 by periods of years—5 years, 10 years, 15 years of age, and so on?—Of course I can give that for the registration area, but the difficulty is in getting it for the city.

183. Can you give us that information in the same way?—Yes, but it will entail a good deal of trouble and expense.

184. But I am asking without any relation to the consideration of expense—it is for other people to settle that?—It can be done.

185. Can that information be given in regard to the registration of sub-districts?—It can; I will have to tabulate them over again. In the weekly return of deaths, the deaths in institutions are distributed to the place from which the person came.

186. Dr. J. W. Moore.—Is that deduction made anywhere else?—For some purposes I see they do it, but I think they don't do it with completeness.

187. Dr. T. Thomson.—You made some reference to poverty when considering the possible causes of the high death rate; have you any statistics bearing on that subject, or does that come within your cognisance?—Relief statistics come within the province of the Local Government Board, who could afford you information regarding the number of persons relieved.

188. That would be as regards in-door pauperism and out-door relief?—Yes; information might also be obtained from charitable societies——

189. The information they would give would not come within your knowledge?—No.

190. You made some reference to intemperance—as I understand, your facts were based on the number of convictions for drunkenness?—Yes, partly; but, unfortunately, it is only too well known that intemperance is the source of a great deal of the poverty.

191. But it is a question of comparison of Dublin with other places. Supposing you had comparative

statistics of convictions for drunkenness would you consider these statistics as affording reliable information as to the amount of drunkenness in Dublin?—Yes.

192. Would it not depend on relative strictness with which the law is carried out in Dublin and elsewhere?—Yes, as regards the comparison, but the Dublin figures speak for themselves. Before I leave the witness chair might I add with regard to the subject of death-rates that the question of domestic servants engaged in the suburbs, is one among many that bears on this. They live in the suburbs under good conditions, but when they finally leave their situations they come into the city, and end their days there, and that fact must be borne in mind when considering death-rates, because except in the case of infectious disease it is very seldom a servant dies while in employment. About one-tenth of the population of Rathmines would be domestic servants, and the same way with Pembroke. Almost all of these gravitate to Dublin, and it raises the Dublin death rate—at least it helps it very much, and causes the suburban death-rate to appear less than it really is, as those servants are included in the suburban population upon which the rates are calculated. Then, again, the birth rate in the suburbs is very low as compared with the city, and where there is a high birth rate there will be a high death-rate as a matter of course almost. That, also, tends to raise the city death-rate as well. I am sorry the very short notice prevented me giving you fuller information, but I tried to give you as much information as I could obtain in the time.

Sir Francis MacCabe examined by the Chairman.

193. You were a member of the Royal Commission in 1879?—Yes.

194. And also a Commissioner of the Local Government Board for Ireland?—Yes. I have the honour to appear before this Committee as a witness, because I think it may be convenient at the outset to state generally what was the nature of the evidence that we received before the Royal Commission that sat in 1879; what were the principal causes then alleged for the high death rate which at that time also attracted attention, and also to shortly refer to the recommendations that we made; to state, as far as I know, how far these recommendations have been carried out; and also to mention my own view respecting the causes of the high death rate, and the direction in which I think the remedy ought to be sought. The Committee are probably aware that the Royal Commission that sat in 1879 continued its inquiries—not only public sittings, but inquiries generally into the condition of Dublin—from a period extending from September, 1879, to November, 1879. We reported in 1880. The Chairman of the Commission was the late Sir Robert Rawlinson, and the specific points that were referred to us for inquiry were—first, the condition of the sewage and drainage of Dublin in so far as they affected the public health; secondly, the condition of the Liffey, in so far as that condition affected the public health. Well, in such an inquiry as that, I need hardly say that it would be impossible to select a chairman who was more peculiarly qualified to preside than the late Sir Robert Rawlinson, who was upon matters of urban sanitary administration the greatest living authority at the time. And it is due to his memory to say that the most valuable of the recommendations made by the Commission are owing to his great insight into the whole of the facts. When we opened our inquiry and read the Royal Warrant stating what were the limits of the investigation, we found that there was such a very strong and general feeling that the whole of the contributory causes towards the high death rate should be included in our inquiry, that we yielded and stated that we would refuse no evidence that appeared to be connected directly or indirectly with the strict letter of the investigation. We had the advantage of hearing the most eminent witnesses who were at the time the highest authorities upon the particular subjects respecting which they gave evidence. We had very eminent members of the medical profession; we had engineers of the highest reputation, and on the subject of figures and statistics the highest living authorities connected with them. The inquiry on the whole was a very full one, and very briefly as the alleged causes I may mention, that one or other of the witnesses whose testimony was entitled to great weight put forward as the most probable causes of the then high death rate, the fact that throughout Dublin, particularly in the congested districts that included tenement dwellings, the yards were not properly paved; that the system of filth removal was defective; that domestic scavenging was defective. A great many advocated the removal of privies, that greater care should be exercised with regard to the supervision of the tenement houses, that water should be brought into the tenements, that the streets of Dublin were defective in respect of cleansing, and that the system of drainage and sewerage required improvment, particularly with reference to the drainage of individual houses. In our report we made recommendations upon all these subjects, and in addition to them, taking them *seriatim*, we advised that all the yards attached to the tenement houses should be paved, and that proper channel courses should be made, that ashpits should, as far as possible, be abolished, and for privies closets should be substituted. The system of the removal of excreta in Dublin was a system of water carriage, and we advised that there should not be any partial departure from that amongst tenement dwellings. We also advised that baths and washhouses should be provided for the poorer inhabitants, and that there should be greater supervision exercised over the trough closets, and that inasmuch as the system of storage of water in the different tenements was very defective, often very objectionable and frequently not sufficient, we recommended that water should be laid on in the tenement houses. Of course, there was a great deal of evidence put before us with reference to the class of people who occupied these houses; that they interfered with the fittings and destroyed them, and that they were frequently torn away, and that sometimes the lead piping was stolen. But we thought, notwithstanding all that, if greater supervision was exercised, the benefit to the public health from the introduction of water into each tenement would more than counterbalance the inconvenience that might attend the system. With reference to the drainage and sewerage some recommendations were made, and I think the Corporation officers would be able to tell how far these have been carried out. It was with reference to the construction of new sewers, the improvement of the bottoms of existing sewers, and a better system of ventilation of sewers—these we all considered in our report, and I think that the Corporation officers will be better able to tell you what has been done in that respect. We also made recommendations with reference to the slaughter houses and dairy yards. In so far as they were situated in unsuitable places. So far as these points to which I now refer were concerned, I can only say that within a very short time of the issue of our report, I was a pretty regular attendant at the meetings of the Public Health Committee, and I may say, with respect to the works that we had advised, I found that the only anxiety

that existed on the part of the Committee was as to their borrowing powers—they were quite ready and willing to carry out all our recommendations, but the resources of the Corporation were limited. However, I can say that within a very short period of the issue of our report I myself held inquiries in the City Hall into applications on behalf of the Corporation, as the Sanitary Authority, for loans amounting to over £178,000, for the purpose of carrying out these recommendations made in our report. The only question I ever heard raised at the meetings of the Public Health Committee was, whether they could afford to carry out this or that particular work, and never a word as to their willingness to carry it out. In 1885, our report having been issued in 1881, I for a time became connected with another department. The Government desired that a sanitary survey of the prisons of Ireland should be made, and I was made a member of the Prisons Board, with the object of carrying out that survey. Then, in 1888, I returned to the Local Government Board as Medical Commissioner, and I think in the interval between 1885 and 1888, the chief engineering inspector of the Local Government Board held other inquiries on applications for very large sums for the purpose of improving the sanitary condition of Dublin, and it is within my knowledge that so frequent were the applications for loans, and so repeated were our recommendations that the loans should be granted, that the Treasury wrote to the department with which I was then connected, asking whether we had considered how very close to their margin of borrowing the Corporation were coming in these repeated applications. Of course we informed the Treasury that these were all very pressing works that had been recommended by the Royal Commission, and they at once withdrew their objection and sanctioned all the loans. So far with reference to these. There were two other points dealt with in our report. One was the question of main drainage. We recommended that the purification of the Liffey should be carried out, and I believe the Corporation would at once have carried that out but that their borrowing powers were very nearly exhausted, and in addition to that, it is very remarkable that before our Royal Commission witness after witness, very much to my surprise, appeared to attach small importance to this question of the purification of the Liffey. They did not think that the condition of the Liffey had any sensible effect in increasing the death rate. Well, I must confess that we were obliged, as I presume every Commission and Committee is obliged, to report in accordance with the evidence placed before us, but my own opinion, individually, was that the condition of the Liffey had something to do with the death rate. I don't for a moment contend that this or that disease could be traced to the state of the Liffey, but I think anyone who has walked along the Liffey when the temperature is moderately high, anything over 55 degrees, could not fail to notice that there is a large escape of gases from the deposit of sludge at the bottom of the river, and in fact spumous masses of sludge may be seen rising charged with gaseous exhalations. We know that they consist of sulphuretted hydrogen, carburetted hydrogen, ammonia sulphide, and carbonic acid gas. These are all poisonous gases, we know that all these gases individually are injurious to health, so that I always entertained an opinion that the purification of the Liffey would favourably affect the public health in this respect; that it would be giving to the inhabitants of Dublin greater power of resisting disease than they possessed under the unfavourable condition that the Liffey then presented. I am glad to say that that work is now approaching completion, and I shall be greatly surprised and disappointed if the results are not what I anticipated—an improvement to the public health. Whatever differences of opinion may have been shown amongst the witnessss we examined they were all agreed upon one point, and that brings me to what I consider to be the very pivot upon which the whole question of the death rate turns. All the witnesses were agreed that the tenement dwellings in Dublin were the main causes of the high death rate, and in order that the Committee may appreciate the importance of that point, I should like very shortly to give them a few figures that were put before us. It was stated in evidence before us that of 23,830 houses, which was the number then existing in Dublin, 9,760 were occupied as tenement houses, and that 2,300 of these, occupied by 30,000 persons, might be described as unfit for human habitation. It was said that out of a population of 250,000 in round numbers no less than 117,000 lived in tenement houses. I know that since that period of course areas have been extensively cleared by the Corporation, and therefore I cannot say exactly whether that description applies to the present day, but I imagine that a very large proportion of the poorer class of the population still live in tenement houses which admit of very great improvement. Mr. Young, of Glasgow, who was a very competent authority, gave evidence that a large proportion of the tenement houses should be condemned as unfit for human habitation. Mr. Boyle, an excellent officer, who was then Executive Sanitary Officer, described the tenement houses "as standing upon subsoil which was one mass of organic matter exhaling all sorts of odours, the saturation extending to the walls, and being carried up in them; the timbers resting on them rotten," the staircases and floors frequently covered with expectoration and sometimes with foecal matter. That I have witnessed myself, and we have just heard that the death rate from phthisis in Dublin is high. We know from recent investigations as to the mode in which phthisis may be propagated, that nothing could be more injurious than the presence of expectoration in these passages common to all the inhabitants of the house. We know also the great duration and the activity of pathological germs in old timber and old walls. There is the classical case in Paris where an examination took place after seven years interment. Some question had been raised whether the person who had died had died from poison, the fact being that he had died from malignant smallpox, and every person who assisted in that disinterment took smallpox. I am sure some members of the Committee are aware that in Stephenson and Murphy's Hygiene, which is one of the highest and most recent authorities, there is a case referred to where the infection of scarlatina had continued for thirty years. It is a well authenticated case; in fact, it is a matter of common medical knowledge, that it is almost impossible to say, with reference to old timbers and material of that kind, how long the activity of a specific *contagium* may continue. That description of the tenement houses at that period is borne out, I may say, by my own inspection of them at the time. I have not had an opportunity of inspecting them since, and I don't know what their present state may be, but I believe it is greatly improved; because I know that the sanitary authority make almost constant inspection, not only of the tenement houses, but of every individual room of these houses, and that from day to day whatever is objectionable is dealt with. I think, however, that the Royal Commission were quite justified in saying that the tenement houses of Dublin are "*the prime source and cause of the high death rate*"; but to my thinking the excessive density of the population in Dublin is really the cause of the high death rate. Of course tenement houses show us what is the particular condition in which that dense population lives. It is in every way highly unfavourable to health, and I should like, on the question of density of the population, to say a few words. You have just heard from the Acting Registrar-General certain evidence, and I made a note, as I happened to be present when he gave similar evidence, and put in certain tables before a Committee of the House of Lords inquiring into another subject. These tables

were with reference to the thirty-three English towns which are dealt with weekly by the Registrar-General for England, and they showed that the metropolitan area of Dublin—the municipal area—has a higher density of population than any town of the thirty-three, and higher than any town in Scotland; in fact, I know of no place—except, perhaps, certain districts in Bombay—where there is in the Empire a denser population, if you take it for the whole area, and if you remember that in Dublin such large open spaces as St. Stephen's Green, and such wide thoroughfares as Sackville Street, are included in the calculation of the specific population, as it is now given, of 65·6. I should like to remind the Committee that all sanitary authorities are agreed respecting the unfavourable influence on the public health of a high density of population, and to quote one authority on the subject, because the author of the work is a member of this Committee. In the "Manual of Public Health for Ireland," of which the eminent President of the College of Physicians is one of the authors, the principle is laid down that density of population is one of the principal conditions influencing the spread of such disease (speaking of zymotic disease), and the age, condition, and structure of the streets and houses is another condition. That authority states, as regards Dublin, that "it is a notorious fact that old houses in old streets of old towns are the favourite haunts of zymotic disease. It is here that we find poverty, hunger, and dirt, combined with overcrowding, all being promoters of zymotic disease." That is applicable to every city with a very high density of population, but in a special degree it is applicable to Dublin on account of the character of that population. You can gather from the evidence of the Acting Registrar-General, although he did not put it exactly in those words, yet you could gather it from the evidence he gave respecting the proportion of the well-to-do and the poorer classes in Dublin, and you will find the evidence given before our Commission as to the rents paid for these individual rooms, that a large proportion of the population of Dublin living in these tenement houses really live on the border land between habitual privation and absolute destitution, and on that point, which has just been referred to respecting intemperance, the same high authority that I have just quoted—the President of the College of Physicians—says:—"Comfortable dwellings will do more to promote sobriety than any amount of legislation or teetotal agitation." I quite agree with him in that. I confess that although I may call myself a total abstainer without being a professed teetotaler, if it was my fate to be a working man in Dublin, and that after a hard day's work I was obliged to return to the squalor and discomfort of a room in one of these tenement houses, I should greatly prefer to spend my evening in the bright surroundings and warmth and attractiveness of a well-conducted public house. I think the Committee will gather from what I have said that I look upon the tenement dwellings of Dublin as the prime source and cause of the high death rate, and that there is only one remedy for it. It is a very great task to face that remedy; but I think you will never reduce the death rate of Dublin to reasonable proportions and keep it permanently low, until you remove to the suburbs a very large proportion of the population of Dublin. I think that at least 50,000 people, say 10,000 families, of the better class artisans and labourers must be transferred to the suburbs of Dublin before you can reduce the density of the population. That number would reduce it from 65 to about 50, and it would be an advantage to the working people themselves, because a very large number of those who crowd the tenements of Dublin really go out every morning to work in the suburbs, and you would place them near their work. That only is the remedy, but its application would require a great deal of time and a great deal of patience, and a great deal of money, and perhaps it may be said—Can you tell us any place where so heroic a remedy has been adopted? Well, I can. In an article entitled "Indian Affairs," in the *Times* of Monday the 28th of August last, the case of Bombay is taken into consideration. The municipality of Bombay, naturally alarmed at the progress of the plague, have really faced the difficulty of the high density of population, which they too regard as a most unfavourable circumstance connected with their sanitary condition, and the article says:—"Bombay has an excessive density of population, and in combatting the plague the Bombay Sanitary Authority are aware that the condition of filth and overcrowding is favourable to the development of the bacillus plague, while sunshine and oxygen kill it. In addition to the cleansing resources and ample water supply and sanitary science, it is reconstructing the whole plan of the crowded parts of the city. The easy railway communication with the suburbs renders it possible in Bombay to spread out the people." And now, as to Calcutta, the same writer observes:—"The more permanent problem of spreading out the people has been taken up with equal determination, and the telegraph recently announced a scheme for opening out the overcrowded quarters by new thoroughfares at a cost exceeding five hundred million rupees" and, he adds, "any demolition, on a large scale, of the existing accommodation for the middle and poorer classes in Calcutta, would cause much misery, unless facilities are given them to spread out into the suburbs." That description exactly applies to Dublin. The Corporation have found that when they visited these rooms in the crowded tenement dwellings that there was not sufficient cubic space per head, and have forced the people to leave them, and they have really transferred the overcrowding from one house to another, or one district to another, or from one street to another. The whole area was too crowded, and the reason I dwell upon that point is that I attach so much importance to reducing the specific population. Now, with reference to what I have read as to Bombay and Calcutta—perhaps the Committee will be surprised to hear what is the density of population. Through the courtesy of the Medical Officer of the Local Government Board in England I have been able to obtain it. Bombay has an area of 14,080 acres. It has a population of 821,764. The density per acre is 58. Dublin is 65·6. Calcutta has an area in acres of 12,800; a population according to the census of 1891 of 681,560, and the density per acre is 53. Dublin is 65·6. Of course these very great and costly undertakings of the Bombay and Calcutta municipalities are taken under the apprehension caused by the presence of plague, and in order that I may not overstate the case in any way I should mention that the Medical Officer of Health of Bombay, in his last Report, says that there are portions of the city of Bombay that have the highest specific population of any city in the Empire. Well, I would ask you to remember from the evidence you have just heard from the Registrar-General that there are portions of the city of Dublin where the population is twice the average per acre as 65·6, and if my memory serves me right he gave some parts as 124. I think that was his figure. Just twice what the average density per acre is. There is just one other point to which I would like to refer, that I think has something to do, at all events with the progress of zymotic disease in Dublin, and that is the fact that the whole suburbs of Dublin as well as Dublin itself is not under one Sanitary Authority. With reference to the Disease Notification Act of 1889, you may be driving along the streets, and yet not know absolutely that you have passed out of Dublin, and that you may have got into a district where the Disease Notification Act is not in force. It would be a great advantage that it should be enforced all through the whole of the registration area. The intercommunication between the different suburbs in Dublin is so close that it would be, in my judgment,

a great advantage that the whole sanitary administration should extend to that area, so as to have uniformity of administration. The last point to which I have to refer, because I think it exercises an unfavourable influence on the health of Dublin, is the situation of the two Hospitals that at present receive small pox patients. The members of the Committee, I am sure, are aware of the result of the investigation made by Mr. Power of the English Local Government Board with regard to the influence upon the health of surrounding districts of the situation of small pox hospitals. The two Hospitals that receive small pox in Dublin are the Cork-street and Hardwicke Hospitals. In former years I have frequently visited Cork-street Hospital, and no Institution could be better managed, and it would be impossible that a patient could be better treated, but it is unfair both to that hospital and to the densely inhabited district in which it is situated that it should receive small pox patients. The situation of the Hardwicke Hospital is, if possible, worse. The entrance to it is in a crowded thoroughfare. One side of it looks into the North Dublin Workhouse, with a population of over 2,000. Its entrance is quite close to the Whitworth Hospital and the Richmond Lunatic Asylum, with a population of over 2,000. The Royal Commission which sat to inquire into the subject of disease, particularly the dissemination of small pox, through the atmosphere, and the influence of such hospitals on the health of the neighbourhood, arrived at the conclusion "that large small pox hospitals in populous neighbourhoods have proved appreciable sources of infection to their neighbourhood." These are the points which I wish to bring before the Committee, and I am very much obliged for the patience with which you have heard me.

195. CHAIRMAN.—We are very much obliged to you.

196. Dr. T. THOMSON.—Have you had an opportunity of considering the high death rate of Dublin in relation with particular causes of death?—I have from time to time looked into it, but I have not got the figures, and I would not give them from memory, because it was within my knowledge that the acting Registrar-General would give evidence on the point, and his evidence would be infinitely more accurate than mine could be.

As a matter of statistical information, he would be the proper source; but I had rather in my mind whether you, having noted the mortality figures for Dublin, had in any way formed an opinion as to possible relation between certain causes of death and certain conditions which, within your cognizance, exist in Dublin. Whether in fact the insanitary conditions you know to exist in Dublin have relation to certain causes of death being in excess of the ordinary amount?—I have just mentioned with reference to phthisis, as to the way in which our poor people are crowded together—some of them with phthisis in more or less advanced stages—and I consider that that must have an important influence. I have looked at it from different points of view, and from the evidence of the Registrar-General I took a note of this, that the average deaths in Ireland, according to the evidence of the late Registrar-General, is 91,000 in the year, and of these 13,000, or 14 per cent., are occasioned by tuberculosis. I have noted that the population of the Registration area of Dublin is just one-thirteenth of the population of Ireland, but that the deaths from phthisis are about one-tenth, and that if there was no excessive number of deaths in the tenement houses arising from phthisis we should have 1,000 deaths due to that cause, instead of having, as we had in 1898, 1,232. I noted that point, and there were some other points I had made a note of for my own information; but I generally avoided giving evidence on statistical matters of that kind, for I have always had the advantage as to any Committee, before which I gave evidence, of having the presence of the Registrar-General.

Yes; but what I wish to hear from you is not the actual figures regarding the causes of death, but whether you—having arrived at a conclusion as regards the relation between phthisis and overcrowding of tenement houses—have any similar deduction to make regarding relation between any other disease and any other insanitary circumstances in Dublin?—No; I have not worked that out.

197. Dr. J. W. MOORE.—Sir Francis, as one of the remedial measures you propose, you suggested that about 50,000 working-people should be drafted into the suburbs?—Yes

198. Would these working-people—that is the better class of labourers, and so on—come from the tenement houses?—A large number of them would come.

199. The reason I ask is that you are very well aware the Dublin Artisans' Dwelling Company and the Corporation of Dublin have recently very extensively provided for the wants of what I call the well-to-do artisan class and the well-to-do and sober labouring class?—Yes.

200. But that would hardly hit the grievance of the tenement houses?—I think there is a large number of artisans still living in tenement houses in Dublin. If you take the numbers given by the Registrar-General, and the proportion of these classes, I think it must be apparent at once that the accommodation that has been so admirably provided by the Artisans' Dwellings Company, and by the Corporation, is totally inadequate for the number returned in the artisan class. It is difficult to differentiate, for the Registrar-General has grouped them in three classes. My evidence has been given in rather a broad way as to what I consider the remedies. I have not yet approached it as a working problem respecting details. It would be for the Corporation to do that, and, of course, it would be a gradual process.

201. I don't know whether you have inspected in past years the Workhouses in Dublin?—Yes; frequently.

202. Have you ever had any reason to complain of overcrowding in the Workhouses?—Yes; it has been a constant cause of complaint.

203. I intended to ask the Registrar-General, but I omitted to do so, a question on this subject. I find on referring to the Registrar-General's return for the week before last that out of 238 deaths registered in the City not less than 41, or more than one-sixth, occurred in the two Workhouses in Dublin, and that seems to me to be an appalling proportion?—Will you allow me to point out that if you could get at the same time from the Local Government Board a classification of the inmates at that time, you will find that a very large proportion of them were hospital patients and they are suffering from sickness. The able-bodied and children are a comparatively small number as compared with those classified as aged and infirm and sick. I suppose the last time I inspected a Dublin Workhouse—I am giving this as nearly as I can recollect—I am quite sure there were quite 1,100 people in the hospital wards and classified as sick or infirm, and that is a large proportion. The present numbers I cannot give you.

204. In connection with this subject, I presume infectious cases are not treated in the Workhouse infirmary?—No.

205. They are removed?—Yes.

206. So that that large number of deaths does not include the number of deaths, which must be large, amongst the young children from infectious diseases?—I think not, unless the accommodation outside rendered it impossible for them to obtain admission; otherwise they don't keep infectious disease in either of the Workhouses.

207. Is it your opinion from past experience that in the Workhouse you have a standing menace to the health of the City?—Yes, from overcrowding.

208. Both as regards the number of deaths and as regards their acting as *foci* from which much disease is spread?—I think their overcrowded condition, particularly that of the North Dublin Workhouse, is a source of danger, and it is in the midst of crowded institutions; and I think also that the Hardwicke Hospital is a source of great danger to the Workhouse.

209. In regard to the treatment of smallpox patients—happily we have none at present in Dublin—what would be your suggestion?—My suggestion would be that a smallpox hospital for the whole of the registration area should be provided somewhere well removed from the municipal boundaries.

210. You are aware, of course, that repeated attempts have been made to establish that?—Yes; and that is another argument in favour of united administration for the whole of this area.

211. You are very strong on that?—Yes; very strong, indeed, in the interests of public health; and we know in London that it has been much easier to deal with smallpox since they removed the smallpox hospital a distance down the river.

212. You are in favour of the notification of infectious diseases?—Absolutely in favour of it. I have always been a very strong advocate of that.

213. You don't agree with certain medical opinions recently advanced on that subject?—Certainly not. I totally disapprove of them. I think the Act is the foundation of all sanitary administration with regard to the spread of zymotic diseases and for the prevention of epidemics. It is, in point of fact, to the sanitary authority and municipal corporations what the notice of a fire is to the fire brigade. If you don't tell the sanitary authority that cases of dangerous infectious disease exist in one of these rooms of a tenement dwelling, it will spread, just as fire will spread from room to room and from house to house.

214. I think you have conveyed to us that you are also of opinion that the working of the Notification Act is interfered with by the want of accordance in its adoption by the different sanitary authorities—one adopting it and the other not?—That is what I desire to convey.

215. You are aware that several of the townships have not adopted it?—Yes.

216. And that others have put in a certain disease, measles, while others have left it out?—Yes.

217. And you think that that interferes with the working of the Act?—Yes.

218. And you are aware that that is compulsory throughout England, Scotland, and Wales at present?—Yes.

Dr. F. T. P. Newell examined by the Chairman.

219. You are a Medical Officer of Health for No. 2 South City District?—Yes.

220. You made a report to Sir Charles Cameron on the 4th of December?—I did.

221. Have you anything to add to that?—No; I have nothing special to add to it.

222. In your report you say—"In reply to your request for information with regard to the high death-rate of No. 2 South City District during the past quarter, we have to state that we consider it to be due to the large number of cases from diarrhœa, together with the prevailing epidemic of measles. The latter, owing to the inadequate provision for hospital accommodation, has become a very formidable factor in increasing the mortality of the district. The cases having to be treated in their own homes under such circumstances has obviously militated against both recovery and the prevention of the further spread of the disease." You have nothing to add to that?—Nothing, except as to the necessity of having measles treated elsewhere than in tenement houses.

223. You say that the hospital accommodation for measles is inadequate?—Inadequate.

224. And you say that that has become a very formidable factor in the death rate. Is your district one of the most insanitary?—It is, if not the most insanitary.

225. What are the localities you point to as being insanitary?—The district lying between the Liffey and St. Patrick's Cathedral.

226. That includes Patrick-street, Nicholas-street, Cooke-street, Essex-street, and Temple-bar?—Yes.

227. Dr. J. W. Moore.—You have mentioned the necessity which arises for treating measles in tenement houses. Did you treat many cases that way?—I treated thirteen in one house.

228. Are you of opinion that convalescent homes for infectious cases might possibly relieve the pressure on the hospitals?—Certainly it would relieve but it would not remedy it.

229. I gather from your statement that you are in favour of extending the hospital accommodation for infectious cases?—In hospitals exclusively for infectious diseases.

230. Dr. Swan.—In these cases of measles that you state you treated in the tenement houses, was it because there was no provision for their reception at the hospitals?—Yes, there was no accommodation.

231. No accommodation in Cork-street Hospital?—Yes, or elsewhere.

232. What, in your opinion, was the cause of the diarrhœa that produced the high death rate?—I think a large proportion was young children, and I think it comes from bad nutrition often.

233. Would you suggest the food the children got caused it?—Yes, bad food they got; but food that might not in itself be bad might be improper for a child.

234. Dr. J. W. Moore.—Have you formed any opinion whether that diarrhœa which was so prevalent is a zymotic disease?—Well, it has a tendency certainly to occur more at some periods of the year than others.

235. Mr. J. Byrne.—Would you allow me to suggest a question to Dr. Newell with reference to why it was the Committee at Cork-street Hospital——

236. Chairman.—No, I don't think we can do that. You can give evidence yourself afterwards.

237. Mr. J. Byrne.—I sent a communication in which several points were treated, and I am here to sustain them if I am permitted.

238. Chairman.—That would be the same as cross examination by counsel, which we don't wish to have, and we don't wish any examination except by members of the Committee.

239. Mr. J. Byrne.—I submit, if I laid before you points which, in my opinion, conduce to the excessive death rate of Dublin, and that they showed that certain things which could be done were not done, it might be that the Committee would recommend that they should be done in the future.

240. Chairman.—We will see whether we will take that evidence from you or not when you put it before us.

241. Mr. J. Byrne.—I have put that information before you, and will I get notice whether I am to be examined or not?

242. Chairman.—I cannot promise anything at all until your letter comes before the Committee

The examination of witness resumed.

243. Dr. THOMSON.—We see, in your report to Sir Charles Cameron, that you refer to the conditions under which sick persons were treated in their own homes, and you have told us that you have one of the worst districts in Dublin from a sanitary point of view. We shall be glad to have some description from you of the conditions to which you refer?—I refer to tenement houses. Say, houses consisting of six or eight rooms, in which each room has a family. That family might consist of five people, and two of them suffering from infectious disease.

244. All in the one room?—Yes.

245. You mean that the child with the infectious disease is treated in the room in which the family are daily living?—Yes.

246. I gather that you are referring more particularly to measles; but does that occur with other infectious diseases?—Well, until recently I have been able to send them all to hospital, which we invariably do in tenement houses.

247. Then it is the practice to send diseases other than measles to hospital?—Yes, until the accommodation broke down.

248. Has it been your experience that the accommodation has broken down when you were endeavouring to isolate other diseases than measles?—I don't think, in my opinion, it ever came to such a deadlock as this season during the epidemic of measles.

249. Has it ever happened with smallpox?—No, we have always been able to get smallpox cases into hospital.

250. And scarlet fever?—Yes, until the present moment.

251. I understand, then, that recently it has been impossible to get into hospital cases of scarlet fever?—You cannot get them into the Cork-street Hospital.

252. But this has not happened in your district, in your experience, before?—I never failed to get cases of infectious disease into hospital before the last three months.

253. How long have you been a medical officer?—Ten years.

254. What is your opinion as to the sanitary condition of tenement houses?—I think it is very bad.

255. Apart from this question of isolation?—Yes, they are very bad.

256. What are the conditions that you mostly take exception to?—Well, first, I think they are overcrowded; and in the next place, they are in a most dilapidated condition; thirdly, they are not kept clean, and there is no power of keeping them clean.

257. Do you refer to the rooms, or the staircases, or the yards?—Both one and the other.

258. And you have a great many of these tenement houses in your district?—I have.

259. Your district, if I remember rightly, is a district that has a dense population on the south side of the river?—Yes; and you must also bear in mind that it is one of the districts where great clearances have taken place, and very large areas are waiting at present to be built upon.

260. I don't understand what inference you wish to draw from that?—I think the Registrar-General pointed out that his statistics are not very reliable for the present moment. My district is returned as 18,000 in the Census of 1891, and I am perfectly certain it is not anything like that at the present moment; therefore, the density calculation is incorrect.

261. That is, taking it over the whole area?—Yes.

262. The relative density of the inhabited portion is probably as great as ever?—Yes. These tenement houses have, as a rule, only one common water-closet for a number of families.

263. In what condition is it generally?—Very bad.

264. Insanitary?—Yes.

265. Are the immediate surroundings of these tenement houses good—the yards, for instance?—The yards are as a rule not good.

266. In what respect are they not good?—It is very hard to keep them clean.

267. Are they well paved?—No.

268. Would it make it easier to keep them clean if they were well paved?—Yes, or cemented.

269. Are the drainage arrangements of these houses and yards satisfactory?—Not as a rule.

270. In what respects are they unsatisfactory?—The drainage is very often defective and broken.

271. As regards the removal of refuse from these tenement houses, have you any comment to offer?—I think it is sometimes lying too late in the day. I have gone into the houses and found the ashbin overflowing about 12 or 1 o'clock in the day.

272. You mean that they ought to remove refuse in the early morning?—Yes, they ought to be removed earlier.

273. Dr. J. W. MOORE.—With reference to what Sir Charles Cameron has told us, that these are removed only three times a week—that might account for it?—That might account for it; but they ought to be removed oftener.

274. Have you any cellar dwellings in your district?—Not to my knowledge.

The Committee then adjourned till next morning.

SECOND DAY.—WEDNESDAY, FEBRUARY 14TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

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276. Mr. *Seymour Bushe*, Q.C.—You were, yesterday, good enough to suggest that we should communicate with the Local Government Board with reference to the question as to whether the Dublin Corporation, for whom we appear, should be entitled to appear by counsel. We did so; and I think it my duty to inform you respectfully that this morning we have received the following communication from the Local Government Board:—

Local Government Board,
13th February, 1900.

SIR,—

The Local Government Board for Ireland have received, this afternoon, your letter of this date, making representations in favour of permitting bodies and persons interested to appear by counsel before the Committee appointed to inquire into the causes of the high death rate of Dublin, and also suggesting that the Committee should be empowered to receive evidence on oath.

It appears to the Local Government Board that the matters for inquiry are such as can be investigated without the assistance of counsel by members of the Committee, all of whom are specially fitted for conducting such an investigation. While the Board are most anxious to meet the views of the Corporation, they feel that they could not interfere with the decision arrived at by the Committee.

It will, no doubt, be within the recollection of the members of the Corporation that in the similar inquiry which was held in 1879, counsel did not appear on behalf of any body or person, and it is not in accordance with precedents that counsel should appear before such Commissions of Inquiry.

As regards the other question raised, the Local Government Board are advised that they are not empowered to authorise the taking of evidence on oath in this matter.

I am, Sir,
Your obedient servant,
H. M. SWAINE,
Secretary.

Sir, you will perceive that the Board say that they cannot interfere with the decision arrived at by the Committee. I apprehend that, if your decision had been the other way, they, likewise, would not have interfered with it. In other words, I regard their letter as leaving the matter of retaining counsel to be decided by this Committee; and, under these circumstances, I respectfully urge on this Committee that they should so reconsider their decision. Because, with all possible respect and deference for any opinion from the Local Government Board, there is no analogy whatsoever, for the reason I pointed out yesterday, between the inquiry held in 1879 and the present inquiry. The inquiry of 1879 could never have led to the preferment of charges of neglect, or of misfeasance, on the part of the Sanitary Authority. It was purely an inquiry into sanitary details of a medical character, and there was no application before that inquiry that the Corporation should be represented by counsel. I cannot see why an occasion on which no ruling was made on the subject should be regarded as a precedent. Therefore, I earnestly press on this Committee that they should, now that the responsibility is left with them, reconsider this application. Because, having had time, since yesterday, to go over this matter calmly, those whom I represent consider that, as in this inquiry allegations may be brought forward, with which it would be impossible to deal properly, unless represented by counsel in the ordinary way—they think that if they have not that opportunity of being so represented they will be placed in a position of great difficulty and disadvantage. And I may say that even already, in the evidence of some of the witnesses, more particularly that of Dr. Newell, there were questions which the Corporation would have wished, in the ordinary course of cross-examination, to have put, and so elicited facts which would have resulted in certain statements in his power to give, and which would have been of importance, having regard to what he said. In the case of a witness it cannot be known what he will say until he is asked, and, unless there is some one instructed and competent to ask him, the things he does say may have a more mischievous bearing and appearance than they really warrant. I can, under the circumstances, only say, on the part of the Corporation, that we must obey your ruling, and that, if your ruling is that we are not to have the ordinary protection and advantage on the part of people who may be, nay, who are, certain to be made the objects of allegations and charges, we will be placed in a position of great disadvantage—a disadvantage to which we should not be subjected, and the conclusions of this Committee would be shorn of authority.

CHAIRMAN.—The Committee have this morning had that letter to the Town Clerk before them, and we have come to the conclusion—to a formal decision—by a majority, that counsel need not be heard before the Committee.

Alderman MEADE.—I think, under the circumstances, and having regard to the ruling of the Committee, and the statement made by Mr. Cotton yesterday, that the members of the Corporation sitting on this Committee would have the power of cross-examining witnesses—I think that is certainly not a position which we ought to take up. I would wish, of course, to get every information; but I do not see why I should be placed in the position of an advocate, to cross-examine witnesses in the interests of the Corporation. I will sit on the Commission, and I will ask such questions as may appear to me to bear on the subject; but I must be taken as dissenting from the view that I am here to cross-examine witnesses on the part of the Corporation.

Alderman DOWD.—I wish to say that I stand in the same position as Alderman Meade on this matter.

Sir CHARLES A. CAMERON, C.B., M.D., examined by the CHAIRMAN.

277. You are Superintendent Medical Officer of Health for Dublin?—Yes.

278. And Executive Officer of Health?—Yes.

279. You made a report to the Local Government Board recently?—Yes.

280. And in that report you dealt with the subject of the recent and former death rate of Dublin?—Yes.

281. Just say, shortly, what the purport of that report was. I do not want you to read the entire report?—Well, first, I want, in my evidence, to disabuse the public mind of an opinion that they appear to have formed on a quite erroneous basis, namely, that Dublin is a hotbed of infectious disease. The extracts which are placed in the report to the Local Government Board, and in the evidence which I have printed here for this inquiry, show that we have not a higher infantile death rate than the average of the English towns, that we have not a higher zymotic death rate than English towns, and that we are slightly under that of London. Now, the first table that I direct your attention to is on the diagram hanging on the wall, which shows the mean death rate, up to last year, in the thirty-three great English towns, including London, and the zymotic and the infantile death rate. It is usually assumed that a town with a high death rate will owe that death rate to either of two causes, either high zymotic or high infantile death rate. Now, there is a general impression that we have a very high death rate, because statements to that effect have appeared in the Dublin newspapers—by persons who have not made themselves thoroughly acquainted with the facts, or with the actual statistics. There is an impression that Dublin is one of the most unhealthy towns in the United Kingdom—a dangerous town to come to on account of its high death rate—that impression exists in the minds of persons who really are not informed as to the facts. These statistics here are not mine, but have been collected from the reports of the Registrars-General of England and Ireland, and I place them before the Committee, having checked them, and I find they are absolutely correct, and I invite the attention of the Committee to that chart or diagram, and copies will be sent round to all the members of the Committee. Now, what is the high death rate due to? It is due to the high adult mortality amongst the lower classes of the people, and not to high infantile or high zymotic death rate. The sanitary authorities of towns are held to be the persons entirely responsible for having a high zymotic death rate, and, judged from that standpoint or standard, the Sanitary Authority of the City of Dublin cannot be accused of having neglected their duties, seeing that our zymotic death rate is lower than the city acknowledged to be one of the healthiest in the world—that is London For the five years ended 1898 the zymotic death rate in Dublin, in that period, per 1,000, was 2·66; in London, 2·76; the infantile death rate in Dublin was 169·6; in London it was 159·2 (and London numbers a population of 4,500,000, including regions in which the death rate is quite as high, if not higher, than the city of Dublin. The general death rate was—Dublin, 25·66; in the thirty-three English towns, including London, 20·72; and in London, 19·83. The zymotic death rate in the thirty-three English towns was 2·77, as against Dublin 2·66, and the infantile death rate in the thirty-three English towns 170·4, as against Dublin 169·6. The Dublin registration area, I should state, includes the suburbs, which contain about two-sevenths of the population of the whole district; and, for the purpose of comparison with London and other registration districts, it is only fair to Dublin to take the statistics of the registration district of Dublin. About five-sevenths of the population of the Dublin district are crowded into the city. Now, I would call the attention of the Committee to the infantile death rate. Dublin, you will perceive, is better off than London in that respect. As the Acting Registrar-General said yesterday, the Dublin birth rate is high, and it has been shown before now that the higher the birth rate, the higher the death rate, because the highest period of mortality with regard to groups of ages is in the case of children under one year old, and the mortality goes as high as one hundred in some cases. You will see that Dublin has an infantile death rate of 169·6; in 33 English towns, including London, it is somewhat higher. The death rate of children under one year of age, in 1898, was as follows:—Per 1,000 of the estimated population under one year of age—All England, 161; thirty-three largest English towns, 178; London, 166; Dublin, 176. Per 1,000 of the estimated population of all ages—All England, 4·7; thirty-three largest English towns, 5·4; London, 4·9; Dublin, 5·4. Per 1,000 births registered—All England, 161; thirty-three largest English towns, 178; London, 167; Dublin, 174. To 1,000 deaths registered—All England, 269; thirty-three largest English towns, 284; London, 264; Dublin, 201. These figures show Dublin in a favourable light as compared with the thirty-three largest English towns. In 1897, the death rate was high for every age of the Dublin population, and the infantile mortality compared unfavourably with that of the English towns. In 1895 and 1896 the figures were more favourable for Dublin than for the English towns. Last year there was a very high infantile death rate. It amounted to 187; this was owing to an epidemic of measles, and was quite excessive. From this table you will see the deaths of children per 1,000 of the estimated population:—

—	Rate per 1,000 of estimated population under one year of age.	Rate per 1,000 of the Registered Births.	Proportion per 1,000 of the total Deaths.	Rate per 1,000 of the total Population.
England and Wales, .	152·6	152·2	254·3	4·58
Thirty-three largest towns of England and Wales.	174·6	171·8	272·	5·36
London, ...	158·2	159·6	252·4	4·82
Dublin, ...	171·	169·8	166·4	3·93

I may now hand in for 1899 the return of death rates per 1,000 registered births of infants under one year of age in thirty-three towns:—London, 167; West Ham, 197; Croydon, 154; Brighton, 173; Portsmouth, 197; Plymouth, 190; Bristol, 158; Cardiff, 184; Swansea, 166; Wolverhampton, 184; Birmingham, 191; Norwich, 179; Leicester, 195; Nottingham, 210; Derby, 162; Birkenhead, 186; Liverpool, 198; Bolton, 181; Manchester, 206; Salford, 209; Oldham, 198; Burnley, 269; Blackburn, 189; Preston, 255; Huddersfield, 152; Halifax, 159; Bradford, 181; Leeds, 171; Sheffield, 194; Hull, 175; Sunderland, 175; Gateshead, 177; Newcastle, 193; Dublin, 187. In the year 1897 there was an epidemic of measles and scarlatina, and in 1899, as I have said, of measles and influenza. Now I will just mention two or three English towns. In Manchester, the death of children under one year of age was 206, or nineteen in excess of the Dublin infantile death rate, which we hear is so appalling. In Salford, the death rate was 209, but in Burnley it was nearly 269, and in Preston 255, so that we stand most favourably as regards a large number of towns in England, and for a long period of years. Now, it is clear that though, of course,

we might be better, we are not as bad as we are represented, or as some English towns are. On the contrary, we are slightly superior to some of them. The chart there, you will see, shows that in the matter of zymotic death rate Dublin is exceedingly moderate. I was appointed, in 1879, as Medical Superintendent Officer of Health. At that time the death rate was very excessive, owing to infectious disease, and more especially, typhus—a disease now practically extinct in Dublin. In the five years ended 1880 the death rate was 29·5 per 1,000 persons living. In the next five years it fell to 27·4. In 1894-98 the rate was 26·1. As compared with the mean death rate of English great towns this rate is undoubtedly high; some English towns, however, have as high a rate. But during that period the deaths were not correctly registered. It was three years previous to the passing of the very stringent Act of Parliament rendering it absolutely necessary that a certificate should be presented at the cemetery, stating the cause of death, and it was found that before that period the burials exceeded the registered deaths by 11 per cent.; so that if all the actual deaths were registered, they would be even greater than they appeared to be.

The Death Rate in Dublin from 1876 to 1899 was as follows, being for periods of five years:—

Period.	Death-rate from all causes per 1,000 persons living.	Zymotic Death-rate.
1876-1880, ...	29·5	5·1
1881-1885, ...	27·4	3·1
1886-1890, ...	26·8	2·9
1891-1895, ...	26·1	2·3
1896-1897,*	26·3	2·45
1898, ...	25·8	2·4
1899, ...	29·75	4·47

So you see that in 1899 the zymotic death rate rose, in consequence of the epidemic of measles, from the normal death rate of 2½ to 4·47 per 1,000.

282. Dr. Moore.—These were diarrhœal cases?—Yes; there were many such.

283. Last summer, especially?—Yes.

284. Alderman Meade.—Infantile diarrhœal cases?—Yes; but principally, it was measles that caused the rise. Now, all these figures will be placed before the Committee in detail, and I would now like to say a few words as to what the Corporation has done to carry out their sanitary work. The extremely high death rate of the last few weeks has naturally alarmed the public. Many persons hold the Sanitary Authority of the city responsible for it, and believe that it is the result of the insanitary condition of the city. If such were the case, then the great semi-rural districts, which comprise that portion of the Dublin registration area external to the city, must also be in a very neglected and insanitary condition, as their general and zymotic death rates have exceeded their mean rates to an extent greater than has occurred in the city. I venture to say that the reforms they have carried out have tended to, and resulted in, a substantial improvement of the sanitary state of the city of Dublin. The increase in the death rate of city and suburbs during the five weeks ended the 20th January is remarkable, as is also the rapid decline of the diseases which produce the "zymotic" death rate in the city and its increase in the suburbs.

	City.	Suburbs.
Death rate, from all causes, in seven weeks ended 3rd February, 1900	43·8	35·8
Zymotic death rate . . .	2·5	4·4

I am of opinion that the recent enormous death rate of city and suburbs is chiefly due to epidemic influenza and its complications. Dublin is not the only town in which, lately, the mortality has risen to an extremely high extent. In the five years ended in 1896, in the Dublin Metropolitan District, the zymotic death rate was slightly below that of the great English towns, and even of London. The fact that in Dublin the richer classes of the community reside not in the city itself, but chiefly in the surrounding townships, and that the city contains an undue proportion of the poor, will account for the high rate of mortality, as it is a well-known fact that the death rate amongst the poor of every city is always higher than amongst the well-to-do classes. Now I know it is said over and over again by sanitarians that the activity of the sanitary authorities may be estimated by the number of persons per 1,000 who die from zymotic diseases, and that these diseases are preventable diseases. Judged by that standard, the Corporation have done enormous good in Dublin. Of the death rate that still prevails I venture to say the diminution of it is not largely within the power of the Corporation, because I believe the high death rate results from poverty, insufficiency of food, and from the bad environment which the lower classes live in—their being crowded into very small areas. I do not think there is any very great overcrowding of rooms; I think there is just as much in other cities. But the spaces are overcrowded with families—not so much individuals as families. I mean eight or ten families in a single house. There appears to be in Dublin an undue proportion of the very poor. In every city the mortality is high amongst this class, and the smaller its proportion the lower will be the death rate, if the sanitation of the town is not greatly at fault. Dublin is, in truth, a poor city, and no street and square in it is distant 500 yards from a purlieu. There are areas here and there throughout the city which should be completely cleared of their wretched houses, and healthy dwellings erected upon the cleared sites. The poor population of the metropolis is concentrated in the city, instead of being distributed in fair proportion in the city and the suburbs. I made special inquiries into the subject, and I found that in point of fact whilst each individual in most cases gets at least the minimum cubic feet of air-space per head, the fact that there are so many as eight or ten families in the one house must have an evil tendency in the direction of spreading the disease that any one individual may acquire. We exceed all other towns in the number of families in one house. We have only about 25,000 houses in Dublin, as against 80,000 or 90,000 in Belfast—with a population not very much larger. But here we have nearly ten persons to each house, instead of about four and a-half in other towns. The working classes, to a large extent occupying houses that were formerly occupied by persons in higher position—houses intended for only one family, but which have been converted into tenement houses, for which they were not at all suited. I attribute the high death rate, as I have said, to the adult death rate amongst the lower classes in Dublin largely to the insufficiency of food, for I do not think there is a more underfed population than the poor of Dublin. Then they are not well clothed. I believe there are thousands of poor people who get up in the morning without knowing for certain where or how they are to get their breakfast. In London you might walk from Charing-cross, two or three or more miles without coming across a purlieu; but you cannot walk 500 yards in Dublin without coming to a place inhabited by the very lowest section of the people. All round Merrion-square, all round Fitzwilliam-square, there

are purlieus. In former times everyone living in Merrion-square had a carriage and horses; that is not now the case to a large extent, and the stables have been, in some cases, taken down and houses erected on their sites, or more frequently the old structure converted into a place where the very poorest class reside. And so it is over the whole of Dublin, you have the very poor population, and, as was clearly proved by the Acting Registrar-General, there is an undue proportion of the inhabitants of Dublin belonging to the very poor class who suffer from poverty, want of food and clothing. Out of the 54,000 families who inhabited the 24,000 houses comprising the city, 32,000 families reside in only 7,000 houses, the average number of rooms per family being 1½. Many of the houses had no sanitary accommodation, and many were situated in narrow courts, passages and yards, at rere of houses. Since 1879 the Corporation had obtained magistrate's orders to close 3,000 houses, certified to be unfit for human habitation, and of these more than 1,000 have completely disappeared. The storage of filth in middens and petits was the universal rule, but now every tenement house is supplied with one or more water-closets. Many of the tenement houses still existing are unsanitary, and could be closed up if there was more accommodation for the "Housing of the Very Poor." I would like to bring under the notice of the Committee the work done by the Corporation, and I am sure they will listen with patience to my statement, though it may take a little time. I do feel that the Sanitary Authority, and, to a certain extent, myself, are really and truly, though not nominally, on trial, and I think it only right that the public should have it made clear to them what the Corporation have done; and whether or not what they have done has been attended with the results they anticipated would follow from their action I leave to the Committee to judge. At any rate, I think this is the proper time the public should be made acquainted with this work, and the machinery and efforts of the Corporation to improve the sanitation of the city. I want to show first the enormous difficulties the Corporation and Sanitary Authorities have had to contend with. Moreover, I would direct particular attention to the fact that the nuisances, which are most frequently met with in tenement houses, are what I would term of the recurring order, and for the abatement of which the officers have very often, in the self-same premises, to serve notices monthly in as many as ten months out of the twelve, and also to the fact that very many improvements have been effected in these very dwellings, owing to the exertions of the Sanitary Department of the Corporation. The improvements made in a great number of these tenement houses had, in many cases, to be effected in the property of indigent owners, whose want of means precluded the possibility of their property being all that could be desired. The improvements I refer to are the abolition of ashpits and the supply of dustbins to replace them, the concreting of yards, the substitution of water-closets for foul privies, and the repairs of stairs, floors, fireplaces, windows, and roofs, and the constant lime-washing of the premises. No one can deny the strongly beneficial effect of these works, aided as they are by the daily cleansing of the yards and water-closets of all the tenement dwellings by the men of the Cleansing Department. Now, in ordinary English towns when notice to abate nuisances is served on the person responsible, the notice is, as a rule, obeyed; what happens in Dublin is that in 10 per cent. of the cases where a nuisance is discovered, and a notice to abate it served, the notice is disregarded. The result is that the person responsible has to be summoned. That involves some clerical work, obtaining a magistrate's signature, serving a summons, proceedings in the court, where the officer remains two or three hours. That does not take place in England, except to a certain extent in Liverpool, where there is a very large squalid population. The following table is a return of sanitary operations in Dublin, as compared with large English towns of over 90,000 inhabitants, during the years 1897, 1898, and 1899:—

Towns.	Population (1899).	No. of Notices.	Prosecutions.	Convictions.	Fines.
					£ s. d.
Dublin, . .	245,601	36,637	5,849	5,815	598 6 6
Oldham, . .	150,772	12,002	65	60	35 0 0
Halifax, . .	97,721	3,635	9	5	1 14 0
Liverpool, . .	631,212	136,687	3,437	810	890 17 5
Sunderland, . .	145,613	17,992	429	351	71 4 0
Plymouth, . .	109,537	5,709	Nil.	Nil.	Nil.
Huddersfield, .	103,464	2,492	18	11	5 10 0
Leicester, . .	213,851	13,542	1	1	0 5 0
Gateshead, . .	106,552	4,374	59	27	30 11 6
Manchester, . .	543,962	38,462	1,486	843	776 11 6
Derby, . .	106,401	3,679	1	1	0 17 6
Newcastle, . .	228,625	15,349	43	25	10 9 0
Birmingham, .	514,956	54,872	12	12	11 13 6
Croyden, . .	127,759	4,804	8	8	2 4 0
Brighton, . .	123,226	25,833	9	8	Nil.
Preston, . .	117,622	8,378	8	8	35 0 0

I have a similar table dealing with the work done in respect of the Food and Drugs and Margarine Acts, showing that during the same period in Dublin there were 601 convictions for the former offence, £1,069 in fines, and under the Margarine Act 214 convictions and £716 fines. A summary of the tables shows that under the Food and Drugs Acts, the number of convictions in Dublin, with a population of 245,000, was 793, fines £1,757, and the number of convictions per 100,000 inhabitants 324. In 15 large English towns, with a population combined of 3,315,313 the number of convictions was 2,232, and fines imposed £5,164 10s., and number of convictions per 100,000 inhabitants 67. Now as to the sanitary inspector's work, I may state that they have to inspect the residences of 32,000 families, out of a total of 54,000 who occupy 48,000 rooms, or an average of 1·5 rooms per family, so that nothing can more conclusively prove that a large proportion of the population of Dublin is in poor circumstances.

285. Dr. Thomson.—Are these dwellings registered?—The vast majority are.

286. And inspected by your staff?—Yes; inspected periodically. For the past three years, up to the 30th of December last, it was found necessary in Dublin to serve 36,637 notices to abate nuisances—the result of which was that 5,849 summonses had to be issued, and that number of persons were called upon to appear in the police courts, and the convictions obtained were only four short of the number I have mentioned. In a great number of these cases however, the persons did not attend, or if they did, they did not obey the magistrate's direction, and had to be brought up on what is called a disobedience summons. If they did not come up on that more delay took place. Some then appealed to the Recorder, which still further delayed the business. In many of those cases there ought to be no appeal from the magistrate's decision. As for the cases I have referred to under the Foods and Drugs Acts, I should point out that our staff of twenty-seven officers is only one-third that of Liverpool, so you see that the amount of work done in Dublin enormously exceeds that of any other town proportionately in the United Kingdom, or I would say in the world. I would like to say that in vindication of a staff of officers who, under very great difficulties, indeed, do their duty to the very best of their ability.

287. Dr. Thomson.—Were these notices in respect of all sorts of nuisances?—Yes. I should say *in limine*, that in these matters, and in the Food and Drugs and Margarine Acts, Dublin has done far more than other towns. The figures speak for themselves. The Town Clerk will, no doubt, give you

further evidence as to the action of the Corporation in these and other matters. Some leading sanitarians have recently passed a very severe criticism upon the condition of some of the tenement houses in the city ; but it must be remembered, as I have already pointed out, that these houses, with few exceptions, were formerly the residences of the upper and middle classes, and were each originally designed for the accommodation of only one family. When, however, these houses are each occupied by several distinct families of the poorest classes of the population, who pay rents of from 1*s.* 4*d.* to 2*s.* 6*d.* per week, it is difficult to get the owners or leaseholders—the latter often almost penniless—to maintain the houses in a satisfactory condition. From the point of view of a Sanitary Authority, all imperfect tenement houses which cannot be put into perfect order must either be closed or be allowed to be occupied unless their condition is very bad. The closing of insanitary houses in recent years has, according to many people, been carried to too great an extent by the Sanitary Authority. I may say here, on the part of the Dublin Corporation, that I have very rarely, indeed, made a recommendation, either directly to the Council, or through the medium of the Public Health Committee, that they did not adopt my views in the matter of improving the sanitation of Dublin. That has been the case, with but few exceptions. The statements made that the bye-laws under the Public Health Act, relative to the paving of the yards of tenement houses, are not enforced are absolutely unfounded. Notices for the paving and concreting of the yards of tenement houses, and summonses for non-compliance with same, are duties of the sanitary sub-officers of the Corporation which are the most frequently carried into effect. Acting upon my recommendation the Public Health Committee have decided to introduce more stringent bye-laws referring to tenement houses. To anyone intimately acquainted with the large number of such houses in Dublin, with the large number of tenement houses in Dublin, it will not be hard to prove that the habits of the occupiers are largely responsible for their condition. Most of the tenement houses are, structurally, in a very good state of repair, and compare very favourably with those of other towns (English and Scotch) with which I am conversant. One of the most expensively fitted up depots, with a Washington-Lyons Disinfector, for disinfection in the United Kingdom, the Corporation has had constructed for Dublin ; and, I trust the distinguished gentleman who is sitting on the right of the Chairman will have an opportunity of inspecting it. It involved a considerable sum to equip, and a staff of thirty-three is kept continually employed to manage the disinfection. It is free to rich and poor. All the clothes sent in are disinfected by the very best known means. Men take the clothes at one entrance, and when disinfected they are brought to a separate exit, placed in vans that have nothing to do with the infected clothing, and are brought home to the owners perfectly free from infection, and without any cost.

288. Alderman Meade.—Do the townships get any benefit from this?—Yes—such places as are not equipped with appliances—the rural districts, and when anyone wishes to have clothes disinfected—as we are neighbourly—the work is done willingly. We send to near Drogheda—to Balbriggan, Swords, Malahide, Skerries, Clontarf, Drumcondra, the Workhouses, and so on.

289. Dr. Thomson.—Free of charge?—We charge them ; but we make no profit, and sometimes it is very inconvenient. I may say that it was on my suggestion that the Corporation undertook the cleansing of tenement houses—I don't think I mentioned that. When I made the suggestion that the Cleansing Department should do it they at once assented to it. The cleansing of the yards of tenement houses costs £3,000 a year to the Corporation. We were first, I believe, to go into the private houses and clean out the yards and passages and the sanitary accommodation. At that period I found that there were storages of excreta in Dublin which were appalling. Many of the privies were in connection with vast ashpits which were, with few exceptions, uncovered, and in summer especially, when water fell on them a terrible nuisance was created, and fermentation was set up. The privies were in a great number of cases placed against the rere wall of the house, and very often remained uncleaned for a considerable period. I commenced a crusade against privies and succeeded in the course of twelve or fourteen years of getting rid of nearly every one. About 10,000 have been abolished, even out of the very lowest class of tenement houses, and replaced by water-closets. Unfortunately, the latter are often abused ; no sooner is an expensive water-closet put up than most improper use is made of it. It is used sometimes as an ashbin. Ashes are thrown into it, and broken bottles and all kinds of things. We get notice from the scavenging department of about 100 a week of these water-closets being blocked up. We have had notices put up in the closets themselves and on the walls and yards of the tenement houses, warning persons found abusing them that they will be punished. I want to point out a matter which I hope the Committee will recommend—namely, that some alteration should be made in the law to enable us to deal with a serious evil. Under the Public Health Act of 1878, which was based on the lines of the Public Health Act of England of 1875, it is provided that where two houses or more have sanitary accommodation in common, and if the sanitary accommodation is kept in a filthy state, or if filth is deposited in the passages of the sanitary accommodation, and the person who has deposited them or misused the sanitary accommodation cannot be detected, that the whole of the people having common use of it may be prosecuted. Dr. Thomson is well aware of this law.

290. Chairman.—Is it not in the one of 1890?—The Public Health Amendment Act of 1890 says, at page 340 of Vanston, "with respect to any sanitary convenience." I consider the point of vast importance in connection with the inquiry, and I should like to trespass a little on the attention of the Committee. We want urgently a change in the law with respect to this matter, which, I think, has something to do with the death rate.

291. Dr. Thomson.—You refer to the Public Health Acts Amendment Act, 1890?—Yes.

292. Dr. Moore.—Section 21?—Yes ; it does not differ much from that of 1878. It is the Public Health Amendment Act of 1890, section 21. It provides, "with respect to any sanitary convenience used in common by the occupiers of two or more separate dwelling-houses, or by other persons, the following provisions shall have effect :—(1) If any person injures or improperly fouls any such sanitary convenience, or anything used in connection therewith, he shall, for every such offence, be liable to a penalty not exceeding ten shillings. (2) If any sanitary convenience, or the approaches thereto or the walls, floors, seats, or fittings thereof is or are in the opinion of the urban sanitary authority or of the inspector of nuisances or medical officer of health of such authority in such a state or condition as to be a nuisance or annoyance to any inhabitant of the district for want of the proper cleansing thereof, such of the persons having the use thereof in common as aforesaid as may be in default, or in the absence of proof satisfactory to the court as to which of the persons having the use thereof in common is in default, each of those persons shall be liable to a penalty not exceeding ten shillings, and to a daily penalty not exceeding five shillings." This matter is so important to the sanitation of the tenement houses of Dublin that I wish to call the special attention of the Committee to

the point. If two families occupy each of them one house with a yard in common they come under the provisions of the 21st section of the Public Health Amendment Act of 1890; but if there are sixteen families living in one house and having sanitary accommodation in common they do not come under it.

293. CHAIRMAN.—Has there been a decided case?—Yes; I am going to mention it. We summoned a large number of persons in one case. I think we had about seventy or eighty inhabitants of tenement houses in the police court for having the approaches to the sanitary accommodation in a filthy state, and abusing the water-closet, and we got convictions; and it was astonishing the effect they had on the conduct of the persons. They were evidently watching one another, to see that the sanitary accommodation was not abused. It was argued that the words "or other persons" meant any persons; in fact using the sanitary accommodation where it was not exclusively in the possession of one—that "other persons" would bring in the families, eight or ten, or whatever number might be in one house. One magistrate took that view and convicted, but another magistrate took another view, and said it only applied to a case where there were two houses, notwithstanding that there might be two families occupying a house. Some houses in the city of Dublin are now occupied by up to twenty families, having sanitary accommodation in common. That magistrate refused. We had a case stated, and brought it before the Court of Queen's Bench, and they decided that this did not apply to one house occupied by several families. There are not many cases where two or more houses have sanitary accommodation in common. In the vast majority of tenement houses in Dublin each house has its sanitary accommodation, and there the tenants cannot be got at. We want an amendment of the law.

294. CHAIRMAN.—When was the case decided in the Queen's Bench?—A few months ago.

295. Dr. THOMSON.—What was it?—We will hand in a copy of the judgment. It is one of the most important points. It is impossible to get the tenants to keep the houses in proper order. Another point I wish to bring under the notice of the Committee is the difficulty we have in dealing with the serious nuisances arising in the case of individual tenants. If a nuisance is detected in one tenement—in a tenement house—a serious nuisance, then, under the Public Health Act, we ought to be able to have the nuisance abated. A very curious state of things appears to exist in Dublin—that nuisances in individual rooms cannot be dealt with in the existing state of the law. I went to the police court not long ago to give evidence in regard to a point as to whether we could not deal with nuisances in individual rooms. I gave evidence in confirmation of the evidence given by a lady sanitary inspector that the room was in an indescribable state of filth, with human excreta on the floor, and a state of things which was a menace to the other inhabitants, in the aggregate, of the tenement house. Notwithstanding this, the magistrate said out of compliment to me personally, he would not dismiss the case with costs against us, but would mark "no rule," and the way the matter stands is that no matter what state of filth we see in a room we cannot deal with it.

296. CHAIRMAN.—You refer to a nuisance in the sense of the Public Health Act of 1878?—I contend that in the case of any nuisance injurious to health without any particular definition or distinction of it it ought to be abated. Anything that is a nuisance should be abated.

297. If any premises are in such a state as to be a nuisance or injurious to health?—Yes; it was held that the premises meant the whole house and not an individual room.

298. Dr. THOMSON.—There was no case stated on that?—No; we did not carry that to the Queen's Bench.

299. Mr. *Ignatius Rice*, solicitor.—Mr. Wall decided it on the definition of premises in the beginning of the Public Health Act. If you look at section 2 of the Public Health Act you will see it.

Witness.—He decided that a single room did not mean "premises."

300. Was that the judicial pronouncement?—Yes.

301. Dr. MOORE.—It includes buildings, lands, easements, and so forth?

302. CHAIRMAN.—And hereditaments?

303. Dr. MOORE.—It is a wrong decision?—We had it declared that "premises" would not mean a single room in a tenement house, so that at present we are not able to deal with the unsanitary state of individual rooms. One of the great advantages of lady sanitary inspectors—I am a strong advocate of the utility of women inspectors—is to speak to women on subjects that men can hardly speak to them on, and advise them how to teach their children the elementary notions of sanitation which does not appear to be done in Dublin at all. The state of the tenement houses is largely due to the children not being taught what they ought to do. Women can deal with that question and tell women that they ought to teach the children what to do. The children mess all over those houses—the stairs, passages, approaches to sanitary accommodation. Children, I think, are largely responsible for the bad state of things, and mothers are altogether responsible for the action of their children. We have four lady sanitary inspectors, and they are doing a great deal of good; but if we had the law to back us up and enable us to punish persons who keep their rooms in a state of filth, and allow human excreta to be on the floor, it would be of great importance. To say that we cannot deal with nuisance of that kind will paralyse our powers for good to a very large extent. I wish to hand in to the Committee a copy of bye-laws, not yet approved by the Local Government Board, but which have been prepared with great care. I think they are a most exhaustive set, dealing with tenement houses, in the United Kingdom—I have the bye-laws from the principal towns—some large towns have no bye-laws—dealing with tenement houses, and others have a small number of bye-laws, but we picked out all the best from the model bye-laws issued by the Local Government Board of England, and the bye-laws of the larger towns and added to them considerably and we are trying if we can deal with the nuisances arising in individual tenements. I have only one copy just now, and I will give it to Dr. Thomson. It may happen that when we come to carry out the bye-laws some of them may be pronounced *ultra vires*, but we are going to try to enforce them until the courts decide that we cannot do it legally.

304. CHAIRMAN.—Are they under section 100 of the Public Health Act?—Yes; they expect you to make regulations for the cleansing of houses occupied by more than one, and laws with regard to new buildings. I have said that the Corporation of Dublin and the Public Health Committee have always, with very few exceptions, acceded to any suggestion made, and with a liberality which I think there are few municipalities in the United Kingdom can approach; but I am bound to say that with regard to one or two points they have not agreed with my suggestions up to the present, perhaps for reasons quite sufficient. I have been always a strong advocate for many years past that the houses provided by the sanitary authority should be mainly, perhaps altogether—let at rents which would enable the very lowest class of the population to inhabit them. The Corporation of Dublin expended large sums—the actual sums will be shown by the Town Clerk, or by the Accountant before the Committee, and between clearances and buildings we will exceed a quarter of a million of money. Sites have been cleared and houses erected on them. Insanitary sites have been rendered sanitary; but I deny that the insanitary people who inhabited them

have been rendered sanitary. The people who inhabited these areas have never been able to re-occupy the sites themselves. They have gone into other places, and converted semi-sanitary areas into wholly insanitary areas. A large number of insanitary houses have been taken away and replaced by good houses, but the people have not been in any way improved. Perhaps the Corporation have not altogether on this point fallen in with my views, and I am quite sure that they will not feel in the slightest degree angry with me because I venture to say, with respect to providing for this poorest class of the population, that they have not acceded to my expressed wishes in reports which I made from time to time. To the credit of the Corporation, I must say, that on a report of mine, presented nearly twenty years ago, they adopted the Housing of the Working Classes Act, and constructed two large blocks of buildings in Benburb-street, and they have since erected buildings on two very insanitary areas, and are now about to erect a large number on another of the insanitary areas, at a cost of £88,000—namely, the Bride's-alley area. A sufficient number of the dwellings which they have erected have not been placed at the disposal of the classes of persons whose dwellings are a menace to the whole community. I know how difficult it is for landlords, who get rents of 1*s.* 6*d.* and 2*s.* a week—how difficult it is to effect sanitary improvements. Many landlords who farm out these low-class tenement houses are, in a social position, very little better than their own tenants. I have known cases where owners were actually obliged to go into seclusion in the North and South Dublin Unions, and they have had to come out to appear in the police courts when summonses were served on them. I know of a case in Lurgan-street, where we were trying to deal with an insanitary house, and we found that the person who rented the house was in the workhouse. A very large number of houses in Dublin are owned by persons in very high positions in society. Noblemen and gentlemen who do not live in Dublin at all own houses, let either yearly or on leases to persons who farm them out then to the tenement class, and many owners of these houses care very little about them or the persons to whom they let them. I am speaking of a gigantic state of affairs in Dublin—of hundreds and hundreds of houses. We serve notices on the persons who receive the rack-rent. If the house is let to a man at £20 a year, and he lives in one room in the house and lets the others, the person from whom he rents it is the rack-renter—provided the rent is two-thirds the valuation for rateable purposes of the house. If the owner of the house is in a good position we can get at him and make him do the necessary improvements, and that is what we are calling on owners of houses to do every day. But if the person who rents the house does not live in it himself but lets it to other persons, then he gets the rack-rent and is liable, but as a rule he has no means to put the house into proper order. We cannot get the real owner of the house, because he is not the immediate rack-renter. The law requires urgent amendment, and I hope one result of the inquiry will be to cause an amendment of the law with regard to the distribution of the cost of making sanitary improvements in houses. There was a case where a gentleman let his house for twenty-one years. He let the house at a rack-rent. Within two or three years of the expiration of the lease he became a tenant to his own tenant—went into his own house as tenant and discovered an insanitary state of things. We do not visit houses systematically, except those that are let to two or more families, and we only visit houses on complaint being made. We have no power, except on complaint, to go into a house. A complaint in writing was given by this gentleman, and we found a built drain—this, by the Corporation Act of 1890, is described as being no drain at all—and accordingly we had to serve notice on the man whose lease was nearly expiring that he must put in proper sanitary accommodation. He had to do it. In the course of two or three years the house lapsed to the original owner, who enjoyed the benefits of improved sanitary accommodation. This is an evil of great magnitude in Dublin, and ought to be remedied. Every day we meet with difficulties. We are asking men whose leases are on the point of expiring to incur expenditure in putting in new water-closets and pipe drains in places where there are defective pipe drains or built drains. It is hard on a man who has only a year or two to run to be obliged to incur expenditure. My friend, the Recorder of Dublin, and I have had conversations, and he agrees that the expense of reconstructing sanitary accommodation and paying for the improved drainage should be distributed as it is in England—distributed *pro rata* on all persons who derive the benefit. If a man takes a house in Dublin on a lease for ever, and gets money to put it into order, and spends that money in decorating the house and finds the sanitary accommodation defective, the owner of the house, who has no further interest in it, having leased it for ever, is liable under the Public Health Act to put in sanitary accommodation. That occurred in the case of the Chairman of the Public Health Committee. He thought it hard to do, and thought he would like to try it in the court. We had him summoned by himself to appear in the police court, and he was convicted, and had to spend £30 or £40 or £50 on his own house——

305. CHAIRMAN.—Apart from the hardness of the case, does it practically interfere with sanitary improvements?—It does. If not—if it did not I would not cry over it. There are a great number of owners of tenement property in Dublin, who are only yearly tenants, or have leases, and these men have no money to spend on it. We cannot go against the men they hold from, because they are not the immediate rack-renters. Many of the houses at present we do not know what to do with, because the landlords have no money to put them in order. A man takes two or three houses and lives on the proceeds of rack-renting. He rack-rents himself, but he has no capital. A man came to me and said, "I see you have an order to close two houses. If they are closed my family and myself will have to go into the workhouse." I said, "Do you own them?" He said he only rented them. "Do you mean," I said, "that you are living on the rents you get out of these two tenement houses?" He said, "Yes." I said, "You ought to get some other means of living, for you must be rack-renting your tenants when you can live on the rents when you have to pay rents for them." There is no doubt that a large number of the houses occupying the attention of the sanitary inspectors in Dublin are owned by that class of tenants, and these are the houses we find the greatest difficulty in dealing with. These are the houses that when persons who feel a philanthropic interest in the sanitation of the city visit them, they blame the Corporation for not doing their duty. There was the case of a house in Church-street which was the subject of violent newspaper articles and discussions at the North Dublin Union. We found it in an insanitary state. We served a notice and it was disobeyed. We had to summons the man and found him to be in humble life, and apparently with no money to expend. It would take about £60 or £70 to make the repairs. We brought him to the police court, and he made a piteous appeal to the magistrate for time to get the money. He got two months' time. At the expiration things were in the same state. He was brought up again, and made another piteous appeal, and again a respite was given. It went on for months. Someone went in and saw the place, and the visit was followed by articles in the papers. We brought him three or four times to the police court before we could get a final order. It was dragging on for seven or eight months. There are only two alternatives, either to close the house under the Public Health Act, or

let it remain in an unsanitary state. When the owner either cannot or will not put it into proper repair the only alternative is to get a closing order. Dr. Thomson will be surprised when I mention that out of the 8,000 large houses which are subject to visitation by the sanitary officers, no fewer than 3,000 of them have been closed, from time to time, by the magistrates' orders, because we failed to get the owners of them, the leaseholders or tenants, to put them into proper order. We have the records in our annual volumes, giving the street and the number, giving every house —not vague statements, but the street and the number of every house closed since 1879, when I became chief medical officer of health. There is no town in the United Kingdom which shows this enormous number. There was a case, where in Chancery-lane there was an appalling state of things, and we could not get the place put into proper order because the estate was in Chancery. It is a most extraordinary state of things, that when a house is in Chancery, no matter what insanitary state it is in, unless the judges give an order to the receiver to put it into repair, we cannot take proceedings against the receiver in Chancery—if we did, we might be committed for contempt of court ourselves. We could do nothing in this case.

306. Alderman MEADE.—What was it?

Witness.—I have only a memorandum of it for myself, but there have been cases of houses in the Court of Chancery in an unsanitary state, and we could not deal with them for that reason.

307. Dr. THOMSON.—It is not that the legal position in Dublin as regards these houses, which are sub-let, differs from the legal position in England, but that you have a great many more to deal with?—Yes.

308. Dr. THOMSON.—The same state of things exists in both countries, but you say there is a great deal more here than elsewhere?—Yes. Getting, as I do, the annual reports of the medical officers of health of the large towns in England and Scotland, I know what is done in other towns. I venture to say, without fear of contradiction, that magistrates' orders to close houses for being unsanitary have been obtained in a greater number of instances than in the case of all the English towns put together. No one is better aware than yourself (addressing Dr. Thomson) that the closing of a dozen or twenty houses is unusual in an English town.

309. CHAIRMAN.—The law and legal procedure are the same?—The very same, and Dublin magistrates invariably finally make orders on our application to close houses. Evidence is often given that the house ought not to be closed, and even medical evidence; but the magistrates always decide in favour of the Sanitary Authority, and give orders for closing those houses. I never knew an instance where they refused to give an order, and I have the highest appreciation of the commonsense and acumen of the Dublin police magistrates. The cases have been fought out by counsel and by medical men to prove that the houses were salubrious houses

310. CHAIRMAN.—Have proceedings been taken under the section of the Housing of the Working Classes Act?—No.

311. CHAIRMAN.—Doesn't that enable you to remove unsanitary houses?—It does. Yes, only in one instance, where we succeeded after a very hard fight with counsel employed against us, we closed a whole courtway called Taaffe's-court. A large number of houses were utterly closed under that. That was the only instance that we ever employed it. What is the other alternative?—We do our very best. The critics of the Corporation say—"Why don't you get the landlords to put them into proper order." The critics have no practical experience of the difficulties of getting poor landlords, or even persons not paupers, to put the houses in order. When they won't put them in order there are only two alternatives—to close them or to let them go on as they are. We have closed 3,200, nearly one-half of which have disappeared for ever, because they were under such conditions as to render it necessary that they should not be rebuilt. The other half have been repaired, or rebuilt altogether. I think we have got to a state when I have the greatest hesitation now to give a closing order, because where are the people to go to. With the state of congestion amongst the dwellings of the very poor, it is the greatest hardship on the people when the house is closed, and they are obliged to be turned out. Among the most insanitary houses in Dublin a large number of narrow courtways have been completely closed. I should say roughly 1,200 insanitary dwellings have disappeared for -ever, because they could not be rebuilt according to our bye-laws. Our building bye-laws provide that when a house is taken down it cannot be rebuilt except a certain space is at the rere of it, and so on. The building bye-laws are based, to a large extent, on the building bye laws of the Local Government Board.

312. CHAIRMAN.—It becomes the same as a new house?—Yes, and you must have a certain space. Houses taken down in narrow courtways could not be rebuilt. 1,200 unsanitary dwellings have been utterly got rid of since the last quarter of the year 1879. I don't like now to press the matter with regard to the closing of houses further. We have gone as far as we can go. I want to speak now in reference to a subject on which I have to make—I don't call it a complaint, but I have to say that they have not done what I wished they would have done with regard to providing dwellings for this class of persons, whose dwellings have been cleared away on unsanitary areas. The Corporation, no doubt, have good reasons for not carrying out an immense scheme for providing dwellings for the people at rents of 1*s.* 6*d.* or 2*s.* a week. On economic grounds there is a great deal to be said for and against. Some years ago I ventured to say that a subject that ought to attract public attention, and especially ought to have the sympathy of the Corporation, would be the housing of the very poor. I am very glad that term has become generally used, even on the other side of the Channel. The term "housing of the working classes" appears to be giving way to that of the "housing of the very poor." I know the subject is strongly before the London County Council at present. I contributed to a discussion that took place in the London *Times*, and I was rather attacked by political economists of the old school of political economy, who think that nothing should be given for nothing under any circumstances, and they said, as others did, that you should not provide dwellings for any class of the population unless they would pay for the interest on the loan—the interest and instalments. I say that may hold very good with regard to dwellings that rent at 5*s.* or 10*s.* a week; but you cannot expect dwellings let at 1*s.* 6*d.* or 2*s* a week can pay. You cannot expect landlords to let at 1*s.* 6*d.* or 2*s.* a week and comply with the requirements of modern sanitary science. We are asking the landlords of houses who let at 2*s.* a week to put in the best form of water-closets, to have good drainage, and to keep the houses in good order. We know if they did that their rents would not pay them. Still, I believe it is the duty of the municipality to provide for that class of persons when they have cleared the areas that were occupied by that class of persons. The areas cleared in Dublin have been occupied by persons who paid only 2*s.* a week, and not one of these persons has ever gone back to the cleared places. We have improved the ground—not the people. Things have come to such a pass that something must be done for those 10,000 of the very lowest class of the population, whose dwellings, I think, no sanitary inspector could ever have kept in proper order.

313. Alderman MEADE.—Do you mean 10,000 families or persons?—Ten thousand persons, and I say that a quarter of a million of money would be required to be spent in the city of Dublin in clearing away the dwellings where these people live. I have pointed out in reports to the Public Health Committee and to the Corporation certain areas that, as Medical Officer of Health, I have described as unhealthy areas. I might mention Nerney's-court, which is occupied by persons paying about 2*s.* a week, and which is in an insanitary state. It is patched up from time to time and whitewashed occasionally, but very soon gets as bad as ever, because there is no systematic inspection. It is very difficult to get the tenants of the lower class of tenements to keep their places in proper order, and to prevent them from abusing the sanitary accommodation. That results from want of proper supervision to a large extent. No one man owns a large number of these places. There are very few owners of more than half-a-dozen or a dozen of them. If a large number of them were provided by the Corporation and put under proper supervision, and constructed according to a well-devised plan, made extremely plain architecturally, with plain brick walls inside without plaster, which is utterly useless to dwellings of that kind, I do not think that the municipality would lose very much. They would not lose more than they have already lost by constructing from 4*s.* 6*d.* to 6*s.* 6*d.* tenements or houses. I say now what I have said over and over again in reports that something must be done for the very poor. Several public meetings have been held in Dublin, generally in the Mansion House or the Public Health Office, and about a year ago a company for the purpose of providing dwellings not exceeding 2*s.* a week was formed under the presidency of one of the members of this Committee, the Right Hon. Dr. Meade. They are doing something, and are going to provide dwellings for forty-eight families. That is a mere bagatelle. That company should be reinforced by a substantial number of the citizens of Dublin. I think a company of that kind could perhaps do work cheaper and manage the places cheaper than the Corporation could do it. We know that a private company can often do things better than public bodies. But I do hope that the public of Dublin will come forward and support that company, because it provides for the poorest class of persons. A company like that can do good if largely supported. Their capital at present is not very large, but I hope it will be augmented with a will. The Corporation of Dublin with the liberality I have already referred to in their Act of 1890 provided that dwellings for the working classes that were let at moderate rents having no greater valuation than £8 per annum should have a rebate of 25 per cent. on the taxation—that is the Corporation taxation—and about 2,000 of the dwellings, I think, received that rebate on the taxation.

314. CHAIRMAN.—Is that the Towns Improvement rate?—The Corporation Act of 1890.

315. Alderman MEADE.—The Corporation rates, exclusive of poor rate?

316. CHAIRMAN.—Is it on the improvement rate?

Witness.—On the whole Corporation rate, but not on the poor rate.

317–318. Alderman MEADE.—Exclusive of poor rate?—It will not go in on the poor rate.

319. Alderman MEADE.—No.

Witness.—Will it not? It is most useful in my department. The recommendation must come through the Rates Department as to the houses worthy of receiving this rebate. We insist that the houses should have concrete yards and proper sanitary accommodation, and it has been the means of making a great number of the owners of the inferior class of dwellings put them into better order, so as to get the rebate of 25 per cent. on the taxation. There is another point which I should like to bring under the notice of the Committee, although it may bring on me the ire of some agricultural friends. I have no hesitation in saying now what I said twenty years ago with regard to the manure heaps. There is a great difficulty with regard to the disposal of the town refuse, and there must be more depots in which the collections must be placed. No one likes to have a manure depot in his immediate neighbourhood, and very often there is an extremely bad odour from the depot. From my observations, more especially in summer, a good deal of the disagreeable odour from the Corporation manure heaps is from decomposing vegetable matter. Nothing is more offensive than that. I suggested, many years ago, that the vegetables being brought into the city markets should not be brought in with the outer leaves on the cabbages, and the cabbage stalks. To give an idea of the amount of the vegetable leaves, I might mention that Mr. M'Grane, the Superintendent of Cleansing, informed me yesterday that from one market alone he has brought twelve loads, in a single day, of vegetable leaves, stalks, and outer leaves. There should be a regulation that would prevent the bringing in of untrimmed vegetables. That is a regulation that exists in nearly all the English towns, I think. It is said against that, that the esculent leaves of the cabbage would suffer by the outer leaves being taken away, but what the protection of a big cabbage stalk can be to the inner leaves I cannot imagine. Trimmed vegetables can be sent in large quantities to Bristol and Liverpool, and they are actually trimmed on the quays, and the vegetable refuse taken away. I cannot think, from a manurial point of view, why market gardeners and farmers don't keep the outer leaves and stalks on the farms, for they would be useful for manure. They are a principal cause, in Dublin, of the bad odour from the manure heaps, which are very much complained of. The only other point—I cannot say I have been at variance with the Corporation, as they have always, with the exception of the matter of housing, which I admit is a question there are two sides to—there is another point on which the Public Health Committee—not myself individually, but the Public Health Committee—and the Municipal Council have not been quite in accord—the subject with regard to the hospital accommodation. There is no question that the large zymotic death rate of the latter half of last year was due to measles, and Dr. Newell yesterday told you that he was obliged to treat measles patients in their own dwellings. We have not had sufficient accommodation for measles. The Public Health Committee recommended the Council to establish an isolation hospital on the principle that all the large towns in England have established isolation hospitals. In Dublin it may be desirable for Dr. Thomson to know—of course all the other gentlemen on the Committee are local, and are aware of the facts—that we have two very famous fever hospitals in Dublin—special hospitals—and that fever wards or departments are in six of the general hospitals. As a sanitarian I have always expressed the opinion that fever ought not to be treated in the general hospitals, and that the special hospitals should, if possible, be outside the city, in an isolated position. We find these two hospitals doing good work from the beginning of the century; and I should be the last to recommend the abolition of them, as they are there. If they were going to be put up now for the first time, we would put them in a more thinly-inhabited part of the metropolitan area. Good work has been done in the general hospitals, and I have never made any proposals, though such have been attributed to me, to abolish the fever departments in the general hospitals. I have made none on the subject that it would be desirable if fever was treated in fever hospitals only; but I say this, that the eight hospitals do not afford accommodation in epidemic years. For epidemics of scarlet fever and measles there is not accommodation. The Public Health

Committee were unanimous in desiring the Corporation to do something in the way of providing for epidemic years, either by an isolation hospital, which they are enabled to do under the provisions of the Public Health Act, or by having a convalescent home, which would relieve the hospitals, and only allow them to deal with acute cases. The Municipal Council up to the present have not acceded to the demands of the Public Health Committee. The Chairman of the Public Health Committee last year is here now, and he knows that the Committee were unanimous that something ought to be done. That matter is still hanging over. Another thing, I think, is the bounden duty of the Corporation now as the only authority in the city of Dublin that has the power to do it, and that is to make immediate provision for an outbreak of small-pox should it occur. When it occurred the last time in Dublin I addressed a circular to the various general hospitals suggesting that it would be undesirable to receive small-pox patients into their hospitals, as they had done on previous occasions, and they replied that they certainly would not receive them. The two fever hospitals did receive them, but very soon both became filled, and for some time a most dangerous delay took place, during which the disease spread through the city, and many patients could not get accommodation. Ultimately the pressure was removed by the South Dublin Board of Guardians erecting within the precincts of the workhouse grounds sheds for the reception of small pox patients. I protest in the strongest manner against persons, some of them occupying very high positions in society, who would not like to be treated for smallpox in their own houses, but would prefer to go into hospital, having to go into an hospital which was essentially nothing more than an hospital for paupers. Many who were obliged to go into the sheds of the South Dublin Union told me this, and afterwards they felt very much humiliated to be obliged to go into a place of the kind. The Workhouse Master was responsible for the discipline of the place, and it was really a pauper institution. At the present moment we have no proper means of meeting an outbreak of small-pox should it occur. This matter is one that comes very close to the Corporation now, for this reason, that up to the passing of the Local Government (Ireland) Act it was the duty of the Boards of Guardians to provide for patients who were not inmates of their own institutions, that is, the poor of the city, and they contributed to fever hospitals; one year the two Boards of Guardians contributed £5,000. Now they are no longer Sanitary Authorities, and at present the way the matter stands is this—it is not compulsory on any authority in the city of Dublin to provide hospital accommodation for infectious cases or small-pox. But one body has power to do it if it chose to do it, namely—the Corporation. The Boards of Guardians have not the power to do it. They did it formerly, but now they cannot do it. They are no longer the Sanitary Authority. The Corporation may if they like, but it is not mandatory on them, and Dublin is in the anomalous position of being without a public body on which it is incumbent to provide accommodation for small-pox, fever, or infectious diseases. The Public Health Committee are unanimously of opinion that provision should be made by the Corporation for an outbreak of small-pox. Another point is our helplessness with regard to the spread of infection by means of schools. In England the Sanitary Authorities have the power to close schools. In America the sanitary officer, himself the medical officer of health, has, without any reference to the Public Health Authority, power to give an order closing the schools, and on the Continent the medical officers have power to close the schools. In Dublin we have no such power at all. When an epidemic of scarlet fever or measles breaks out, and continues for some time, it is very little use to close the schools then. The time to do so is on the first appearance of the epidemic. When there is an epidemic we send every morning to the managers of the schools a statement showing the houses in which diseases occur. The document is marked strictly confidential, and can only be made use of by the manager for the purpose of giving directions that children from these houses shall not be admitted, but we have no power to order the schools to be closed. There is no power possessed by any authority. We have tried, by means of attracting the attention of the Commissioners of National Education, and requesting the managers of the schools to close them. A great number of them did comply with the request, but others did not comply. One amendment of the law which we absolutely require is, that the Sanitary Authority shall have the same power, in reference to the closing of schools during epidemics, as they have in England and I think that would be only a reasonable thing to ask for.

320. Alderman MEADE.—As to the Notification of Infectious Diseases Act, have you anything to say?—Yes; the Corporation adopted it immediately it came into force; and, not only that, but, when we were threatened with cholera, as they had power to do with the sanction of the Local Government Board under the provisions of the Notification of Diseases Act, they requested the sanction of the Local Government Board to make diarrhœa and choleraic diarrhœa notification diseases. That suggestion was agreed to. I should say I made that suggestion after consultation with the President of the College of Physicians; that was when we were threatened with Asiatic cholera, and they were made notification diseases until the danger was passed. Many of the districts surrounding Dublin did not adopt the Notification of Diseases Act, and there is considerable confusion arising amongst medical men on the subject, to know whether the notification applies to a certain place or not. There should be some uniformity of practice. The labour involved in carrying out the Act in the city is enormous, and if the end for which the Act was framed is to be attained, that end must be sought for after the method adopted by the Dublin Corporation. Immediately on the receipt of a notification one of the enquiry officers immediately visits the premises at which the disease is reported to have occurred, and takes all necessary steps for its thorough and proper disinfection. Now as to derelict houses or sites in the city. Any one walking through the lower quarters of Dublin will see here and there in every direction ruinous houses or sites of houses. These are the remains of houses that have been closed by the magistrates' orders, at the request of the Sanitary Authority. There are a considerable number of them. In many cases you see four or five in a derelict state. Many are owned by absentee landlords, who cannot be got at. They are made the depositories of all kinds of objectionable refuse, and there is great difficulty in dealing with them. If palisades are put up they are very often taken down. A curious thing as to these closed unsanitary houses is that whilst no one is allowed to remain in it the house itself is gradually stolen until not a brick remains. There is one purlieu at Meath Market where there were about fourteen houses—wretched places of the kind I speak of, without any sanitary arrangement of any kind. Well, they were closed, and within six months there was not a single brick left, and the owner said he did not take them away, but that friends came and saved him the trouble. We want some better way of dealing with these derelict houses than the cumbrous machinery given by the Act of Parliament; something by which these sites could be acquired, and built on. I know it can be done under several Acts of Parliament, but the machinery is most complicated, and we want some simplification such as exists in Glasgow. These places are a great eyesore and a positive nuisance.

321. Alderman MEADE.—What can they do in Glasgow?—They have a simple way of acquiring the grounds—a summary method. I think I will just refer you, now, to one or two sentences of my report to the Local Government Board.

322. Have you anything to say on the subject of the dairy yards?—Yes; in London, with 4,500,000 people, there are thirty-five dairy yards. In Dublin, there are nearly 250 dairy yards in the city. The Corporation have no power to close them, by giving compensation to the owners, nor have they the power to refuse a licence to establish a new dairy yard, if the bye-laws of the Corporation as to space for the cows, &c., are complied with. The Public Health Committee suggested that power to close dairy yards, with due compensation to their owners, and to refuse licences for new dairy yards, should be taken in the Dublin Improvement Bill, 1890. Their suggestion was not acted upon, nor were several other suggestions, calculated to improve the state of public health. I am strongly of opinion that the proper place for dairy yards is the open country or at least the thinly-inhabited suburban districts. In addition to the inspection of dairies and cow-sheds within the city, this department, under the powers vested in them, have compelled all the vendors of milk within the city, although their dairies or cow-sheds are situated without the present municipal boundary, to be registered with the Corporation. This step insures that the milk supplied by those vendors to the residents of the city is supplied from places the sanitary condition of which is in accordance with the requirements of the bye-laws. A matter in connection with the inspection of dairies and milk-shops, and one to which I attach the utmost importance, is that a special book is kept, in which is entered any disease which is notified to this department as occurring at dairy or milk-shop premises in the city, and the officers forthwith take charge of the place, and, if necessary (as has been done in several places), the milk, butter, and eggs are destroyed. This, in my opinion, has been of the greatest importance in checking cases of disease which have occurred in dairies. You must remember that under any circumstances, especially in a congested district, it is undesirable to have decomposing organic matter allowed to be in a city. Many of the dairies, I am bound to say, are as well conducted as possible. In frosty weather there is, of course, a difficulty, frequently, in getting the manure removed. The boats bring away all the manure and, of course, they cannot go when the canals are frozen. Many of the dairy yards are in places where they should not be at all. When the Act of 1890, or, rather, when the Bill was being drafted, the Public Health Committee made a recommendation that they should have the same powers with regard to dairy yards as they possess as to slaughter-houses, and that is the power to refuse to grant licences for new dairy yards. It is, of course, a great hardship on the proprietor of a dairy yard to ask him to abolish his dairy yard altogether. But I do not think it is a hardship to apply a rigid rule to the case of a person about to open a new dairy yard. As I have said, the Public Health Committee suggested that by the Act of 1890 the power to close or to refuse licences for dairy yards should be given. Well, we all know that the sites of dairy yards are in many cases very objectionable. But we have a legal opinion on the matter, and you may, if you choose, put up a dairy yard at the back of Fitzwilliam-square or anywhere, in fact, if only the rules as to space provided by the Local Government Board be observed. We have no power as to the regulation regarding the locality. So that, not having any power to prevent new dairy yards, they are placed in situations that are a source of annoyance to owners of property. We certainly want a clause inserted giving the Corporation power to get rid of dairy yards which are in objectionable places—and to do this, giving due compensation to the owners, and to give licences for new dairy yards as they do with reference to new slaughter-houses. I made a proposal, in the nature of a report, some years ago, to this effect. I believed that in the interest of the public health of Dublin, it would be desirable that the Cleansing Department of the Corporation should undertake the cleansing of dairy yards, and the removal of horse manure from the lanes where horse manure is placed. My reasons are very simple. In a great many cases there is a difficulty found with reference to the removal of horse manure from stables. Formerly, the coachman could sell this manure, and get a good price for it. Then it came that he had to give it for nothing, but now one has to pay to take it away. The result is the manure is put out, in many places, in a lane, and left there until there is a heap of sufficient quantity to warrant its being taken away in a cart. That would be the case where there would be, say, one horse. In my report I suggested that all this manure should be taken away and sold, and the value of it given to the owners of dairy yards, in so far as dairy yards are concerned. Nothing need be given to the owners of horses, for, as I say, they pay to have it taken away. The Corporation has not the power of trading, but they could sell the manure taken from the dairy yards, and pay the owners of the cows so much per animal. That might seem, perhaps, too large an order; but I understand the County Council in London are considering this very question of cleansing the dairy yards in some such way. It is quite practicable if the Corporation have the power; but I think they have not, as it would be a kind of trading. If this Committee thought it desirable that this should be done in this systematic manner, it would, I believe, promote the health of the city. There were slaughter-houses in places where they should not be allowed, and the same thing applies to these yards. Some of the slaughter-houses, however, are as well conducted as our own abattoir, in places which are not very congested, and are kept in very good order. There are some really excellent private slaughter-houses in Dublin. But there are many not well kept, and that have no yards. These, in my opinion, ought to be extinguished. The number was 63—it is now 56. The Corporation generally put £100 or £200 on the estimates for the purpose of purchasing the interests. We there, again, find we require legislation. The Corporation Act of 1890 enables the Corporation to purchase the interest in these slaughter-houses. But it is stated that only one person's interest can be purchased. That makes it complicated, for sometimes the slaughter-house is owned by a person not a butcher—but one who lets it to a butcher as a weekly tenant, and there is the question as between the owner and the person who is working it. The section is most vague, and renders the acquisition of these slaughter-houses by the Corporation most difficult—as to whose interest is to be acquired. Mr. M'Sheehy, the late law agent, was instructed to take measures to acquire the interest of three very objectionable slaughter-houses in the neighbourhood of the Coffee Palace, Townsend-street, but he could not succeed owing to the complication arising as between several owners. I do think the Corporation should, under the powers they possess, extinguish the licences in some of the worst of these slaughter-houses. Some, as I said before, are very good. In my opinion, it would be necessary to afford the means of slaughtering on the south side of the city by the building of another public slaughter-house on the south side, if there is to be a wholesale clearing away of private slaughter-houses. As I mentioned in the printed statement of my evidence, as to the abattoir at the north-west boundary of the city, only a small number of butchers make use of it. The Corporation have the power of compulsory purchase of the

private slaughter-houses. In the year 1894 there were seventy-two slaughter-houses in the city. The interest in five of these have since been purchased by the Corporation, and the premises have either been demolished or discontinued to be used as slaughter-houses, and the licences of four have lapsed, leaving the actual number of registered slaughter-houses at present existing at sixty-three. Of this number, nine have already been purchased by the promoters of the Bull-alley Area Dwellings' Scheme, and the St. Patrick's-park Scheme, and will be abolished very soon, when the number will be reduced to fifty-four; and the Public Health Committee have instructed the city solicitor to arrange for the compulsory purchase of several of the more objectionable of the slaughter-houses. With reference to the storage of sewage referred to in my letter to the Local Government Board, it is often impounded two-thirds of the day. Dr. Thomson might like to know that our sewage is all discharged into the River Liffey, and that the mouths of the sewers are provided with valves. The city lies very low. I hear people state that Dublin is an unrivalled city for salubrity—better than any in the world. That, however, I deny. The floors of the basement storeys are lower than high water, and the sewers are considerably lower than the Ordnance datum. Dublin lies on two distinct formations—two-thirds a boulder clay formed during the great ice period, and a limestone gravel, with portions of alluvial drift. A very curious statement has been made that the lower part of Dublin was water-logged. I had a number of experimental wells formed in the city, and a very curious state of things was found—that the so-called water-logged part was not so at all, but on the contrary, that the high parts were water-logged. Now, a great portion of the city is only a few feet above Ordnance datum. Near the River Liffey, in the limestone gravel, the water lies low, not high, and I found that at the gravel formation the deaths from enteric fever were about 50 per cent. greater than on the boulder clay. The former condition of affairs, so far as petties and such were concerned, was very bad. They were not provided with concrete bottoms, and, in short, the ground became saturated with filth and leakages from these petties. It is strange that we have so much larger a distribution of enteric fever on the limestone than on the stiff clay soil, where the water is only five yards from the surface. My conclusions as to the high death rate are, in summary, that it is to a combination of causes, among which I mention an undue proportion of the population being very poor; the bad condition of the dwellings of so many of the working classes; an excessive number of slaughter-houses, the condition of some of the dairy yards; want of sufficient accommodation for fever cases; want of daily removal of filth; and the storage of sewage in the main sewers. As to the impounding of the sewage, when the tide rises, the valves close, and the sewage is thus impounded, and it backs up for nearly a quarter of a mile from the mouth of the sewer. But for the fact that our two pumping engines are continuously pumping up the sewage that lie on the north-east and south-east district of the city, the low-lying portions would be completely flooded, not from the influx of the river, but from the rain water, and the sewage overflow from the sewers. But the sewage is now pumped out. The great evil, however, is the impounding of the sewage for two-thirds of the day. That will be done away with when the main drainage is completed, for then the sewage will be continuously flowing to great tanks at the Pigeon House, instead of being impounded for two-thirds of the twenty-four hours. I may mention on the subject again of the dairies that the Public Health Committee have just adopted a report, which is going forward to the Municipal Council, recommending that the complete time of a veterinary surgeon should be obtained for the purpose of systematic examination of dairy cows. Dublin has a very bad notoriety for the large amount of phthisis, amounting to 34 per 10,000 annually. That is a very heavy item in our bills of mortality. I have examined cows largely in Dublin, and tuberculosis is by no means common. We have great opportunities in our abattoir, and, no doubt, every week I see a tubercular cow, but I generally find they are not Dublin cows; but, whilst not denying that it exists in Dublin, I venture to say we are better off than in many English towns. Still, it is desirable to examine the udders to see if they have tuberculosis. Under the Contagious Diseases Animals Act two veterinary inspectors under the Boards of Guardians have been transferred partly to the city and partly to the County Council. The Public Health Committee have arranged to have one of these entirely to themselves. The recommendation will go before the Council for their sanction; and, as they always have adopted any reasonable suggestion, I am sure they will agree to this.

323. Dr. MOORE.—In the beginning of your very exhaustive and valuable statement, you seem to minimise the influence on the high death rate of Dublin of zymotics, and also of infantile deaths?—Yes.

With regard to the first point, look at the central table. There, I think, you will find that the zymotic death rate is subject to great fluctuations?—It is.

324. That Dublin, in fact, is very susceptible to epidemic influences?—Yes; and with regard to this table, the epidemic year that has just passed, I find the infantile death rate is 187 per 1,000.

325. Compared with an average of 169?—Yes; I admit they are very susceptible to epidemics.

325A. I have the Registrar-General's return before me, and I find that in the last six months of 1899 the deaths registered in the Dublin registration districts were 5,845. Of these, 498 were caused by diarrhœal disease—of which disease you made no mention, I think?—I said "chiefly."

326. In addition to these 498, there were 648 deaths, in the last six months, from measles?—Yes. Making together, 1,146.

327. That makes very nearly 20 per cent. of the total deaths, and that seems an astonishing result. Next, with regard to deaths of children, I find that of these 498, 439 occurred in children under five years of age; and I find that of 646 deaths from measles, 583 occurred in children under five years, so that young children may succumb to these epidemics to which Dublin is so liable?—Quite true.

328. Now you stated at the beginning of your evidence, that there was a high adult death rate amongst the lower classes?—Yes; in fact, whilst the well-to-do people had twenty, the lower class had thirty-two.

329. But of course I cannot take you as being satisfied with the high adult death rate?—Very far from that; I only desire to show everything in its true colour; you see the proportion of total deaths of children is lower in Dublin than in any town in England. In Dublin, 392 deaths, as against 482 in London, and 536 in the thirty-three English towns.

330. Have you formulated any idea of a cause, as amongst others, of that high death rate?—I think I mentioned poverty, bad environment, scanty clothing, &c.

331. But what are the diseases, I mean?—Constitutional diseases. They are peculiarly liable to kidney disease; and the death rate is also due to diseases of the respiratory organs.

331A. I am sure you recollect Dr. Grimshaw's very valuable paper as to the death rate in Dublin from pulmonary consumption?—Yes.

332. And you remember he showed that preventable disease destroyed the workers of Dublin to a very extreme degree?—Yes.

333. Well, in the last six months of last year, the deaths from pulmonary consumption were 606?—That was very high.

334. You stated that, occasionally, at your disinfecting department, you do work for neighbouring sanitary authorities?—Yes; every week.

335. How are the materials brought to your chamber?—We send for them.

336. Do you send as far as Drogheda for them?—No, not quite so far; say Balbriggan. They are enclosed in canvas bags, and in wooden cases.

337. As the chief medical officer, do you think it a wise thing to bring infected things, even from ten miles, into the city?—Yes; rather than let the disease spread.

338. Surely the sanitary authorities of Drogheda are bound by the same law that regulates other sanitary districts?—Yes; but it is better to take these cases than let the evil spread.

339. Alderman MEADE.—You knew there was no disinfecting appliance in the place these things came from?—Yes.

340. Dr. MOORE.—You take every precaution in each case?—Oh, yes. In the case I speak of, at Balbriggan, or a distance like that, it would be some valuable articles—furs or the like, and the utmost precautions are taken.

341. Now, as to the Notification of Infectious Diseases Act, you have stated, I think, in your evidence, that you consider it a misfortune that the Act has not been enforced in the neighbouring districts?—Yes.

342. You are aware that it is not enforced at all in several suburban districts?—Yes.

343. Do you not think that that greatly nullifies or interferes with the working of the Act in the city?—Yes.

344. Members of the medical profession are in doubt as to whether it applies or does not apply in these different cases?—Yes.

345. And you believe it is essential that it should be made compulsory?—Yes; I cannot understand how any one could object to it. The notification is strictly confidential.

346. As to notification in Dublin, you read the evidence that was tendered at the important Local Government inquiry the other day?—Yes.

347. Sir Christopher Nixon was one who was examined there?—Yes; I was there, too, part of the time.

348. And you have felt that the Act was insufficiently carried out in Dublin?—Yes.

349. Have any steps been taken to secure its being carried out?—Well, we prosecuted some doctors. But I cannot see how the Act can be enforced to a greater extent than it has, because this insuperable difficulty is in the way. Unless for the prosecution it could be proved that there was actual knowledge of what the disease was which was in a house—that the doctor knew, and did not notify—it could only be proved by somebody going into the house and examining the person, and being able to report, say, that the case was typhus.

350. I think you have access to the Registrar's return of the births and deaths, or have only to ask for them?—Yes.

351. Have you ever taken that means of seeing whether notification has been made or not?—On one occasion.

352. Was there a prosecution in that case?—There was.

353. You are aware there is a dual system of notification?—Yes.

354. Have you ever received notification from the heads of families?—An odd time.

355. Does not the Act require it?—Yes; but it is a most absurd obligation. I would never enforce it. It is not done anywhere to ask more than the medical man.

356. The Act, however, says, "The head of the family to which such inmate belongs, and in his default, the nearest relative present, or in default of such relative, every person in charge of the patient, or in their default, the occupier shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which the Act applies, send notice of it to the medical officer of health of the district." You say it is not done?—No; we have prosecuted in some cases. In one case I found out of a dairy man who had been supplying milk to a number of persons, and in whose house I found was a case of enteric fever. I went to him and said, "Any one sick?" He replied, "Oh, my daughter has a cold." I went upstairs and saw two sick persons, and both had enteric fever. I said, "Do you know these daughters have typhoid fever?" His answer was, "I did not think it was so bad as that." I said, "We will have to ask you to explain that before a magistrate." Well, he was summoned and fined. The doctor was summoned and fined for not notifying. I found out that several people had got their milk from this man. I may say, as Medical Officer of Health, it is not easy to find out who is the head of the family. I have written in the papers about this matter, and directed public attention to the fact that it is incumbent on the head of the family, or whoever is in charge—but with no effect.

357. That part of the Act would appear, then, to be a dead letter?—Yes; everywhere. I hope this inquiry may produce some useful results, and amongst them the settlement of this question. I have issued posters, written to the papers, and done everything, without avail.

358. Alderman MEADE.—Does the "head of the family" know that it is his duty to report to the medical officer of health?—Well, everyone is supposed to know the law; but they very often don't know it.

359-360. Do they not trust to their doctor?—Well, maybe; but I have given public notice of the duty, and one gentleman wrote afterwards to say his child had measles. That was the only result.

361. Dr. MOORE.—I would like to say publicly that, whenever I had occasion to send forward a notification it was always received with immediate attention by the Public Health authorities of the city of Dublin.

362. Dr. SWAN.—I can make the same statement.

363. Dr. MOORE.—You are strongly in favour of abolishing slaughter-houses in the city?—Yes; but there are some expensively-constructed abattoirs that would need very great cost to acquire.

364. You are aware of some slaughter-houses the interior appearance of which is visible to children passing?—Yes, most objectionable. May I mention this, that we have several times brought up the owners of slaughter-houses the same way as we brought up the persons whose premises were a nuisance, that is, which were in a bad condition, under the Public Health Act, and we were never able to get a conviction. We several times brought the owners of slaughter-houses which were in an insanitary condition into the police court, and the point was made that the Act of 1896 enabled the Corporation to acquire these unsanitary houses, and that they could not be got rid of by a side issue. At the present moment I have given directions to have three slaughter-houses proceeded against, but I do not think we shall succeed.

365. Yesterday Dr. Newell mentioned that the hospital accommodation had run out in the case of the recent epidemic?—Yes, it ran out very soon.

366. Is it a fact or not that there were beds vacant in Cork-street Hospital at that time?—No; I am confident there were not—I am quite positive that many times there were no vacant beds. I have telephoned to the hospital, and found that to be so. The North Dublin Union were not legally able to pay

for any patient in Cork-street or the Hardwicke Hospital, except that patient was an absolute inmate of the workhouse. They were told they could not take children out of the tenement houses, no matter how anxious they were, unless they were inmates of the workhouse. I remember a child that was in a room with a great number of other children, and was a very bad case of measles; and that child had to be brought down and made a pauper, that form had to be gone through, and then it was brought to Cork-street and entered as an inmate. It had to be technically made a pauper.

367. I understand the Sanitary Authority of Dublin is in a difficulty about the position of the "Hopper Barge"?—Yes; I can get you the full information on that point.

368. I understand that it is a difficulty for which the Public Health Committee are not to blame?—No.

369. It is the Port and Docks Board?—The Committee tried everything, but could not get any site from the Port and Docks Board.

370. As a matter of fact, the Hopper Barge is stationed under the windows of the Local Government Board?—Well, what goes there is not very objectionable—only things worth nothing for manurial purposes, ashes, cinders, and the like—not very salubrious, perhaps, but not very objectionable.

371. Dr. MOORE.—It is not very pleasant?—Well, not quite salubrious.

372. CHAIRMAN.—Has the Port and Docks Board been asked to give another site?—I believe so.

373. Alderman MEADE.—I do not think they have another site.

374. CHAIRMAN.—I have heard different accounts.

375. Alderman MEADE.—As you walk through the streets you see posted up at certain lanes and passages, "Not in charge of the Corporation." What is the exact meaning of that? Is it that it is private property?—That, sir, is another important point on which I have a very strong opinion. There are 260 lanes, alleys, courts, and passages which have never been taken in charge of the Corporation—not lighted, paved, or sewered. They were always in a very bad state, indeed. Some time ago I had a list of them prepared and sent to the Cleansing Committee, with a recommendation from the Public Health Committee that they should be cleansed under the Public Health Act without taking them in charge. The Public Health Committee have power to cleanse private places, and to charge the cost of the cleaning against the owners of the property abutting. Well, the Cleansing Committee agreed, and the one great case was against Trinity College. There is a long lane there, parallel with Brunswick-street, running from M'Kenzie's building very nearly to the railway at Westland-row. On the one side is the College wall, and on the other the blocks of houses of Brunswick-street, south side. The Corporation cleaned this, and then requested the College authorities to pay half the cost. But they fought it out in the Courts—the Corporation lost. The College people said they had no door leading out on the lane, and so, whilst they go on cleaning it, it is impossible to though it may be a matter in which the Corporation may not like my opinion, I hold that every place that is accessible to the general public should be cleansed, and its sanitary condition seen to. In some of these cases we are referring to the Corporation took action under the private improvement section of the Act—that is to say, they served notice to have these places sewered and put in order. But the parties never complied. The Corporation then did the work, and recovered the cost from the owners of the property, but very often, owing to the change of ownerships of the property, the costs were not recovered, so the Corporation, on the whole, have lost, and, from one cause or another, they never recovered the expenditure, which was considerable. They did put in order a number of private streets, lanes, &c., but still the evil Dr. Meade has mentioned exists, and is a great source of difficulty. My department is already over-worked and over-weighted with innumerable Acts of Parliament, even including the Shop Assistants' Seats Act. We have the administration of almost innumerable Acts, and they involve enormous labour. It would entail a vast addition to that labour to take over these 260 lanes and passages.

376. Dr. MOORE.—There is one matter you did not allude to, namely, the satisfactory arrangements for the removal of infectious cases to hospital, which I myself know of. Just tell us what they are?—Well, we have three ambulances, which have been constructed on a design of my own, and which the President of the College of Physicians was good enough to speak of in terms of approval. The ambulance appears like a commodious family brougham. The driver is not attired in a white frock. It comes up just like a family brougham. The patient can be introduced from the back—there is a roller bed. There is a seat inside the vehicle, where the nurse sits, if necessary, and the patient can lie down with his feet under the driver's seat. This ambulance is sent to any one. There is no charge to rich or poor. If a gentleman wants it he has only to telephone, if he wishes, to my own house, Sunday or week-day. Any one who wants to be conveyed to the fever hospital has only to intimate his desire, and we send one of these ambulances, and the vehicle is then thoroughly disinfected and cleansed. When a patient in a tenement house has not accommodation sufficient, apart from other people, we get a magistrate's order for compulsory removal, acting on the certificate of a medical man, who is generally myself or the local officers of health, of whom we have sixteen.

The Committee adjourned until 11 *o'clock next morning.*

THIRD DAY.—THURSDAY, FEBRUARY 15, 1900.

THE COMMITTEE RESUMED ITS SITTING AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Sir CHARLES CAMERON, C.B., M.D., recalled by Dr. R. L. SWAN.

377. How many houses did you say were inhabited as tenement houses by the very poor?—I should say about 2,000.

378. Have you visited the slums of other cities?—I have.

379. With a view of instituting a comparison between the slums of these cities and the slums of Dublin?—Yes, I have.

380. What conclusion do you arrive at?—I came to the conclusion that we had a far larger proportion of purlieus to the better streets in Dublin than any other city—a far larger number, but I found places in London the condition of which I thought much worse than anything I have met with in Dublin. I would be very happy to put in a printed document, which was adopted by the Corporation, showing the purlieus in London that were visited by me in company with an officer kindly placed at my disposal by Dr. Shirley Murphy, Medical Officer of the London County Council, in which I gave the exact locality, and described the condition of them which in my opinion was much worse than any we have in Dublin.

381. Would you mention in what particulars they were much worse?—In one case I saw a large number of tenements placed over cow sheds, there was no yard to these tenements except an open space in front, which was a semi-street in which there was an enormous pile of manure. There were two water-closets to supply a very large number of families and both of them were without openings into the open atmosphere. They were absolutely dark; they were without any light except the light that came in through the door from a close passage, and one of them I could not get into at all, it was in such a state of filth. I have given the places about Holborn district in London, and the people complained that there was myriads of blue-bottle flies in the summer making the rooms almost uninhabitable. I will give the particulars—they are in print—it is not a general statement, but I can give the particular places in which they occur.

382. How do these tenements houses compare in reference to the number of families in them?—In each room there was a family—I may mention what is not very generally known—that in an immense number of the towns in England there are 25 to 35 per cent. of the families residing in one room, even in Portsmouth. I think I have shown this in my address to the British Medical Association. I gave the actual numbers which I got from the census return of families in Somerset House, and there is quite as large a proportion in some towns as in Dublin in single rooms. I think in Portsmouth one-third of the families are residing in one room only, so that the one-roomed tenement is not characteristic of Dublin.

383. To what do you attribute the few convictions for breaches of the Public Health Act in England as compared with Dublin?—Simply to the fact that in these towns when notices are served on the people they comply with them without being forced to do so by a magistrate's order. May I say this much, too—I think the owners of these places in England are in a better position to carry out improvements than the owners here, where a very larger number of owners of tenement houses are very little better off than their own tenants; but in England they have means as a rule to make the necessary improvements.

384. Then your opinion appears to be that the habits of the people themselves created, perhaps, by poverty and want of knowledge to a great extent, contribute to their unhealthiness?—I have no doubt in the world about it, and if the tenants of the lower class tenement houses in Dublin did their best to keep themselves and their places clean I don't think the condition of the tenement houses here would be worse than the condition of the houses inhabited by the same class in other towns—I am absolutely certain that 95 per cent. of the defects noticed in tenements by casual visitors to them arise from ill-usage of the sanitary accommodation by the tenants, and they also arise from the fact that the doors are always open. The open door is characteristic of the tenement house system.

385. Right Hon. Alderman MEADE.—You mean the hall door?—Yes, by which the sanitary accommodation may be regarded as *pro bono publico*. I must say, and I am sorry to have to admit it, that the people themselves don't keep their individual rooms or their bedding in a clean state. They don't combine as in English and Scotch towns, and arrange alternately to clean down the stairs and lobbies; in fact there is no systematic arrangement in the low class houses for periodical cleansing of the stairs and lobbies and halls.

386. Dr. R. L. SWAN.—You alluded to certain wholesome influences on the part of the lady sanitary inspectors—what is your opinion of the philanthropic scheme inaugurated by Miss Octavia Hill and other ladies?—I have the very highest opinion of it.

387. Perhaps you would explain that scheme to Dr. Thomson, who, perhaps, doesn't know it?—He knows all about Miss Octavia Hill, and what she has done in London. I may mention that some ladies in Dublin—including Dr. Catherine Maguire—belonging to a guild called, I think, the "Alexandra Guild," have made experiments with regard to the tenement houses; they have taken five houses inhabited by a rather low class of inhabitants, and have put them into better order than they were in, and have let them mostly in single rooms. They spent a great deal of money in improving the sanitary accommodation, and to show the difficulty our inspectors meet with in endeavouring to have the houses which they examined kept in order—and remember each officer has several hundred places to visit—I may state that I myself visited two of the houses that the association I have referred to have taken, and I found excreta in the halls and on the staircases; I found the most excellent sanitary accommodation of the most modern description in such a state that no one could make use of it, and even as to these houses we have had to

serve repeated notices during the last two months requiring the tenants to remove the filthy defects. I mention this to show that when it is so difficult for a company of ladies, who have tenants in five houses, to make them keep their places in proper order, how much more difficult must it not be in the case of a sanitary officer who has to inspect several hundred of this kind of houses. I mention this also, because the sanitary officers have, in my opinion, been most unfairly attacked by critics who have little experience of the difficulty of keeping houses of that kind in proper order. When these five houses have been the subject, in the last few months, of so many notices, it is quite evident there must be great difficulty in the way of keeping the houses clean, when one sanitary officer alone has charge of so many hundreds of them; but I must say that I think these ladies are doing really good work, and I sincerely hope their example may be imitated by a great many others. Bad as the condition of some of these houses—merely with regard to filth—not structural defects at all, but merely the state of filth that I observed in them, when tenement houses are under better supervision than can ever be given them by their present owners, the houses will be kept in much better order than they are at present.

388. You attribute great importance to these ladies as educational implements, as it were?—Immense importance—are you speaking of the ladies of the Alexandra Guild?

389. I am talking of ladies in general?—Yes, I attach immense importance to them.

390. Alderman MEADE.—How long is it since these houses were open to these ladies?—They were opened last year.

391. Then in the course of a very short time they were in the state you have described?—Yes; I visited two in Granville-street not long ago, and I found excellent sanitary accommodation provided and everything that could be done to make the condition of the houses good. I talked to one of the tenants as to the filth I saw in the house, and when I asked "is this filth here long?" "Oh," said she, "the place was cleaned this morning." I should mention that these ladies employ a man to clean the place in the morning, and when I visited it early in the day I saw vegetable matter and every kind of filth and excreta about the house, while all its fine sanitary accommodation could not be made use of. There was a beautiful new mahogany-seated closet, with rising lid, and everything perfect, but it was rendered useless by filth.

392. Dr. R. L. SWAN.—Still you think there will be a gradual improvement in consequence of the efforts of these ladies?—Yes; these houses were in a deplorable state when they took them up—infinitely worse than they are at present.

393. Is it your opinion that the very poor are lamentably ignorant about the laws of hygiene?—I believe they are.

394. As to the importance of ventilation, for instance?—Yes; their environments for such a long period of time have been, I may say, so filthy that they have been accustomed to live in these kind of places, and for such a long period of time, that they have grown up without having the sense of feeling that filth is dangerous. We have sent round circulars over and over again, and distributed them by the thousand, pointing out the necessity of keeping the places clean and warning them that disease results from dirt; but notwithstanding all that, we found it practically impossible in this lowest class of tenement houses to keep them clean, and nothing will improve these houses except to have them in possession of either a company or a number of benevolent ladies like the Alexandra Guild or the Corporation, who will have them under strict supervision—no other way will ever keep them in a state other than that which will be a menace to public health.

395. How many sanitary inspectors are there?—We have twenty-seven.

396. And dividing the 2,000 houses would give the number of this class of houses for each?—Yes, the twenty-seven inspectors inspect the residence of 32,000 families. I got a census instituted by myself personally some years ago, and got information not supplied in the Registrar-General's returns. His returns have grouped the families on a system which does not strictly admit of one determining how many very poor people there are, because the returns are based on the number of families in each house; but there are hundreds, I would say thousands, of houses that have four families each that are in much better order, though inhabited by a greater number, than some of the houses that have only two families. Some of the wretched houses have only two families in each, and, therefore, I had a census taken which showed the number of families inhabiting houses of the class open to inspection and of the sanitary accommodation they were provided with, and that census shows that in Dublin at the time it was taken, some years ago, there were 32,000 families occupying 48,000 rooms. I am very sorry I did not sub-divide them into those holding one and two rooms. All these families have to be inspected periodically by the sanitary officers.

397. All these 48,000 rooms?—Yes.

398. Then it would appear that one inspector has to supervise on an average 1,185 families?—Yes, about that number.

399. Dr. J. W. MOORE.—Are these families or individuals?—Families—32,000 out of 54,000—about 7,000 houses giving accommodation to 32,000 families, and the remaining 17,000 accommodating 22,000 families.

400. Dr. R. L. SWAN.—Do you think you have a sufficient number of inspectors?—Well, naturally a medical officer of health would like to have a very large number of inspectors.

401. But what is your opinion as to the number?—I would like to have a larger number of course.

402. It appears to be an undue amount of work that one person should have to inspect the vast number of 1,185 families in a year?—It is a very large number, but many of them occupy fairly decent tenement-houses.

403. They have to inspect them constantly—it is not weekly or monthly, but constantly that they require inspection?—It takes about two months to go round all the places they have to visit; but we have a system, and we know exactly where a sanitary officer should be, for the purpose of having him supervised. They have sheets showing the places, and we know exactly every morning where the officer is to go that day. The streets he has to take up in rotation, but many of the houses are in very good order, and it is chiefly for the purpose of seeing whether the sanitary accommodation is defective, because we get about 100 notices every week that the water-closets have got out of order; in fact so frequently have these notices come to us, and such an enormous amount of nuisance is created by the stoppage of water-closets that I have devised myself a new form of water-closets which is not provided with a trap for these houses—we expect a large consignment of them to be on sale in Dublin very soon—it consists of a closet without the trap at the closet itself. The trap is in the yard at a short distance from the water-closet, so that if any block should occur the water-closet can still continue to be used, and the defect is seen at once in the Buchan trap in the yard. The Society of Architects have approved of it, and we have great hopes that the adoption of it will put a stop to this terrible nuisance arising from water-closets becoming blocked, because as soon as the water-closet is blocked they go on using it—and using it although they see it cannot be flushed. I am sure if you went round at the present moment you would find a large number of the closets filled to the top and overflowing; and I need not say that in summer especially that is a most dangerous state of things.

404. Have these sanitary inspectors the duty of prosecuting at the police courts?—Yes.

405. Then, a great deal of their work is clerical work?—They are all authorised to act on behalf of the Sanitary Authority in prosecutions.

406. You have two lady inspectors?—We have four now on temporarily.

407. Their appointment is not permanent?—Not yet.

408. Then it is a tentative measure?—Yes.

409. Do you approve of their appointment?—Yes, strongly; and it was on my recommendation the Public Health Committee made the appointments.

410. What class of ladies are they?—They are all ladies who have passed the examination of the Royal Institute of Public Health, and have diplomas certifying that they are qualified to discharge the duties of sanitary officer. One passed with very, very high marks, indeed—I think over 75 per cent.

411. Is it an attractive occupation in reference to pay—does it provide a competence?—They receive 30*s.* a week, and that is more than they receive in Glasgow. I think they have ten lady sanitary inspectors in Glasgow, and all over England they are appointing them, and if any city in the world requires a staff of lady sanitary inspectors I think Dublin requires it.

412. And your advice and opinion would be that the authorities should increase the number of these lady sanitary inspectors?—Yes; but at present, we may say, there are no permanent lady sanitary officers; but there are two who have been for nearly eight or nine months occupied in sanitary work, and two others were appointed recently during the scare caused by the increase of the death rate. I was directed, amongst other things, to employ them, and I may say I get *carte blanche* to employ any number I liked in this matter, as I always do, and I employed some of them temporarily, and all those employed have taken out certificates, either of the Sanitary Institute or the Royal Institute of Public Health, and I took care that two of the temporary officers would be ladies. They are working away, and doing good work at the present time, and I really think Dublin would require permanently four lady sanitary inspectors, whose duty would be to deal chiefly with the women of the tenement houses, and to induce them to pay more attention to the wants of their children with regard to keeping them clean, and many other things which I need not describe publicly, as they must be known to every one of us.

413. You consider that they would be more useful than men?—Far more useful. In fact, there are some subjects that ladies can deal with, that it would be quite impossible for men to deal with. We know that the people in this country have very strong sentimental feelings, and there are many subjects that are openly discussed without any shameface in other countries that would never be discussed in this country at all in any open manner, and there are many subjects on which men can speak in other countries that would be highly resented by our highly sensitive female population.

414. Has the cost of clearing unhealthy sites been considered?—Yes.

415. Could you give an idea of it?—About £5,000 per acre has been the cost.

416. About £5,000 per acre?—Yes, fully that; the Bride's-alley area may be something more—Plunkett-street and the Coombe areas cost about £5,000 per acre. I may say we are in a very curious position, in Dublin, in regard to insanitary houses. We must either do one or other of two things; they are either to be got rid of altogether without any compensation whatever to the owners, on a closing order, or acquired at a cost exceeding their value—I really felt great compunction, very often, in getting what we term a closing order, when I have known, in many cases, a closing order meant that the people that owned these houses should actually go into the workhouse. In my own experience I am aware of many persons, owners of tenement houses of a low class, who were obliged to go into the workhouse when their property was closed.

417. You consider this an unfair process?—Yes; it is a great hardship, and really, to a great extent, it prevents me, in many cases, from giving a certificate that a house should be closed, when I knew that that means the converting of the owner into a pauper; but on the other hand, if the house is taken under the Housing of the Working Classes Act, first or second clause, or when it is taken under any Act of Parliament which enables the Corporation to clear it away, the cost of acquiring it is enormous. A deputation waited on the Public Health Committee some years ago, and made a strong complaint as to the operation of the Corporation in closing a number of houses in their area. Some years ago, on orders from magistrates, a very large number of houses were declared to be unfit for human habitation in the region lying between High-street and St Patrick's Cathedral—these houses, as I have already mentioned to the Committee, when closed up soon become ruins, and sometimes disappear altogether. The condition of Bride's-alley area is somewhat like that of a city after a bombardment. The roofs are gone in all directions, and I remember seeing in one of the evening newspapers a picture of this place with the roofs gone, and many of the walls collapsed, and altogether presenting an extraordinary spectacle, and the Committee suggested that no more houses should be closed, although they were altogether unsanitary; and they also suggested that the area should be cleared, and that dwellings for the working classes should be erected there, and they were urged to do that on the ground that the sites could be got for a mere song. I doubted it very much that they could be got for a mere song, from my experience; however, the Corporation are now clearing that area, and the cost of acquiring the site will be more than £30,000, so that it will be considerably more than £5,000 an acre. One house alone—a public-house, cost £4,500 for acquiring: that shows how expensive it is; but these houses, if sold in the ordinary way to persons other than the Corporation, would hardly get a purchaser at all for most of them, and at all events they would not have been sold at as great a price as the Corporation had to pay, so that we are between Scylla and Charybdis—we must either give no compensation at all, or give what I always considered an excessive sum. I think that something ought to be done in the way of legislation to enable some public and impartial valuator to place a moderate value on the houses that we could close altogether without giving any compensation on a closing order, but not to place a value on them as if they were houses fit for habitation. I don't know of any point that requires more careful consideration with a view to legislative action than that subject of the value of houses acquired by a sanitary authority in that way.

418. Chairman.—You are aware of what has happened since 1896, that the former process was to appoint an arbitrator who made an award, and then had to hear again any objections that were made, and after that, every person had a right to go before a jury?—Yes; and now, unless it is over £1,000, there is no such right.

419. Now, that is practically done away with altogether, and the arbitrator sits, and you may say in no case is there a traverse likely to occur?—No; except any sum over £1,000.

420. That makes an immense difference in the cost?—Yes; but still the sums given are large; valuators appear for the person whose house is taken, and show the revenue got from it in the shape of rent, and this point is taken into consideration, so that the value of the house is determined by what the person has received from it in the form of rent. I say it should not be taken on that basis at all, for

if a medical officer certifies that it is unfit, though the house is not actually closed we can say it is a house that should not be occupied in its present state, and in such case the full value should not be given.

421. Right Hon. Alderman MEADE.—In the Bride's-alley case, wasn't there great loss of time, and didn't it take some years to clear up the title to some of the houses?—Yes; one of the most difficult things is to find all the persons interested in the house: as many as five owners are to be found sometimes; there is the ground landlord, the person who originally took the ground 150 years ago, "his heirs, executors, administrators, and assigns" have to be sought out; then the original owner of the house has given someone else a lease, and that man has given over the house to another on a lease, and then there is the actual occupier; to that we have sometimes as many as six or seven interests to discover, and to find out the value of each interest. All this makes it a most complicated matter—the legal proceedings were protracted over three years in the Bride's-alley case. Then there was a fight as to the value. Some of the houses were worth nothing at all, and we could have closed them as being insanitary. My point is this, that houses that have not been closed by a magistrate's order, but still that the medical officer might certify ought to be closed, if there was any place that the people could go to, should not have a value dependent on the actual rent received. That is my sole point, and I don't think that it has been acted on up to the present. I believe in some town under a local Act that power has been obtained lately—I think it is Bristol. I am not quite certain, but I know something like that has been obtained under some local Act, and we want it very badly in Dublin.

422. Dr. SWAN.—I want to ask you one question more as to the sanitary officers; is it their duty to disinfect dwellings?—No; that is done by another class of officers.

423. What do you call these?—We have a disinfecting department, which has a staff of about thirty-three people.

424. Do you mean a sort of sanitary sub-officer?—No; they are not sanitary sub-officers.

425. What are they?—They are a distinct department—the Local Government Board don't recognise them as sanitary sub-officers for the purpose of recoupment. I will explain the system. All notifications go to me. When a notification arrives it is recorded in the Notification Book. That is an actual document, which is a printed form, sent out in book form, with stamped envelopes, to the medical men in Dublin, who receive books of forms of notification, and bundles of stamped envelopes. I don't know whether we are justified in giving the stamped envelopes, but we do it. When a notification is sent in it is put into a large book, and a copy of it is also put into a book for the disinfecting department; then if the word "No," which is in the notification form is struck out, no immediate attention is required. We have two inquiry officers who are above the position of the ordinary inspectors, and if the word "No" is not struck out, one of them goes at once to the house, and sees whoever are the responsible persons, to ascertain what they wish done—do they wish an immediate disinfection of the room if the person has been removed, and also to ascertain whether the clothes and bed have to be removed. Then the disinfectant van is telephoned for, if the rooms are to be disinfected. There is a very large van provided with all the necessary apparatus for disinfection, two men and a woman go to the place, and then the place is disinfected. The clothes are all taken away, and disinfected, and returned subsequently. If the word "No" is allowed to remain in the form, then after a time we write a letter, a regular printed form with my name attached, to the medical gentleman who has notified the case, to see is he now ready to have the place disinfected, and it is pointed out that if he does not certify that the place has been disinfected under his direction, we will be obliged, under the Public Health Act to disinfect it. If the medical attendant gives under his hand a certificate that the place has been disinfected, that is an end of the case; if not, we insist on compulsory disinfection. Here is a copy of the form sent out—"Sir, on the blank date you notified a case of so and so occurring on so-and-so, and stated that no immediate attention was required. I now beg to state that the disinfectors of the Public Health Committee are ready to disinfect the premises occupied by the patient. If the occupier desires to have the disinfection performed by persons other than the Corporation disinfectors, it will be necessary to notify me the time at which the disinfecting is to be performed, in order that I may ascertain whether it has been properly performed under the Prevention of Infectious Diseases Act, 1890. The bed clothes of the infected patient must, on the demand of the sanitary officers, be delivered to these officers for disinfection." If that is refused we get compulsory disinfection performed. This enormous block of letters (produced) is only duplicate letters from the 10th of August last to the various medical attendants on these cases.

426. How many of these houses, on the average, are disinfected, say, in a week?—Sometimes, during epidemic times, 200 of them are disinfected—I have sent in a return showing the number of disinfections in different years. I wish to hand in a return I referred to yesterday, of the dwellings of the working classes, on which a rebate of 25 per cent. is allowed.

427. Dr. T. THOMSON.—In the course of the very valuable evidence you put before the Committee yesterday, you gave us certain figures about the mortality statistics of the Dublin registration district?—Yes.

428. And I see in a copy of your evidence here that you also give similar statistics for the city of Dublin and the suburbs of Dublin separately?—Yes.

429. These were not specifically mentioned by you, yesterday, in your evidence—I mean the statistics regarding the city?—No; I did not mention them; I merely handed them in; there were a great many things that I did not mention; there were a great many things that I did not trouble the Committee with, though I mentioned them in the printed document. We may say that the death rate in the suburbs is about 50 per cent. less, but I may remark about the suburbs, that the birth rate and the death rate are much the same; in fact, in some years the birth rate is less than the death rate, so that the suburban population would undergo extinction if they were not recruited, so to speak, from the city. The birth rate in the city is greatly in excess of the birth rate in the suburbs.

430. My point is this, that, inasmuch as this Committee is dealing with the health of the city of Dublin, these statistics referring to the city, without reference to the suburbs, are of particular value to us?—Yes; for that purpose, we showed the difference in the city and suburban death rate, and what we do claim is this, that when comparisons are made between Dublin and London, and the English towns, they should be with registration areas.

431. Meaning that you think the areas selected for comparison should resemble Dublin to some extent?—Yes.

432. But you cannot expect to get an area similar to Dublin in every respect?—No; the return of the English Registrar-General deals with registration areas, and London is dealt with as an area of

4,500,000, and when we compare Dublin it would not be fair to take only the city of Dublin, which is only portion of the metropolitan area; we claim that the whole of the metropolitan area of the metropolis of Ireland, though it happens to have a great number of governing bodies the same as in London, is the registration area, and that that Dublin should be compared with the registration area of the English towns, and then to show the difference in the rates in the city and suburbs I prepared the table which I submitted to you.

433. I understand that; but you would not take exception to comparison between the city of Dublin and certain districts in the registration area of London which resemble Dublin more closely as regards amount of population and density of population?—I would not, provided there was the same proportion of the poorer classes in each.

434. We can hardly hope to get a case accurately resembling Dublin—we can only look for some general resemblance between Dublin and other comparatively densely populated areas. These figures that you gave us as regards the general death rate from all causes in the city of Dublin, are they the recorded death rates or the corrected death rates?—They are the recorded death rates.

435. They have not been corrected by distribution for age and sex?—No; I had that done for Dublin myself.

436. But it is not done in this list?—No, I take this as the Registrar-General's list; but in my annual report I have corrected for age and distribution for Cork, Dublin, and Belfast.

437. If these recorded death rates for Dublin were converted into corrected death rates would they be higher or lower?—They would be higher.

438. There are certain districts in London which one would think may not unfairly be compared with Dublin city—you, probably, would not take the view that one would be entitled to make a strict comparison, but there are certain areas which are not suburban, where the density of population is as great as in Dublin, and, in not a few cases, is considerably greater?—Yes, there are.

439. For example, I have noted down a few. I have taken a few of the ones in which density of the population exceeds the density of the population in Dublin; for example, St. Pancras. Probably you are acquainted with most of the districts I am going to refer to?—Yes; I know them all, and I know St. Pancras very well.

440. The area of St. Pancras is 2,672 acres, and in 1896 the population was 240,480. St. Pancras, therefore, is, as regards the number of population, not unlike Dublin?—Yes.

441. The density there is ninety persons per acre; the recorded death rate during the ten years, from 1888 to 1897, was 20 per 1,000, which, of course, is much less than the recorded death rate of Dublin?—Yes, we admit we have 20 per cent. more than the English towns; but what was the zymotic death rate.

442. I am coming to that presently. The next is Islington; the area is 3,109 acres, and in 1896 it had a population of 335,772, giving a density per acre of 108 persons, and during the ten years from 1888 to 1897 the recorded death rate was 17·7. In Chelsea the area is 794 acres, and the population, in 1896, was 96,868, and it has a density of 122 persons per acre. The recorded death rate for the ten years 1888 to 1897, was 19·5 per 1,000. Shoreditch, which is one of the East End districts, has an area of 648 acres, and a population of 122,472, giving a density per acre of 189 persons. The recorded death rate in the ten years from 1888 to 1897, was 22·7 per 1,000. St. George's in the East, another East End district, has an acreage of 244, and a population of 47,580, giving a density per acre of 195 persons; the death rate of that district in ten years, from 1888 to 1897, was 28·1 per 1,000. One has, however, in considering St. George's in the East, to remember that there are public institutions in that district, and that if the deaths from these were distributed, the recorded death rate would be 24·83 per 1,000. Whitechapel, which is the most densely populated district in London, has an area of 379 acres, with a population of 78,832, giving a density per acre of 208 persons; the recorded death rate during the ten years 1888 to 1897, is 22·8; but Whitechapel, like St. George's in the East, is a hospital district, and if the death rate in the hospitals were distributed in the usual manner, the death rate would amount to 20·18 per 1,000. Now, in Dublin city, the mean death rate during the same years, from 1888 to 1897, was 28·79 per 1,000. I omitted to ask you as regards that, whether, in making that estimate of 28·79 per 1,000, the deaths in the hospitals in Dublin have been distributed to the districts from which they came?—Yes, the deaths which occurred in the public institutions in Dublin are distributed in this way—the last place from which a person has been admitted into hospital is credited with the admission of that person; but what we say in Dublin is that the very large number of persons come into Dublin for a very short space of time, and go into the public institutions and workhouses, because there is no law of settlement in Ireland, and any person who presents himself at the workhouse is admitted, no matter where he came from, and the district from which he is admitted, though he might only be one night in it, is charged with that. We say in Dublin we are affected by the broken-down population of rural districts to a greater extent than the English towns, because while two-thirds of the people in England belong to the towns, and are resident in the towns, only about one-fifth of the population of Ireland live in towns, so that we are disturbed to a larger extent by immigration of broken-down people, than is the case in English towns. As an example, I may mention that about 40 per cent. of the public hospital beds of the whole of Ireland are contained in the Dublin metropolitan district, though we have only one-thirteenth of the population, but I have admitted from the very first that our general death rate is largely in excess of the death rate in English towns, and I only maintain that our infantile and zymotic death rates are not.

443. My main point, however, in calling attention to certain areas in London was to compare the density of Dublin with the density of these particular areas, and to regard the death rate from that point of view. I think, probably, you will agree with me that high density of populalation is, in itself, an undesirable thing?—Undoubtedly.

444. But you may also be prepared to agree with me that while that is so, yet there are other conditions which are of considerably more importance than mere density of population; and that if a population which is dense in a given area is suitably housed, and living under proper sanitary circumstances, you may, nevertheless, have a death rate which, while not quite satisfactory, is, nevertheless, a great deal better, for example, than the death rate you have in the city of Dublin. That is why I call attention to these death rates in these crowded areas of London; not that I maintain they are in themselves good, but to show that density of population is compatible with a death rate considerably lower than the death rate in Dublin?—On that point, may I say I know these districts, and I would point out there is a more equable distribution of the houses on these districts than in Dublin. This map will show the enormous congestion in certain districts—these great spaces of the city that are nearly unoccupied, many of them being mere slob land, low lying and unsuitable for dwellings—of course the apparent density of the population must be much diminished by these spaces, which are not to be found in other districts, besides, the greater

height of these houses as compared with Dublin, is to be considered, because that makes their cubic space greater than our cubic space, and it is worse if you have a great density of population, to have that great density coincident with the persons living in dwellings of a moderate height, because they are in a worse position than if the people are living in lofty houses where they would be up in a higher atmosphere, which would therefore be purer. We must, therefore, also take into account the height of the houses in Dublin in relation to the density of population. You will see yourself that in the poorer parts of this city the houses are not very lofty, although they are placed very close together; nothing can better illustrate that than the enormous height of portion of the houses in parts of the city in London. I acknowledge that 64 is a high rate, but on the whole, the zymotic death rate is much smaller than in the average of districts of similar size in England.

445. In connection with this, you mentioned the other day, that there has been in Dublin a certain amount of building on the part of the Sanitary Authority, for the benefit of the working classes?—Yes.

446. In these areas is there much crowding in the small area that is occupied by these buildings?—No, there is not, the number of people displaced was somewhat in excess of the number of people who replaced them, and the density of the population was diminished on these areas.

447. But did it remain great?—I think it might be about 120 or so per acre.

448. Well, probably you have some knowledge of the death rate in these areas—is it high or low?—The Artisans' Dwellings Company have provided dwellings for about 10,000 people, and the Corporation Dwellings only provide accommodation for about 1,500 people, and we find that in these areas the death rate is moderate, and the cases of infectious disease are not frequent.

449. Dr. J. W. Moore.—Excuse me interrupting—perhaps you saw Sir Richard Martin's statement on that subject at the annual meeting of the Dublin Artisans' Dwellings Company the other day?—Yes.

450. And he gave the death rate at a moderate figure?—I don't remember it.

451. He said it was 11 per 1,000 per annum?—Well we must take into account that a death rate of 11 per 1,000 in that case would not be the actual death rate of population because one-third of the Dublin people die in eleemosynary institutions. It is appalling, and it is double what takes place in English towns, and it is one of the best proofs of the poverty of Dublin that while the average number who die in hospitals in England is about 16, here it is 32 or 34 sometimes per 1,000. Therefore, I say that the people who occupy artisans' and labourers' dwellings in Dublin, when they get into poverty, of course, go into public institutions and die there, so that we cannot take 11 as the average for these artisans' dwellings, but at all events it shows they have a very moderate death rate, even making allowance for those who have broken down and have to go into the various hospitals and workhouses.

452. Dr. T. Thomson.—As regards the zymotic death rate I have extracted from the figures you put in evidence yesterday that the zymotic death rate of Dublin city for the ten years 1888 to 1897 was 2·94 per 1,000, and that as compared with 33 large towns in England and Wales is in excess, because the average in the 33 large towns in England and Wales during the same period was 2·04; so that Dublin was, as regards the general zymotic death rate, in excess of the 33 large towns?—Yes; but if you take the whole area of London, as I have already said, it would not be fair to compare it with Dublin. Let us take and compare Dublin with any of the districts that you have compared Dublin with as regards the general rate, and you will find that the zymotic death rate in them is in excess of our zymotic death rate.

453. I hope I made it quite clear that I recognise the difficulty in making a comparison between Dublin and the large towns in England; but due allowance can be made for the circumstance you so properly point out as regards the districts in London I quoted?—These are the densities of the different districts in Dublin, and still though they are less than what you have quoted, you will see one large ward with a population of 9,000 where the density was 123, and in another ward, a very poor ward, with no open spaces at all and with a population of 20,448, the density was 128·6. However, I made no great point in my evidence yesterday with regard to density of population except in certain areas.

454. As regards the zymotic death rate in these particular districts I have already quoted in London I find some of them have a zymotic death rate in excess of that of Dublin, and others have a death rate which is less. For example, St. Pancras, Islington and Chelsea during the ten years from 1888 to 1897 had a smaller zymotic death rate than Dublin. Had smaller than the registration area?—No, smaller than the city of Dublin, which I am considering in relation to St. Pancras and the other London districts, which I selected as more closely resembling Dublin city than the Dublin registration district—St. Pancras, Chelsea, and Whitechapel had a slightly lower zymotic death rate than Dublin city? Is this for one year?

455. No; this is for ten years, 1888 to 1897. Shoreditch and St. George's in the East were both in excess of the rate in Dublin—one was 3·68, and the other 4·32?—4·32 is very high.

456. You will probably agree that the zymotic death rate as a whole may prove somewhat misleading in considering the sanitary circumstances of a town. There are certain of the principal zymotic diseases that are generally considered as having more direct relation to sanitary circumstances than others—to that I have no doubt you agree?—Yes, in typhus and enteric fever.

457. Enteric fever is one, and diarrhœa may not improperly be taken as another?—I agree that diarrhœa may; but we have a lower death rate from diarrhœa than the English towns—it hardly ever goes up to 1 per 1,000.

458. I notice that your diarrhœal death rate in Dublin for the ten years 1888–97 was ·78 per 1,000, which is less than the diarrhœal death rate for the thirty-three large towns, which was ·86 per 1,000; but on the other hand it is higher than certain of the London districts, notably St. Pancras, Islington, Whitechapel, and Chelsea, which have a death rate from diarrhœa during the same period which was less than that of Dublin?—Is it much less?

459. Islington, ·56; St. Pancras, ·65; Chelsea, ·67; Whitechapel, ·72?—These are the four that are lowest.

460. Yes; but Shoreditch and St. George's in the East are both in excess of Dublin as regards death from diarrhœa—one is 1·02 and the other 2·41?—That is double our death rate.

461. Dr. J. W. Moore.—Pardon me for interrupting; but with regard to the diarrhœal death rate you are perfectly aware it depends very largely on temperature?—Indeed it does.

462. And you are also aware that the temperature of the London districts is very considerably higher in summer than it is in Dublin?—Yes.

463. And especially the temperature of the soil, so that the lower diarrhœal death rate may to a certain extent be explained by a lower temperature both of the air and soil in Dublin?—Yes, we always have a higher death rate in warm summers; but they have the same in England, too—it goes up in warm weather.

464. Dr. T. Thomson.—The interruption is very convenient, for it brings me up a point I had intended to refer to presently, and which I may refer to now. We have here in your annual report for 1898 a list of the temperatures in Dublin; and during that year, taking July, August

and September as being three of the hot months in Dublin, the maximum temperature was, in July 74·5, August, 74·1, September, 80. These were the three maxima for these three months; and in London in the same year the maximum temperature in July was 82, August, 90, September, 92·1. The mean temperatures for the same months were, in Dublin, July, 58·8, August, 58·9, September, 57·7. In London during the same three months the mean temperature was, July, 61·5, August, 64·6, September, 62·1—a quite appreciable difference in the temperature of the two places?—However, if we have an equable climate we have at the same time a more damp one, which increases our death rate from diseases of the organs of respiration.

465. But other things being equal, you would anticipate a favourable influence on diarrhœa in Dublin as far as climate is concerned?—Certainly. I have attributed our moderate death rate from that cause many many times to the lower summer temperature we have.

466. As regards enteric fever, I find in your annual report that the death rate in Dublin during the ten years, 1888 to 1897, from this cause was as high as 0·50 per 1,000—that is a very high rate?—Yes.

467. And, during the same period in the 33 large towns of England, the death rate from enteric fever was 0·20 per 1,000, so that the death rate in Dublin from this fever was two and a-half times as great as the death rate from this cause in the 33 large towns?—Yes. Enteric fever is a zymotic disease which appears to be more serious in Dublin than in any towns except Belfast and St. Helens, in Lancashire.

468. I note also that, as compared with the London districts I have already quoted, Dublin is far in excess as regards its death rate from enteric fever?—But our enteric fever and diphtheria death rates together are not in excess of the death rate from these two diseases taken together in the English towns or in London, so that if we suffer more than the English towns from enteric fever we suffer less from diphtheria, which I look upon as a disease of a somewhat similar character, as enteric fever is a disease resulting from a certain condition of soils.

469. Dr. Moore.—And you are perfectly well aware that diphtheria has unfortunately shown an increased prevalence in and about Dublin?—I am very sorry to say it has, and in many of my reports from time to time I have expressed the apprehension that that disease, which I look upon as a soil disease, may get established in Dublin. For a few years we had only four or five deaths from it, but for the last three years it has shown a decided increase.

470. Dr. T. Thomson.—In these London districts the deaths from enteric fever are lower than in Dublin. I have the rates for the districts which I have already quoted, and it appears that in Dublin the rate is nearly four times as much as in these areas on the average, and in St. George's in the East, which has the highest death rate from enteric fever among these London districts, the rate is only 0·16, so that Dublin is more than three times as much as George's in the East?—Yes, and in one of my reports I make a comparison of the death rate from enteric fever for the ten years and it established that the highest was in St. Helens, next Belfast, and the third, Dublin. I have never concealed the fact that enteric fever is our most serious zymotic disease in Dublin, and it appears to be distributed pretty well all over the year; there is no very great curve. I will put in the diagram showing the average number of cases per week for a period of twenty-nine years. I have already mentioned that the cases are more numerous upon loose soils and limestone gravel than on clay.

471. I was about to ask you whether you had formed any definite opinion as to the causes of the high death rate from enteric fever in Dublin?—I have formed the opinion that in Dublin at least enteric fever is what I may describe as a semi-malarial disease; we have a very good supply of water that certainly is beyond all suspicion—water gathered twenty-three miles away, from granitic and primary rocks—rocks of the most ancient character—pre-Cambrian rocks in fact, so that there is no possibility of typhoid being transmitted through the water supply.

472. May I take it that there is no question either of local contamination of the mains or of there being contamination of the water in the houses after distribution?—I was going to point out that the supply not being an intermittent one, all the water tanks have been practically abolished for storage. The water comes at once from the main, and the only way pollution might occur is by insuction of foul air during the temporary running off of the water in the main. If the taps were open over any foul place there might be an insuction of air, as happened in Caius College, as you know, many years ago. Something of that kind may occur occasionally, but that would be a very rare occurrence, and we may say, therefore, that the water is not likely to be the cause of enteric fever. Then, again, I think our main sewers are quite as good as the main sewers of other cities. Enormous sums of money have been expended on them. I find that the disease has spread through all classes of society. I made an analysis of the occupations of the people suffering from enteric fever. There was an idea that it was the upper classes that suffered most, but that is not the case at all; they all suffer alike, but it is distributed unequally through the city—some portions of the clay soil are occupied by the poorer classes, and others by the well-to-do classes, and the same with regard to the limestone gravel, and there are 50 per cent. more cases occurring on the limestone gravel portions than on the other. Dublin having been a midden city for centuries our soil became saturated with the midden stuff, and in that way the soil itself contains the micro-organisms that produce the disease, and in dry weather the soil permits the passage of the micro-organisms into the air. It is said that the *bacillus typhosus* is not transmitted through the air. I made experiments as to whether the *bacilli typhosus* are transmitted by means of water bubbles and strong currents of air, and I believe they are—I believe the soils of Dublin are tainted. There have not yet been conducted any extensive researches into the nature of our soils, but from such researches as have been made I believe that in Dublin this disease is a semi-malarial disease, and comes from the soil and not chiefly from defective sanitary arrangements, for I find cases occurring in the very best houses with absolutely perfect sanitary arrangements, and other houses that have the most defective sanitary arrangements have never had a case of enteric fever in them.

473. Is it within your means to put the Committee in possession of further figures showing the distribution of enteric fever?—Yes.

474. And also of maps which would show that?—Yes. I had a large map which showed the distribution of 4,000 cases; but it was lent out for the purposes of lectures, and there is some difficulty in finding it.

475. Dr. J. W. Moore.—I think a small copy of it would be found in the "Transactions of the Academy of Medicine"?—But there is a still later one in one of my reports, and it will show that the distribution is greater upon gravel soils than upon clays. There is more room for the circulation of the air in the gravel soil, and as the *Bacillus typhosus* is a aërobic one, the circumstances are more favourable for development in the gravels. As I have already mentioned, in the gravel which lies near the River Liffey and about Dame-street the water does not come within fourteen feet of the surface, whereas, if you went to the high ground on the North Circular road the water is within five feet of the surface. This shows that there is freer circulation of the air in the gravel soil, so that the underground air can ascend to the surface of the ground and escape. I

may mention that, in view of the statement made so frequently, that it is not an aerial poison, I placed the dejecta of an enteric fever patient in a vessel under a very large glass shade, and within the same shade, at some little distance, I placed a vessel containing sterilized milk. In twenty-four hours the milk was examined bacteriologically, and found teeming with the bacilli of typhoid fever, showing that during the fermentation of the dejecta the gases which were evolved had carried into the atmosphere the micro-organisms of the enteric fever, and I am quite sure, therefore, that they do go into the air. I have read the literature on the subject very extensively, and nothing will convince me but that the micro-organisms are propagated through the air, though I admit that that may not be the usual way.

476. Dr. J. W. Moore.—You have stated just now that you consider the soil of Dublin to be reeking with this matter?—I would not go so far as to say reeking, but it was polluted for centuries. Another source of pollution I mentioned yesterday, the floors of the ashpits and privies, as a rule, were not concreted; they were hardly ever concreted, they were mere clay, and, therefore, the liquid matter, or semi-liquid matter, went down in immense quantities into the soil. The cross drains from houses in former days were not laid upon cement or properly jointed, the only thing ever used was puddle, and, therefore, these cross drains allowed a not inconsiderable proportion of the sewage to get into our soil, but of course that is all done away with now.

476A. Are you of opinion or not, that long ago enteric fever was not very prevalent in Dublin?—No; I think it was always as prevalent as now, but it was confounded with typhus.

477. How was it confounded with typhus, for there are special authorities who made this subject a study, and they would surely have discovered the *post-mortem* appearance of enteric fever? It was left to a French physician, Louis, to discover the peculiar pathology of enteric fever. My personal opinion is that enteric fever became prevalent in Dublin only after the introduction of water-closets, and when the water-closets were turned into defective house drains. Such house drains continue to the present day, almost in nine cases out of ten. Murchison lays down that exactly the same state of things took place in Edinburgh, and that enteric fever was not known there until after the introduction of the water-closet system. The water-closet system with regard to a large portion of Dublin has only come into existence since I took up the question; in the whole of the area west of where we are now there were not fifty water-closets then, and yet there was a good deal of enteric there, and I cannot forget that one of our greatest physicians, Dr. Stokes, believed the two diseases were identical. He was of opinion that except when, perhaps, treated clinically, the diseases were identical, yet he was an acute observer, and still he believed that the one disease was the same as the other, that they were practically identical.

478. Not identical, but of the same species?—And typhus and typhoid were returned until a comparatively recent period in England simply as fever.

479. I want you to state whether, in your opinion, the house drainage, as distinguished from the main sewers in Dublin, is defective or not?—The house drains in Dublin, I may say, twenty years ago were, with very very few exceptions, defective, because they were not laid upon cement nor jointed with anything except common clay or puddle, and consequently they all leaked; but they are being replaced now by pipe drains, and besides that an immense number of houses twenty years ago—even in the case of Merrion-square—were supplied with built drains, which very often had not built bottoms, but mere clay ones. They were built of stone or brick sometimes, with flags on the bottom, not very well put together, and occasionally now I alight on some of these old drains.

480. And into these the water soil pipe was discharged?—Yes, and from these into the soil.

481. It was the case in my own house in Fitzwilliam-square. We have served notice on the owners to replace these drains with pipe drains; indeed so much importance was placed upon this, that by the Corporation Act of 1890 a house with a built drain is to be regarded as a house with no drainage—I can give you the exact number of these built drains that have been replaced in the last few years; they have gone up to thousands, but there was not 3 per cent. of the drains made long ago proper drains. This diagram of mine shows the weekly deaths from enteric fever for a period of twenty-nine years up to the end of last year, with a curve showing the temperature and showing no striking relation between the incidence of disease and the temperature. The disease was distributed pretty well through the whole year. It also shows its malarial character—Mr. Harty, our city engineer, tells me there are over 6,000 drains laid in the last few years on concrete—that is, new drains. At the same time I think there is a great deal in what Dr. Moore says about the pollution of the soil, owing to the first introduction of water-closets.

482. Dr. T. Thomson.—Do you attribute any material share of the recent enteric fever to defective house drains?—No.

483. Do you attribute any material share of that fever to articles of food, such as milk and shell-fish?—I do.

484. You do?—Yes; many years ago I investigated an outbreak of enteric fever in Dublin, that Dr. Moore knows a good deal about, for he made some researches himself in regard to it, and I found that sixty-three people suffering from enteric fever got milk from one dairy. On Fitzwilliam-square, where there are 70 houses, there were eighteen milkmen supplying them, and there was fourteen cases of enteric fever in fourteen houses, and the whole of these houses were supplied with milk from one out of the eighteen dairies. In that dairy the owner himself and his daughter had enteric fever, and I made a calculation according to the doctrine of probabilities as to what were the chances that this one dairy was supplying fourteen houses when there were eighteen dairymen supplying seventy houses, and it came out something like 1 to 100,000,000,000. Dr. Moore at the same time ascertained that 33 per cent. of the cases admitted into Cork-street Hospital at that time were persons who had used that milk, and we have quite recently had an epidemic with about seventy cases, and attended by eight deaths from milk coming in from a dairy outside Dublin, in which dairy there was a case of enteric fever. Four of the Royal Irish Constabulary died, I think, and there were eight or nine fatal cases altogether.

485. These are occasional epidemics?—Yes; but I think they occur very frequently—I found also cases attributable to another dairy. Some military people told me there were cases of enteric fever in their houses—some of them happened to be friends of my own, and I inquired where they got their milk, and I ascertained that four or five of the people got their milk from a particular person. I went to the house of that person, and I made inquiries, I asked was there any illness, and I was told one of the daughters had a cold, I asked to see her, and I found two of his daughters in bed and both had enteric fever; one was recovering and the other in the middle of the disease. I afterwards traced a large number of cases to the use of the milk in that place. He was prosecuted for not having notified the disease, and the doctor who attended the case and had not notified it was also prosecuted, and they were both fined not very long ago.

486. What number of outbreaks have you traced to milk in the last twenty years?—Of absolutely conclusive outbreaks four, and in other cases it was tolerably certain, but there were dozens of suspected cases.

486A. Have you had in Dublin any experience as regards the relation between enteric fever and shell-fish?—I have. I was the first to read a paper on the subject of the propagation of enteric fever by shell-fish, and I know something about that. It is very nearly twenty years ago since I read a paper at the meeting of the British Medical Association in Cambridge with the rather sensational title "Typhoid from Oysters." I showed that I had examined oysters and found characteristic bacteria of sewage. I had unmistakeable evidence of sewage in the oysters, and I said I had no doubt whatever that oysters were very frequently the means of communicating enteric fever. The same observation applies to cockles and mussels. My paper was not treated seriously, I am sorry to say. The distinguished president of the section said "I suppose, Dr. Cameron, this is one of your usual Irish jokes." That is nearly twenty years ago. I published that paper in the "Dublin Journal of Medical Science," of which Dr. Moore is the editor; but it did not seem to attract attention for a considerable time until I investigated another epidemic of enteric fever in Dublin, which I traced clearly to the use of oysters; and several other outbreaks have been also traced to the use of oysters in Dublin. We had two oyster beds in Dublin Bay—at Clontarf, and it was the Clontarf oysters I examined, and in which I found sewage in considerable quantities. There was no mistake at all, it was sewage—*Bacterium* in abundance, was present. The Port and Docks Board of Dublin asked me to make an investigation as to the desirability of having one of their two great oyster beds at Clontarf let for the purpose of keeping oysters there, and I made a report adverse to that, and these beds are not continued now; but there have been other beds there for many centuries, and those beds, I think, still might be used, because they were artificially elevated above the shore from which the sewage comes down. The sewage comes down trickling from the coasts into the sea, but immense quantities of sand had, in ancient times, been placed upon the bed of the sea shore and raised it higher than the beach, and upon these places numbers of oysters are now cultivated, and I would not think it at all desirable that that industry should be destroyed, because the beds are safe above the sewage at low water, but the other place was below the level of the sewage at low water, and it was in the oysters there that I for the first time found evidence of sewage. May I mention one case more, where some people from England, over at the Horse Show a very few years ago, had luncheon the day before they left. There were fourteen people at lunch, which consisted of oysters, chicken, and bacon—a very simple lunch. I was one of the fourteen, but I did not take oysters: I took the chicken and bacon. Eleven out of the fourteen took the oysters with or without the chicken and bacon, and of the persons who took the oysters, every one of them was attacked with the most serious illness, and the three who did not take oysters escaped. I was one of these three; otherwise, perhaps, I would not be here to-day giving evidence to the Committee. That is the last case I had, and it is only about three or four years ago, of disease spread by means of oysters. This was published in Dr. Moore's journal, and he will remember that these were some very eminent people from England.

487. Dr. J. W. Moore.—We gather from your evidence that the eating of oysters from the beds of Dublin Bay has practically ceased?—Yes, except these oysters I mention from the high artificial bed.

488. You are aware that the lower classes in Dublin partake very largely of the other class of shell fish—cockles?—Yes.

489. And you are aware, perhaps, of the outbreaks of fever that occurred in 1899 at Exeter and Ipswich, from shell fish?—Yes; I have read the reports about them.

490. Are you of opinion that cockles might be a contributory cause here also?—The same observation as I made to oysters would apply to cockles.

491. I have been investigating these matters myself, and during the past autumn we traced many cases in the Meath Hospital to the eating of cockles in an uncooked state.—And to mussels, too.

492. Well, cockles chiefly—it was amongst children who had been at Clontarf, spending the day, and eating cockles, and they afterwards developed the typhoid. Cockles are generally eaten cooked, but oysters are eaten, generally, without being cooked.

493. Dr. T. Thomson.—What would be the process of cooking in the case of cockles?—Boiling, mostly.

494. Because I have investigated how cockles are cooked, and I find that people are in the habit of simply steaming the cockles, and we know that the cockle opens in that process long before it could reach any stage of boiling?—I don't think the people of Dublin are provided with steaming apparatus.

495. I don't refer to that. The cockles are simply put into an open vessel and steamed—if they were boiled, they would be tough, and they would not be eaten?—I'm very sorry that the Bill introduced into the House of Lords, last year, for the protection of shell fish, was allowed to lapse; I hope it will be introduced this year again, for I have no doubt shell fish is a common cause, not only of enteric fever, but of diarrhœa. We have had a terrible case in Dublin, where a whole family died, three or four years ago, from eating mussels which were taken out of filthy water.

496. Right Hon. Alderman Meade.—That was at Seapoint?—Yes; and there the whole family died.

497. Dr. T. Thomson.—In recent years, I believe, the sewerage system has been in process of reconstruction in Dublin?—The main drainage system.

498. Naturally the soil has been excavated in the course of laying the new sewers, and there are those who think that excavation of polluted soil sometimes leads to the occurrence of enteric fever: do you think there has been any relation of that sort in Dublin, between the fever and the excavations?—We have had very, very strong suspicion that the immense excavations that have taken place in Dublin have had something to do with the increase of enteric fever. I know a case where the excavation of ground that had been polluted—this occurred at the Clergy Daughters' School—was followed by an outbreak of enteric fever, which was clearly attributable to the excavations made for the purpose of making a new sewer.

499. All these causes having been considered, what is your final opinion as to the main cause of enteric fever in Dublin?—My opinion is, that in Dublin, from some cause or other the disease is associated with soil; we have polluted soil, which, I trust, by recent operations, will, after some further time, become more purified, by insisting on the cessation of the discharge of sewage from cross drains into the soil, and also by main drainage improvements that will have been caused by the main drainage system. Many districts that were imperfectly sewered, for example, along the quays, will now be provided with proper sewers, and the drainage of the whole city will be greatly improved. I look forward to a substantial improvement being made by the main drainage works, in regard to enteric fever.

500. In reference to the relation of the soil to enteric fever, I think you possess some figures about the levels of sub-soil water?—Yes.

501. Dr. J. W. Moore.—Before we leave enteric fever, you said that this diagram did not show seasonal prevalence of the disease?—Not very well.

502. I think you will see it does, in this way: the scale is a defective scale, but, according to it typhoid prevailed to the extent of 100 per cent. more in the end of the summer, and in the autumnal months, than in the spring?—I see that; but the result does not show it as strongly as I thought it would. It is a question of season rather than of temperature.

503. Right Hon. Alderman Meade.—But it is a fact that it is always in the autumn that these fevers are highest?—Yes.

504. Dr. T. Thomson.—As to the infantile death rate, you pointed out that it is not, in Dublin, a very high rate, and that Dublin compares favourably with many other places, but there is one matter I wish to be quite clear about—I wish to know whether I have understood you properly—you said that, as Dublin has a fairly high birth rate, to that extent the low infantile death rate is all the more creditable?—Yes; but I don't think there is much stress to be laid upon it.

505. Do you think that the height of the birth rate has any relation to the infantile death rate when the latter is reckoned per 1,000 births?—Oh, high infantile mortality must be reckoned as adding to our general death rate: I think that is the way it is put by any vital statistics I have seen. It is only 3·92 per 1,000 total deaths with us, while in English towns it is nearly 50 per cent. greater.

506. As regards the infantile death rate per 1,000 births, you are better than some, and worse than others?—Yes, we are glad even to be an average; I mentioned it for this reason, that we have been described over and over again—and in the public press, even—as having one of the highest infantile death rates in the world.

507. We have some figures, given us by the Registrar-General for Ireland, as regards causes of death in Dublin; and I should like to know from you, as you must have considered this matter in your capacity of Medical Officer of Health, what are the particular causes of death in Dublin that are mainly responsible for the high death rate?—The high death rate of Dublin is due, I think, to high death rate amongst the 85,000 of the lowest class of the population out of the 245,000. That being the case, why is it they have such a high death rate, especially when the zymotic death rate is no higher than the average, and the infantile death rate is not higher than the average?—I think it proceeds from deficiency of food and comforts.

508. I am afraid I have not made myself clear—it is the particular diseases I want to get from you?—I am going to lead up to that by showing why they are more susceptible to disease. I believe they are underfed—I believe a large porportion of the people live largely on bread, porter, and tea. These appear to be their three staples, and I don't think their houses are as warm and comfortable as they ought to be. They are underfed, a great many of them are very poor—the large majority are very poor—and they suffer from all diseases that arise from poverty. The same kind of people, in most other towns, at all events, will have a high death rate, and I will assume that we have a larger portion of these people, and the fact that one-third of the people die in workhouses and hospitals, double that in other towns, shows that. Therefore, if there is that large proportion of the population less viable, the population of that class being higher than usual, will raise the total death rate of the whole population, and I therefore think the higher death rate proceeds from the fact that they are, in fact, a poverty-stricken people, who eat too little, and perhaps drink too much—I really cannot see any other causes.

509. But what I wanted to know was the diseases?—The immediate causes of death?

510. Yes?—Phthisis is a very serious disease.

511. That is in excess of the normal?—Decidedly; it is about 34 per 10,000 per annum amongst the whole population; and a very large proportion of these deaths occur amongst these 85,000 people.

512. Dr. J. W. Moore.—Thirty-four per 10,000?—Yes; we constantly see young men in that class die from phthisis, and there is no proper provision to give them a chance in the earlier stages of the disease—we have only one place where patients suffering from tuberculosis can be sent, and it won't afford accommodation for 5 per cent. of the number that it would be desirable to send to these places. I hardly ever knew a young man or woman of that class having tuberculosis who ever recovered. There is a very high rate of mortality amongst them; they suffer very much during the cold weather from diseases of the organs of respiration. They are awfully prevalent in Dublin, and you will see an enormous number of deaths due to diseases of the organs of respiration, including phthisis. I think the total would be something like 7 per 1,000, or nearly half the total death rate of many healthy rural districts. Then they suffer, also, a good deal from kidney disease: Bright's disease is very common amongst them.

513–514. Dr. T. Thomson.—And that, also, is in excess of the average?—Yes; all constitutional diseases amongst that class are in excess.

515. Are there any other diseases in excess?—Yes; I think all constitutional diseases are in excess.

516. Dr. J. W. Moore.—Do you call pulmonary consumption a constitutional disease?—No; I am not talking of that; I mean Bright's disease, and diseases of that kind.

517. Has the prevalence of tuberculosis ever engaged the attention of the Sanitary Authority of Dublin?—Yes; we have sent round notices constantly, and invited persons to have their places disinfected, and we occasionally disinfect rooms that have been occupied by phthisis patients; but we have no notification of the disease, and we get no notice from the Registrar-General's office of deaths from phthisis, as we do of other diseases, and I wish we did—I wish we had, I won't say compulsory notification, but some kind of notification, that would enable us to offer to disinfect these places. A great deal could be done, I think, by hygienic measures, to lessen that disease, and one of the best would be disinfection of the places from which persons had been removed suffering from that disease, for in other places, we know that when a tenant goes into a house where phthisis patients have been treated and a patient dies, the place has to be re-papered and disinfected at their own expense, and altogether treated as in cases of small pox. For instance, in all the places in Grand Canary, where patients of this class go, their rooms, when they leave, must be completely re-papered and disinfected.

518. Is it your opinion there is the profoundest ignorance as to the causes of pulmonary consumption amongst the population of Dublin?—Oh, yes; they don't believe it is contagious at all, and it is quite evident where a large proportion of the population—about one-third of the families in Dublin—live in one room, it is quite evident where there is a patient suffering from phthisis in that room, there is great danger; but they do not recognise the danger—they pay no attention whatever to the fact that it is a contagious disease, for they don't know it is contagious, in fact; and therefore, if a patient is actually dying he remains in the same room with the rest of his family until he dies. Of course, I am not prepared to offer any solution of the great difficulty—I don't think it would be feasible to make it a notifiable disease. You could not remove them to hospital, and you could not take them away out of the rooms which they inhabit—it would effect a social revolution.

519. You know that the National Association for the Prevention of Tuberculosis is largely circulating placards, at present, to inform the people on that point?—Yes; and I am recommending the Public Health Committee to circulate these large posters here.

520. Right Hon. Alderman MEADE.—But if you find cases of phthisis in Dublin, you have no place to send them to?—No; and what is the use of notification?

521. You must treat them in the rooms where they are?—Yes.

522. Dr. J. W. MOORE.—But the patients, and those in attendance on them, should be told how the spread of the disease could be prevented, for pulmonary tuberculosis is, we know, one of the most preventable diseases, and it is only when the expectoration dries that it becomes infectious?—It is very difficult to know what to do in these cases; there are so many people suffering from that disease. At present, what can you do with them?

523. Right Hon. Alderman MEADE.—The difficulty is to know where will you put them?—Yes.

524. Dr. T. THOMSON.—There is another source of information in your possession which the Committee has not been put in possession of, namely the number of cases of infectious disease that have been notified since the Infectious Disease Notification Act, 1889, was adopted in Dublin. How long has the Act been in operation in Dublin?—Immediately after the passing of it—I think it must be ten years now in operation, and I may say that the Corporation invariably adopt every Act, even if it is only a permissive Act, in relation to the public health. They have not only adopted the Notification Act, but they have added measles to the notifiable diseases. There is a return showing the number of cases for last year, but I understand you want it for the whole period?

525. Yes; for that would enable us to compare the number of cases with the number of patients treated in hospital?—There were about 5,000 cases last year.

526. We should be glad to know more about the hospital accommodation in Dublin for infectious diseases?—We can give you a printed document showing the number of beds.

527. I noticed that you made some complaint about the power regarding the providing of hospitals, and that such powers are not compulsory on the Sanitary Authority, but I take it they have that power?—Yes, they have the power.

528. And you know that that is the usual state of things, and that it is not customary to have compulsory power except under the Isolation Hospital Act of 1893, which only applies to certain districts?—Yes; but when the Boards of Guardians were the sanitary authorities it was compulsory, but now there is no such compulsion.

529. But in that respect you are on the same footing with other districts in England and Wales?—Yes, it is only permissive.

530. Dealing with the subject of notification, I wish to refer to a statement you made yesterday, that certain districts which abut on the city have not compulsory notification of infectious diseases—do you regard the fact that these districts have not adopted compulsory notification of disease as in any way involving danger to the public health of Dublin?—I think it is; for, if there was notification it would lead to the disinfecting of the premises, and the disease might be prevented from spreading. As a rule, these townships are virtually part of the city of Dublin—there is no artificial or natural division, and if cases are allowed to remain unnoticed, and the places not disinfected in the townships, we are in danger of an invasion of the disease from them. I will take a case in point, showing the importance of notifying infectious disease outside the city—the case to which I refer was the means of spreading typhoid through the city. The case was in a dairy, and it was not notified, and if it had been, the Sanitary Authority would have taken proper measures to prevent the milk from that place being sold. The result was that a number of people got enteric fever, and several of them died from it.

531-2. I should like you to tell me a little more about your food supplies, particularly milk, as regards the storage of milk in Dublin, and its distribution—whether these measures are carried out satisfactorily?—I don't know if I have handed in the regulations we have adopted with regard to dairies. We have recently adopted a stricter code of bye-laws. The fault we have to find as to the persons attending cows and milking them, it is very hard to keep them and their hands clean. When preparing a revised edition of the bye-laws, I asked the Public Health Committee to have a clause introduced dealing with the attendants in dairies, and that they should have proper means of keeping themselves clean. Bye-law No. 22, which the Committee has adopted, is as follows—"Every person, while engaged in milking cows, should keep his hands and person in a cleanly condition, and his dress shall also be kept in a cleanly condition. Before the men milk a cow any manure that may be near the animal should be moved to the manure heap. The cow should be kept in a clean condition, and before being milked, the udder should be washed." The dairymen have the greatest objection to wash the cow's udder; they say—but I don't know whether there is any truth in it—that the yield of milk is diminished, and, perhaps, if cold water is used, the shock will cause the milk to be withheld; but, if warm water is used, I don't see how the washing of the udder could diminish the yield; I know in well-kept dairies the udders are always washed. I have given strict instructions to the Inspector of Dairies on this subject—we have five inspectors—that, if that bye-law is not observed to prosecute persons, and to bring them before the police magistrates.

533. Are the conditions under which milk is stored and delivered satisfactory?—Not quite. Sometimes the milk is not stored in a perfectly safe place; but on the whole, I think the milk is not exposed to any serious contamination. The dairies and milk shops are regularly inspected, and at all events the Public Health Committee have done their best by having a very large staff—a much larger than any other town I know of. We differ from other towns by having a larger number of dairies; we have 250 dairy yards, with 5,000 cows.

534. What is the difference between a dairy yard and a dairy?—The dairy is the shop where the milk is sold. There may or may not be a dairy yard with a shop. We have nearly 500 milk shops, and nearly 250 of them are not associated with dairy yards.

535. In fact I suppose the dairy yard is the cow-shed where the cows are kept?—The shops are in the town and the dairy yards are in more remote parts. The shops are more central.

536. But what you really mean by dairy yards is the cow-sheds where the animals are kept?—Yes.

537. Dr. J. W. MOORE.—There are two things mentioned in the bye-laws, cow-sheds and dairy yards?—No; the cow-sheds are dealt with under the Contagious Diseases Animals Act.

538. But I think if you refer to the bye-laws you will see that one of them mentions both dairy yards and cow-sheds?—Yes, I think they are cow-sheds and dairy yards; but these only relate to milch cows.

539. Is there not a difference between a cow-shed and a dairy yard. Is not the dairy yard a conglomeration of cow-sheds, and is not the cow-shed a small shed where perhaps one or two cows are kept?—No, they are practically the same thing.

540. Are the cow-sheds included in the 230 that was mentioned?—Yes. There are no sheds in Dublin that have not a yard of some kind; but in many of the English towns I have seen cows kept where there

were no yards whatever, and in these cases the manure was put under ground in a little pit and carried away very frequently, and I must say that the dairy yards I saw in London were very nicely kept. The cows were clean and the place was kept strictly clean; but in Dublin the dairy yards are very often of immense size, and they seem to have a great objection to pave them, as they say the horses are constantly slipping on the pavement. We have caused a great many improvements to be made, but the head of the Veterinary Department of the Privy Council may give some evidence before the Committee, for that department has a great deal to do with dairy yards under the Contagious Diseases Animals Act, and they are in a position to state how the dairy yards stand now as to the position in which they stood ten or fifteen years ago. I think there has been great improvement in our condition, but there is a great deal to be improved yet, and some of the yards are not in the position they ought to be in at all; but we have no power to refuse to allow a dairy yard to be put up even in Merrion-square or Fitzwilliam-square, or to get rid of an objectionable one when they have complied with the bye-laws as to places for cows. We are getting these placards put up in the dairy yards for the information of the workmen themselves.

541. Dr. T. THOMSON.—Will you tell us quite briefly, since I suppose we shall have information in detail from some other person, how the house refuse is stored and removed in Dublin?—Well, there are two means of storage. One consists of ashpits, permanent structures, and the other system consists of iron bins moveable. We are doing our very best to get rid of the permanent ashpits, and I think about 7,000 have been got rid of. Just as we have practically got rid of petties, on the ground that they were a nuisance and injurious to health, so we are getting rid of all the ashpits, except in exceptional cases, where they are situated at the end of long gardens, and I hope that in Dublin as well as in Edinburgh that there will be neither petty nor ashpit in a short time. There is an enormous number of bins used. The bins in the case of tenement houses have not been emptied every day, but the Public Health Committee are very anxious that they should be. The Public Health Committee, however, have no jurisdiction as regards the cleansing of the city. That rests with the Cleansing Committee. They have the matter under consideration. They have made a strong recommendation to the Cleansing Committee—and to the Council itself—with regard to the advisability of having these bins emptied every day. Up to the present they have not done so; but in view of the recent scare the Public Health Committee, at their own expense, though they are not the Cleansing Committee, directed that the bins should be emptied every day, and they had the sanction of the Local Government Board for that; because, of course, it was an expense that could hardly have been legitimately incurred by the Sanitary Authority. It is a question of expense. The Cleansing Committee are willing to do it if they have sufficient money provided in estimates to enable them to do so.

542. Are we to understand, then, that in consequence of the insufficient frequency of the removal of the contents of these bins, nuisances have arisen?—Yes; they overflow. If we had two shifts it would mean more often removal, but the Monday, Wednesday and Friday removal means that from Friday until the Monday there are three days, and, besides that, the Sunday is a day on which there is a larger amount of food, especially in the form of vegetables, introduced amongst the houses of the poor, and the vegetable matters remain from the Friday until Monday. That is objectionable, but it is very expensive, this matter of domestic scavenging.

543. What becomes of the house refuse when removed?—Portion of the house refuse goes into a barge which is moored in the river nearly facing the Custom House, and is taken a long way out to sea, the same as is done in Liverpool, and another portion of it that is of some use for manuring purposes is brought to one or other of two depots, both within the city, and concerning both of which complaints, but not very often, have been made, having regard to the odour. A very large portion of vegetable refuse is brought to these depots—I would say many hundreds of tons in the year—it might probably go to thousands of tons, and this vegetable refuse becomes very offensive, and afterwards it is carted away to be used along with stable manure. Any portion that is of any value to farmers is retained at the depots until it can be carted away to the country, and the part that is of no value, such as ashes and things of that sort, go out to sea.

544. So that apparently a nuisance arises also from the depositing of this refuse?—Yes. Some of this stuff is burned in one of the two depots. A large quantity is destroyed in a furnace, but I think you will have some evidence about the erection of the "Destructor," but that is not in my department.

545. However, it is a question that does come within your cognizance, whether a nuisance does arise in the removal of the refuse, and I understand that that is so?—Yes, and of course there is a nuisance from these depots.

546. That being so, have you any suggestion to make as to a remedy?—I am strongly in favour of the use of destructors, and I have always been in favour of them.

547. Dr. J. W. MOORE.—I believe one of these depots at Marrowbone-lane is in close proximity to the disinfecting chamber?—Yes.

548. In fact they are on the same premises?—Yes, we are tenants to the Cleansing Department for portion of the ground.

549. Do you think any risk of infection arises in that way?—Well, that is a place in which no very offensive matter is supposed to be brought. That place is primarily and mainly established for street refuse—the wearing away of the macadamised streets, and it is mainly mud from the streets, but of course the mud from the streets contains some horse manure and that goes up to the depôt.

550. And a good deal more than that, too?—Well, that goes up to the place next the disinfecting chamber, but the manure stuff proper is sold to the farmers. It has been often suggested that the depôt should be outside the city, but the cost of carting would be greatly increased. The element of expense always comes in, and even outside the city it would be extremely difficult to get a depot. There is a place outside the city in a remote place, where one would think no one would complain, and the scavenge brought there is not very objectionable, and yet complaints have been made regarding it—that is, at the Crumlin road, in a great wide space, and even as regards that place complaints have been made, and I have been called upon by the Cleansing Committee to make suggestions for removing the cause of complaint. I suggested using disinfectants and making mechanical arrangements, which have been carried out. The Cleansing Department are most anxious that the collection and storage of the enormous amount of offensive matter should be removed with as little offence as possible, but wherever you put it someone will complain. But one thing I would strongly press, that is, against these enormous quantities of vegetable matter being brought into the city at all, and I think the Markets Committee should make regulations to that effect, and that that would mitigate the nuisance substantially.

551. Dr. R. L. SWAN.—Do you approve of the practice of erecting dwellings upon what might be termed mud-ground—ground made by the deposit of road manure, and cinders, and so on, because we know it has occurred?—Yes; and whenever I was consulted I always recommended—and it has been done in the case of the Bow-lane dwellings—that a certain process should be adopted, and the process I

recommended was that the ground should be covered with concrete, and not only that, but that a fine layer of not more than half an inch, or an inch at the outside, of asphalt, or any bituminous material that resembled asphalt, should be used. The Bow-lane dwellings have been built on an ancient deposit of street refuse, and the whole area on which the houses have been built—not merely the interior of the houses, but the outside portion—has been covered with concrete, and then covered with a layer of asphalt, and hardly ever a case of infectious disease occurs there, and I believe if the city of Dublin rested on a layer of asphalt, you would hardly ever have a case of enteric fever. I don't think a case of enteric fever ever occurred in the 144 families living in the Bow-lane area, but unless some such precaution was taken, and unless the heap existed for some years, so that any disease germs might be dead long ago, I would not allow a house to be erected on a place like that. When the Public Health Committee have allowed houses to be constructed on places of that sort, they required concreting to be carried out, but many houses have been erected on places of the kind before the building bye-laws came into existence. These bye-laws are only a few years in existence. A great many things were done before that ought not to have been done, but they won't be done in the future.

552. Dr. T. Thomson.—As regards the housing in Dublin, leaving out for a moment the peculiar difficulty of the question of the tenement houses, what view do you take as regards the quality of the houses in which the working classes ordinarily reside. Have you a large proportion of what are generally known as jerry-built dwellings in Dublin?—Not a very large number. Nothing at all to be compared to the English towns, because there was no necessity for them, and the reason is that the houses that were built in the English towns for these classes are not the houses that are occupied by them in Dublin. The houses in Dublin are not like the houses in Belfast, where houses for that particular class have been built. Here they are not occupying houses that were originally built for them.

553. Have you many cellar dwellings?—Well, every house in Dublin nearly has an underground storey, but very few are now occupied. I can give you the number of cellar dwellings that have been closed from the 31st of August, 1879, to the 31st of December, 1898—it was 896, and I think it will be found that there are very few cellar dwellings now occupied except those that comply with the provisions of the Public Health Act.

554. That is what I wanted to know?—Yes; and they are generally occupied by persons who undertake to do the cleansing of the house; and that is generally done in a very perfunctory way.

555. Right Hon. Alderman Meade.—Have you many cellar dwellings in Dublin—aren't what are called cellar dwellings really kitchens?—Well, that is what is called a cellar. The general idea of a cellar in Dublin is a place with one opening up to the street. As regards kitchen dwellings, we have insisted that they should be boarded, and as I have said, a very large number of these places are occupied by people who undertake the cleaning of the house.

556. Are these kitchens in the basement of first-class houses?—Yes; some of them, but not all. Some of them are very good dwellings, and it would be a pity to put the people out of them.

557. Dr. J. W. Moore.—The definition in Section 82 of the Public Health Act is "any cellars including for the purposes of this Act in that expression any vault or underground room"?—Yes; well, a kitchen is an underground room, and there are very few cellars opening into the open air, and all the insanitary cellars have been closed long ago. The back kitchens have little light or sanitary accommodation often.

558. Dr. T. Thomson.—As regards any scheme on a large scale for the rehousing of the working classes in unsanitary areas in Dublin, would it be practicable in your opinion to rehouse these people on the area from which they were dispossessed if any area were cleared and houses rebuilt on it?—I think some of the areas should provide for the same number of persons that are now on them.

559. The question I ask would not imply that, but rather whether you would have to go outside Dublin to find the necessary ground to build upon?—For the health of the people it would be certainly better to transfer them outside the city or to the outer portion of the city.

560. But my point is to know whether it would be possible, for, no doubt, we are in agreement that density of population is a thing to be avoided, since at all events the re-housing of these people on the same areas would not imply a degree of density in excess of the present density in the city of Dublin?—I admit that; but when the areas are cleared of their present insanitary dwellings, a very large proportion of the same people should be allowed to go back to them into the improved dwellings; still I should like to see a thinning out or weeding out of that central portion of the city. There is a very dense population there. I think I estimated that there are something like 350 persons to the acre.

561. Right Hon. Alderman Meade.—Considering the present state of these houses, and the absence of yards and proper thoroughfares, how could you possibly put the same number of people on the same area as you would clear out of the unsanitary dwellings in overcrowded areas?—I said only in some of them, where the houses have disappeared altogether and been closed as insanitary; but in the great majority of cases we could not put in the same number of people again. We are not doing it in Bride's-alley area.

562. We had from the Registrar-General evidence about four families living in one room—a family in each corner and the landlady living in the middle?—Oh, that is an old joke. He only told that as an anecdote—for about thirty years ago that was told to one of the police magistrates. The man was charged with assault, and he said—"We were five happy families, living there in happiness and peace, until the tenant in the middle took in a lodger." That was only a joke—it does not occur now.

563. But, notwithstanding that, isn't it the case in Dublin that more than one family occupy one room?—I don't think so; but they take in lodgers, which would amount to the same thing.

564. Of course, if you had a family with six lodgers, what does that mean but two families in one room?—But there are regions that don't contain one-third of the population at present that they did contain. There is an immense region in Moore-street, for instance, and there are other insanitary places where the houses have been closed as unfit for habitation, and if these areas were completely cleared and new dwellings built they could be inhabited by as many people as are there now, because the houses are derelict and in ruins.

565. Dr. T. Thomson.—But wouldn't your own suggestion about the tall houses, which you considered an advantage permit of your housing the total number dispossessed from these areas?—Yes; but there is an invincible objection to the tall houses among the Dublin working people. They won't live in them.

566. Right Hon. Alderman Meade.—But the old houses themselves are tall houses?—Yes; they are four storeys.

567. And that is a tall house?—It is; but the London houses are six or seven storeys. The Dublin people don't like houses of more than two or three storeys; in fact, they would prefer cottages if they could get them, and that is a difficult question with them.

568. CHAIRMAN.—When compulsory powers for the removal of the people from one of these houses are given, isn't there always a scheme for the re-housing of these people submitted to the Local Government Board, and approved of by them before more than ten families are evicted?—Yes; but that does not apply to the working of the Public Health Act. It only applies to the working of the Housing of the Working Classes Act. We have closed a whole court, called Taaffe's-court, with no provision whatever for the families, and there was an immense number of families in that place.

569. Right Hon. Alderman MEADE.—And what becomes of these people?—They go to other places and make other places insanitary and overcrowded. No compensation is given to the owner of Taaffe's-court, and I would be very glad if some of the Committee went and saw Taaffe's court, which has been closed up, and I suppose will become a ruin.

570. Dr. T. THOMSON.—You told us yesterday there were certain streets and alleys in Dublin not taken over by the Corporation?—Mostly alleys and courtways and lanes.

571. But not streets?—No, except some new streets that have not yet been taken in charge; but none of the old streets are not in charge.

572. These are only lanes and alleys?—Yes, and courts and passages.

573. Are all of them old?—They are mostly very old—centuries some of them.

574. Are they central?—Yes; they are everywhere.

575. How many of them are there?—There are 260 of them. I have a list of them made out.

576. How are these lanes and alleys cleansed?—The Public Health Committee suggested to the Cleansing Committee some years ago that some of the most offensive of these lanes should be cleansed under the section of the Public Health Act, that provides that the Sanitary Authority may cleanse the streets and lanes not in their charge, and charge the cost to the owners of the property abutting on the places; and I think I mentioned that they had cleaned these lanes perhaps two and three times in the week, and they found it impossible to recover the cost from the owners, but they don't clean all.

577. What proportion are now cleansed?—I think we gave them a list of about sixty or seventy of the worst of them that we asked them to cleanse.

578. Dr. T. THOMSON.—I wished to get from you not so much the exact figures as an expression of opinion from you on the condition of these lanes; and if that condition is unsatisfactory, whether it is not desirable it should be remedied, and in what manner it can be remedied?—Of course the proper and legal way of dealing with that evil is to ask the owners of the property which abuts on these lanes to pave them, and light them, and sewer them, and then to hand them over to the Corporation, who will take charge of them and keep them in order.

579. Am I to understand that at present they are not paved, lighted, or sewered?—Hardly any of them. Perhaps four or five have lamps—not more. Some of them are roughly paved, and some not at all. Some have sewers; some of the sewers are fairly good, others not good, and others have none at all—merely surface drainage. To do that would cost a very large sum of money, and there would be considerable difficulty experienced in recovering the amount expended, for it would have to be carried out under the Private Improvement Expenses clause of the Public Health Act; and our experience is, that the Corporation almost invariably lose something in doing that. In recent schemes all the money has been recovered, and we have a list of these places we have put in order, for which we have recovered the money, for we have been more successful lately than formerly, for there were many technical points not attended to formerly that prevented our recovering the expenses. I am strongly of opinion that these 260 alleys and courtways should be in the charge of the Corporation, and in saying that I may say I speak on behalf of the Public Health Committee, whose opinion coincides with mine on the subject.

580. But in the meantime they appear to be in an unsatisfactory state?—Yes; and in the meantime they ought to be cleaned.

581. And are they not?—They are not—some of them, I think.

582. They offer a considerable contrast to the streets in charge of the Corporation, I suppose?—They do.

583. Are these streets in a satisfactory condition as regards scavenging?—I think the streets of Dublin are fairly clean; I really do think that.

584. You have in Dublin a main drainage scheme apparently not yet completed, and in the meantime sewage is passing into the Liffey?—Yes, all the sewage of Dublin goes into the Liffey.

585. And I assume, therefore, that the condition of the Liffey is not satisfactory?—At present we don't notice anything offensive, but in the summer time no doubt it is offensive.

586. But when this scheme is completed will that put the Liffey in a satisfactory condition, or are there any sewers still likely to foul the Liffey?—Some sewage will still go in, but it will be very insignificant. The whole of the sewage of Newbridge goes into the Liffey, and besides that some of the districts outside Dublin, but the quantity will be very small, and we know how readily organic matter oxidises in running water.

587. How far away is Newbridge from Dublin?—It is about twenty-five miles, and I may say that we have analysed the water of the Liffey above Island Bridge, and it almost bears comparison with the Vartry, notwithstanding that the sewage from Newbridge and some of the villages along comes into it.

588. But the river is a very rapid one?—Yes, it is pretty rapid. The whole river is about sixty-five miles. It is a zigzag river.

589. Dr. J. W. MOORE.—The length is fifty miles?—That is a long course; but in a straight line it would not be more than a third of that distance.

590. Right Hon. Alderman MEADE.—You told us you had four lady sanitary inspectors?—Yes, temporary inspectors.

591. And that you were quite satisfied with the improvement they had made?—Yes, I have had evidence from persons competent to give evidence that they saw good result from their work.

592. I understand you to state that the Corporation took proceedings against tenants of tenement houses, under Section 21 of the Public Health Act, and that the judgment was given against you?—Yes.

593. Have you got a copy of that judgment?—No, but that was not in that particular case.

594. Wasn't it a lady sanitary inspector that complained in that case?—Yes, she complained that an individual room was in an unsanitary state, and I went myself for the purpose of strengthening the evidence of the lady sanitary inspector, Mrs. Smith, and saw the place myself, and gave evidence before the magistrate, and the magistrate said the law did not enable him to deal with that case, but, in compliment to me he marked the case "no rule"—he did not dismiss it.

595. But you haven't taken the case further?—No—he said "Provide for it in your bye-laws."

596. Are you instituting any proceedings against occupiers of tenement houses under this section at present where the sanitary accommodation is situated in a yard common to two houses?—No, not now, for we are stopped by the judgment of the Queen's Bench, but we are trying to get at that under the bye-laws for tenement houses.

597. I mean cases where two houses have a common yard?—Yes, we got a conviction there, but there are so few in that position compared to the others.

598. But you have proceeded against the occupiers of tenement rooms?—Yes.

599. And with what result?—The result was that Mr. Wall made no rule. He said a single room did not mean premises.

600. And you did not take the case further?—No, because we are going to try and reach these individual rooms by these new bye-laws in regard to tenement houses. The bye-laws have not yet been confirmed by the Local Government Board, and Mr. Wall thinks we might get at the individual rooms by our bye-laws, but I am afraid some of them are *ultra vires*.

601. You told us about dust-bins and that you have substituted them in a great number of instances for the old ashpits?—Yes.

602. Is there anything to prevent the tenants putting refuse into the bins that was not intended, such as liquid and excreta?—I am afraid, looking upon the bins as a sanitary accommodation it is a doubtful point whether a bin could be regarded in that aspect.

603. Have you any difficulty in enforcing that bye-law that they shall not put liquid refuse or excreta into these dust-bins?—Well, we have not done anything that way. It is on the notices, and the Cleansing Committee have bye-laws of their own dealing with that. There have been no prosecutions yet under that, but there are three prosecutions pending.

604. A great deal has been said about the high death rate of Dublin during the last epidemic, and I believe it reached its maximum at that time, when it was 51·3?—Yes.

605. Would you say that was a period when epidemic was nearly common throughout the kingdom?—Yes, in many towns in the kingdom, for I find in the week ending the 6th of January, the death rate in London increased to 37·1, and that is double the normal rate; while in Kensington it was 33·5; Fulham, 46·0; Upper Holloway, 56·4; Bethnal Green, 71·8; Bromley, 34·5; Lambeth, 74·8; West Battersea, 52·5; Camberwell, 50·0.

606. Then all these had a higher death rate than Dublin for the same period?—Yes, and during the six weeks ending in January, the death rate in Cork was 50, and Cork is a healthy town,

607. But I am comparing it with London?—That passed away in a few weeks, and I don't attach any importance to that recent high death rate at all, for it might occur in the best city in the world.

608. What is the present death rate reduced to?—A little under 30 for the city. It is below the mean rate now.

609. Do you consider that the high death rate is attributable to the Corporation omitting to enforce the legal means provided for remedying nuisances?—No, not for removal of nuisances. I think they have done all that is possible to be done.

610. Or did it arise from their not carrying the Public Health Act into force in any way?—No; I think they have done all they could possibly do.

611. Dr. J. W. Moore.—With regard to the question of the death rate, 51·3 is the rate for the Dublin registration district?

612. Right Hon. Alderman Meade.—No, it is for the city of Dublin?—I think you will see, in my evidence, that Cork, for the six weeks, had a higher death rate than we had, though Cork is a fairly healthy city. This is the accommodation shown in all the hospitals in Dublin, including the fever hospitals.

613. Dr. J. W. Moore.—With reference to this special week of the 6th of January, Dr. Meade collected figures for some of the London districts, but the figures for the city of Dublin varied; for instance, it was 56·2 on the north side, and 46·8 on the south, while in the suburbs it was 39·9?—In some individual suburbs it beat out Dublin, too.

614. Alderman Dowd.—Are you aware that if the ground could be got cheap the working classes would prefer small dwellings to those big high houses?—Yes; there is a very strong feeling on that subject in Dublin.

615. And if that could be got outside the city, they would prefer to go out there?—The ground would be cheaper outside, for you have to purchase the houses in the city.

616. You mentioned, in one case, that it cost £5,500 for one of the houses in Bride's-alley area?—Yes.

617. In parts of the low-lying city, the basement storeys being below the Ordnance datum line, it is quite evident that, if you could get some of the poorer population outside, it would be better for their health?—Far better.

618. With reference to this epidemic, did you not write to the Commissioners of Education, asking them to close the schools in former epidemics?—We did.

619. And the last one, too?—Yes.

620. And did they do so?—They said they had no power to do so.

621. Are you aware whether they made any request to the managers of schools to close them?—They said they were in sympathy with the request of the Public Health Committee, and a great number of the managers did close their schools.

622. Do you think it would be well if the Public Health Committee had the power to close them, under such circumstances?—Yes, power to act promptly; for there is no use in closing schools unless you close them at the very beginning of an epidemic.

623. You said you were in favour of an isolation hospital, and a convalescent home, as measures that would lower the death rate?—I think they would; and I think all the medical officers of health, as fas as I know their opinion, think that if we had had better hospital accommodation at the beginning of the epidemic the mortality would not have been much.

624. Dr. J. W. Moore.—With regard to the closing of schools, are your views the same regarding the day schools and boarding schools?—They were mainly in reference to primary schools, and not so much to boarding schools.

625. Isn't it quite possible, if a boarding school is closed at the beginning of an epidemic, that you may succeed in distributing the epidemic all over the country?—Yes. It was only in relation to primary day schools I spoke; and very often, for that reason, I would not allow families in houses where there was typhus to have the house closed. I would rather keep them there, and adopt proper precautions, rather than let the house be closed, and thus spread the disease over the whole locality. I would rather let the people remain in the house than close it.

626. There is a provision in the Public Health Act to enable the Sanitary Authority to provide refuges for the residents in infected houses?—Yes.

627. Has that ever been carried out?—Recently, a refuge of that kind has been provided. There are three houses owned by the Corporation, close to where we are, in Nicholas-street; and the centre one, which was in pretty good order, has been made into a refuge, and the ruins on each side of it removed, and the house, therefore, is completely isolated, and the entrance to it is from a large yard in the rear. The yard has access by means of a gate-way. We have put a caretaker in, and furnished portion of that house, and every effort we have made to induce persons whose houses were being disinfected to make use of that house has failed, and at present it is occupied by poor families whose house nearly fell on them a short time ago, quite close to this

refuge, and their furniture was buried in the ruins, and they had no place to go to, and I went up and saw the condition of them, and I knew I was carrying out the wishes of the Public Health Committee by allowing these poor people to get into the place, and they are the only people that ever occupied it; but in England, I believe, they had to give them an entertainment first, in order to induce them to go into these houses, but the necessity is not so great for this house as it was a short time ago, and I would like to have this opportunity of stating what we do with regard to disinfection. I think there is a misapprehension about it. There was a great necessity for a refuge some time ago, because we had rooms undergoing disinfection for a period of about twelve hours. Many years ago, I had constructed—at least the Public Health Committee had it on my recommendation—a very large van, like what the gipsies use in England, fitted up with stove, and lockers, and tables, and everything that was necessary. This was drawn by two horses, and brought to every place where rooms were disinfected, but we never could get any person to go into it. I went round and asked them to go into that nice place—you have a nice stove and everything there, and stay there while the rooms are being disinfected, and they said everybody would be laughing, so, sure, you wouldn't ask them to go into a place like that—sure everybody would be laughing at us. That van is now to be seen as a sort of office in the disinfecting chamber. The people here are very sensitive to ridicule. At that time it was most important that we should have a refuge, and if we had not it at this time we would be blamed. It cost £700, and I assure you I have given the most positive directions to the persons engaged in disinfection to induce people to go into this refuge, but they have not been able to do so. Our method of disinfection differs materially from what it was some time ago. We use mercurial chloride in the form of spray or vapour, and we put a number of people at once to do the work, so that the disinfection can be carried out with great rapidity, and so that the people will not be kept long out of their dwellings, and we can do the whole thing in three or four hours, and, in order that their clothes may be disinfected, we provide them with suits of clothes. We have a large number of suits of clothes for both men and women—adults and children—and we give them these suits to wear while their own clothes are taken away to be disinfected and brought back again, so that if the people do go abroad or stand about the lobby, as they will do, there will be no danger, and though they are always told not to go into neighbours' places, they do sometimes go there. They often give the clothes back with the greatest reluctance, so that occasionally we lose a suit of clothes, but we don't mind that. Though the refuge should prove most useful, up to the present it has not been made use of; but now the necessity for its use is not as great as it was formerly.

628. Right Hon. Alderman MEADE.—As Dr. Newell stated everything that was bad, I would like him to have an opportunity of saying whether there is anything good that he could state about the action of the Corporation.

Dr. NEWELL re-called by the Right Hon. Alderman MEADE.

629. I don't think you gave us evidence of anything that was done by the Corporation, except that you said there were a great many clearances?—The Corporation are under the impression that I said everything that was bad, and nothing that was good about them, but I am not aware of that. The Corporation have cleared large spaces, on which they intend to build artisans' dwellings; but at present they have only succeeded in clearing the places, and, as it is, the matter will take some time. I think they have made arrangements for the erection of a very large number of artisans' dwellings.

630. How far does your district extend?—It is bounded on one side by Bull-alley, and on the other by the Liffey, so that there is a large clearance in the district between Bull-alley and Christchurch-place.

631. The whole of that place has been cleared?—Yes.

632. You don't know anything about the cost of the clearance?—I believe it is a very expensive operation.

633. I believe it cost £35,000 to clear a little over three acres, which is £10,000 an acre?—That is for the ground alone.

634. Yes, for the space?—Yes, so I understand.

635. Dr. J. W. MOORE.—Are you aware whether there were any vacant beds in Cork-street Hospital at the time you stated you had to treat measles in houses in your district?—I cannot say that; but I can say that the cases were refused admission, for I received an official intimation that they would not be admitted.

636. You did not hear it was on financial grounds they were refused?—I cannot say anything about that; but I got an official intimation that they would not be admitted.

The Committee then adjourned till next day.

FOURTH DAY.—FRIDAY, FEBRUARY 16TH, 1900.

THE COMMITTEE SAT AT 4 O'CLOCK, P.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

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638. CHAIRMAN.—I have asked Dr. Quinlan, who is here, to give his experience with reference to the subject matter of the inquiry.

Mr. *Rice* (Solicitor for Corporation)—Before you take any further evidence, I may mention on the part of the Corporation that Sir Charles Cameron has informed me that there are some expert gentlemen who would be in a position to lay some very valuable information before the Committee on the questions that you are inquiring into.

Sir *Charles Cameron*.—They are Professor Smith, President of the Institute of Health of Woolwich; Dr. Hope, Medical Officer of Health of Liverpool, and Mr. Conway Scott, Executive Sanitary Officer of Belfast.

Mr. *Rice*.—Sir Charles Cameron thinks that they are in a position to give very valuable evidence and information. We must not be taken as calling them as our witnesses. But we suggest that they would be—as I am sure you will admit they would be—most valuable witnesses. We merely recommend the Committee to call them, remembering our disability in the matter of calling them ourselves.

CHAIRMAN.—We have no power to call any witnesses. The only power we have is to hear the witnesses.

Mr. *Rice*.—We mention them as witnesses who could, as I have said, give evidence which we believe to be of importance, bearing on the inquiry, and probably an intimation would be sent to them on the part of the Committee that they are so regarded.

Right Hon. Alderman MEADE.—There may be, perhaps, the question of the Committee sending for them or communicating with them and the question of the expense of their being here.

Mr. *Rice*.—That is one thing, sir. I would presume they would be summoned by this Committee.

CHAIRMAN.—I am afraid there is no power with us to deal with that at all. It might be better to make application to the Local Government Board.

Mr. *Rice*.—These gentlemen, I suggest, could be asked by the Committee to give evidence.

Right Hon. Alderman MEADE.—Your suggestion, as I take it, is that having mentioned the names of these gentlemen to give evidence, the Committee ought to communicate with them?

Mr. *Rice*.—Quite so; that is the object with which I have mentioned the matter.

CHAIRMAN.—We certainly cannot guarantee any payment of expenses in the matter.

Mr. *Rice*.—Of course that is not the main point—that of payment, but rather the fact that having heard so much you would consider the evidence or opinion of these gentlemen of importance.

CHAIRMAN.—Oh, there is no question about that.

Sir *Charles Cameron*.—The Corporation were of opinion that the evidence of these gentlemen would be useful in elucidating the facts that you are inquiring into.

Right Hon. Alderman MEADE.—The Commission has very important duties to discharge, and certainly I should say would be most desirous of having every light thrown upon the subjects to be dealt with—such information in fact as doubtless these gentlemen could give.

Mr. *Rice*.—Quite so, sir, and the Committee will agree that if they are to be hemmed in by considerations of expense the scope of your inquiry is bound to be very limited.

CHAIRMAN.—What is the kind of evidence these gentlemen would give us as to the city of Dublin?

Sir *Charles Cameron*.—Well, Dr. Hope, of Liverpool, has to deal with a population to a very great extent resembling that which has to be dealt with in Dublin. He has encountered in Liverpool difficulties in carrying out the sanitary laws, and may have devised means, and perhaps effective means, of overcoming those difficulties, and his evidence would be of great value, as showing how difficulties existing in Dublin, and which we have not been quite able to overcome have been dealt with in Liverpool, because we hold that some further legislation is necessary to give us those increased powers which we hold are absolutely necessary. In Liverpool, I believe, they have greater powers than we have. He having seen our city might give recommendations of a valuable character. The same thing applies to Professor Smith, Medical Officer of Health of Woolwich, and as to Mr. Conway Scott, he has had great experience in the matter of sanitation in Belfast and Dublin, and we think it very desirable that his evidence be given as that of an expert. Anticipating what the Committee would do I might mention that the Corporations of Belfast and Liverpool had given permission to these gentlemen to come here if the Committee considered their attendance would be desirable.

(After a brief consultation).

CHAIRMAN.—Well, Mr. Rice, the Committee have considered the question, and they, I may say on their behalf, considered that the evidence to be given by these gentlemen would be most desirable, and that we will communicate with the Local Government Board as to the possibility of making arrangements for their attendance.

Mr. *Rice*.—I thank you very much on the part of the Corporation.

Sir *Charles Cameron*.—These gentlemen occupy important positions, and their time is greatly occupied, and they would require several days' notice. You could not perhaps say whether they would be called on or before Wednesday next.

CHAIRMAN.—No, Sir Charles; at present I cannot say anything more definitely.

Dr. QUINLAN examined.

639. Dr. MOORE.—Dr. Quinlan, you are Fellow and Examiner in Hygiene to the Royal College of Physicians of Ireland?—Yes.

640. I think that for some time you acted as Dispensary Medical Officer in the Dublin District?—Yes. In 1856 I was appointed, and acted for three years,

and I need not say spent every day many hours going through the tenement houses of all descriptions.

641. You own yourself a good deal of house property in Dublin?—Yes; some house property.

642. Ordinary residential houses and shops?—Yes; residential houses and shops, and we have also a kind of property which, I think, the very best for the working classes—that is cottages inhabited by single families, that is one family in each. That, I think, by far the best system. Also many houses let out on repairing leases, the lessees of which let them in tenements.

643. You have devoted a good deal of attention to sanitary science?—Yes; a good deal.

644. Of course a system of cottages to be occupied by only one single family each would mean the employment of a very large space?—Well; even so, it would mean the solution of the problem. There is a general idea that the Dublin people have dirty habits. It is not so. But when seven or eight families inhabit a tenement house, one or two are likely to have dirty habits, and so the others, no matter how they try, get disheartened and go with the stream. That is really how it is. Whereas people with a cottage for themselves make a laudable effort to keep it clean. The Corporation, I must say, greatly encourage them, for in the case of cottages under £8 a year valuation, if they keep them clean, they let the landlord off one-fourth of the rates. I hope soon to see all our cottages up to the standard.

645. I gather from your evidence that large tenement houses are objectionable?—Yes; from a health and also from a moral point of view. The decent class of work-people want to get cottages, because in the tenement houses their children hear objectionable language and see sights which they should not see.

646. You say that in the first place you object to large tenement houses as encouraging uncleanly habits?—I do; because, as I say, there will always be found one or two in such houses of dirty habits and it spreads.

647. And in your opinion has that much to say to the high death rate?—Yes, and drunkenness too.

648. Could you mention any of the causes—the particular diseases—that, in your opinion, contributed to the high death rate?—Do you mean recent or general.

649. Recent?—Well, the recent death rate I regard as quite exceptional. In the first place we had the most unwholesome weather I ever recollect. Just before Christmas we had a great epidemic of measles, accompanied by pulmonary complications. There was also influenza followed by bronchio pneumonia, with gastric complications and attacks in the eyes and ears that made great havoc amongst old people, and it was something awful to see the rapidity with which they died.

650. As to the general death rate?—Well, I do not think we can ever hope that Dublin will be as healthy a city as London. The city of Dublin is very unwholesome geologically. Most of the site was originally sea marsh, and swampy, and boggy. A great proportion of it was "made" earth. In the South Dock Ward where we have most property it is so, and it is very hard to make healthy dwellings on it. If Dublin could be built on a great slab of concrete it would be more healthy, and I agree with what Sir Charles Cameron said as to that. In the case of London, most of it, I think, is built on natural ground. Besides, the sub-soil of Dublin is greatly waterlogged, and that promotes consumption and rheumatic fever—unless a great structural change were effected we could not hope to bring it to the same state as London. There have been very hard things said about our tenement houses, but their condition is greatly better than it was in 1856. In 1856 when I became Dispensary Officer, horses and cattle and pigs were lodged constantly in the lower storeys, and the sanitary accommodation was in a filthy state. There was no attempt to scavenge, and regular ricks and mounds of ashes and cabbage and other vegetable refuse of all sorts lay about the yards. The sewage arrangements were almost *nil*; now all that is changed. Every tenement house has a sewer and closet; the tenement yards, the streets and lanes are very well scavenged and everything is immensely better, though I admit there is still a great deal to be desired. If you have seven, eight or ten families in a house, one or two will be dirty, and their bad influence gradually extends over the rest.

651. Are you of opinion that the habits of the lower classes contribute towards their unhealthiness and to the death rate?—Well, I am afraid a great many of the lower classes spend too much of their income on drink. Then they are not able to buy themselves proper clothing and nutritive food, and they are thus not able to resist the severity of the weather we pass through. But if we could have, instead of these tenement houses, nice, comfortable cottage homes, we would find, in the majority of cases, habits of cleanliness and thrift, and the people would therefore not be so prone to go to the public-houses.

652. You occasionally visit your own tenants?—Yes, constantly.

652A. And in what condition are they?—Oh, they are very well conducted, indeed; and if any should become noisy or badly conducted, or have objectionable habits or the like, we quietly get rid of them.

653. What is your opinion of the knowledge possessed of preventable disease, such as tuberculosis, by the tenants of Dublin?—I am afraid it is *nil*. I would just like to indicate two causes, in my opinion, of the increased death rate. One was touched on by Sir Charles Cameron, and that is, the disposal of refuse. I think that is most objectionable. To-day I had a conversation with Professor M'Weeney, and we both were of opinion that the Eblana barge was most objectionable. It brings refuse to the centre of the city, and it would be a great deal better to have it disposed of by a destructor.

654. You would be in favour of its being burned?—Certainly. On this point I may say that I saw a destructor at Southampton of a most satisfactory kind, which completely disposed of the rubbish, and which caused no smell or nuisance whatever. I gave a description, as you may recollect, in a report to the College of Physicians, of the Southampton destructor. It completely solved the problem, I think, of getting rid of the town refuse. I should like to mention the matter of *intra mural* interments——

655. Dr. J. W. Moore.—Before you leave the question of the hopper barge, I should like to ask you did you see a letter in to-day's paper from the Cleansing Department, which went to prove that the only reason for not removing it lower down the river was a question of expense?—Yes.

656. Do you think that the question of expense ought to interfere with the removal of the hopper barge a mile or so down the river?—Certainly not; it would be better to have it removed down. I object, however, to the hopper barge altogether. The rubbish has to be brought centrally and put into the hopper barge. I would prefer to bring it outwards to a destructor. I would have one on the north and one on the south side. The Southampton destructor is of a most satisfactory character. It is in a residential suburb, connected by tramway with Southampton, and when I saw it a number of residents were present at the inspection. I asked them—"Now, do you get any smell or annoyance from it?" They said "No, they did not." I asked, "Are you annoyed by smoke?" and they said "No." I said, "Does the rubbish annoy you?" They answered "No; it is brought out early in the morning." It appeared to me to be a complete solution.

657. Right Hon. Alderman Meade.—You would approve of the Corporation establishing refuse destructors on the ground of the Pigeon House Fort?—Yes; you could not get a better place. From what I

saw of the Southampton destructor I think they could be established anywhere. There is hardly any smoke.

658. Alderman DOWD.—Is that part of Southampton largely populated?—It is at a place called Portswood.

659. I was at Portswood that time and I saw it.

660. *Witness.*—Yes, I saw you there, and I remember there was no smell.

660A. Alderman DOWD.—No.

661. CHAIRMAN.—Has there been illness in Tara-street or George's-quay district since the barge came there?—No, I have no special knowledge of this locality; I only mention it as a general hygienic opinion that it is bad to have rubbish brought there and the germs scattered about.

662. You have no facts on the point?—No.

662A. Dr. J. W. MOORE.—You think it is a nuisance?—Yes.

663. Whether it is injurious to health or not?—I think it is injurious to health.

664. Mr. R. L. SWAN.—Are the germs scattered about in the vicinity or in the conveyance of the rubbish?—In both. Speaking generally I think that our system of collecting rubbish is not very good. There is a new system in Paris with a new kind of bucket and a new kind of cart, and the rubbish is emptied, and no dust is scattered. If this were adopted it would be a great advantage. There is a covered cart with a little opening, and the box is put over it and shaken, and there is no scattering of dust.

CHAIRMAN.—As far as I know, the state of the hopper barge is better than it used to be—I mean so far as any chance of a nuisance from it since it was enclosed, and the carts go into the enclosure and don't discharge in the open?—Quite so; but in a high wind I have seen dust blowing, though, of course, the enclosure is a great improvement.

665. Dr. J. W. MOORE.—You were going to speak, when I interrupted you, of *intra mural* interments?—Yes; *intra mural* interments ought to be put an end to inside the Circular-road. It is very objectionable, and I think it is not a right practice.

666. You are aware that the interments are very few now?—I think not, but I cannot state the exact number.

667. Right Hon. Alderman MEADE.—I thought it had ceased.

Dr. J. W. MOORE.—I think so—I would not allow them at all. I don't think anyone should have a perpetual right.

668. Right Hon. Alderman MEADE.—These will be in the vaults of churches. There are no *intra mural* interments in the earth in Dublin?—I have known some in the earth; and many in the vaults of churches.

669. Mr. R. L. SWAN.—So have I.

670. Right Hon. Alderman MEADE.—Recently?—*Witness.*—Yes.

671. Right Hon. Alderman MEADE.—Where?—I have learned it professionally, and I do not like to say. There is a popular idea that a body in a lead coffin cannot be a source of nuisance, and some people think it is like an air-tight can of preserved meat. It is nothing of the kind. There is always a small hole or aperture underneath the pillow, because otherwise the coffin would burst. There is an aperture so as to let the gas gradually out. If the gas were kept in the coffin, the coffin would require to be an inch thick.

672. Dr. J. W. MOORE.—Is there any point in reference to the general death rate that you wish to mention?—I think not. There is only one thing I wish to say. I have ample means of understanding the action of the Corporation—the action of the Public Health Department—because it is constantly taken against myself, and therefore I have practical knowledge of it. I feel it my duty to say that the inspectors of the Corporation are most active and indefatigable. Whenever a complaint is made, they visit the house at once, and very often without any complaint, and whenever any nuisance occurs, such as a stoppage in a sewer, a defective roof——

673. Right Hon. Alderman MEADE.—Or a burst water-pipe.

Witness.—Ah, that is the Water Department—down they go and the thing has to be mended. I think they have done their level best. When I think of the condition of the tenement houses now and what they were before, I can hardly believe that they are the same thing. They are immensely improved. It is due to the Corporation to say that.

674. Mr. R. L. SWAN.—You made reference a short time ago to the very objectionable practice of persons living over stables and cow-sheds. Does anything of the kind exist in Dublin at present?—I would not like to say there is not.

675. In very good localities?—I am not aware. In the South Dock Ward, up to a few years ago, there was a pig in almost every house, and there was a certain reluctance to clearing them away, as they were the "gentlemen who paid the rent." Those pigs have, however been cleared away by the Public Health Committee.

676. Do you know of a lane nearly opposite the Kildare-street Club where families lived over stables within a recent period—do you remember that?—I do.

677. You consider it a very bad practice?—Yes. And in a very celebrated school to which I went in Hume-street, that of Rev. Dr. Wall, there were horses in the room under the school, and the steam from the horses used to come up through the floor. I consider it most objectionable.

678. Have the Corporation, as far as you know, power to prevent anything of that kind?—I think they have. I know they cleared away all the pigs with great energy and complete success, and there are no pigs kept anywhere now unless there is a proper place, and at a certain distance from a dwelling-house.

679. Alderman DOWD.—Have you any suggestions to make as to the further improvement, if any, of the tenement houses?—The great difficulty in tenement houses is that of people throwing ashes into closets. That is a terrible nuisance. In a case of a very good house let to one family the sewer got stopped. We had to cut the sewer and it was stopped with ashes, broken lamp chimneys, cloths, and pieces of tin. There is not a week that I have not to get this done several times. I have heard, with great pleasure, of Sir Charles Cameron's recommendations that he told us of yesterday of a new form of closet.

680. You have no suggestions to make as to what ought to be done?—Yes; I think at present the house landlord of a tenement house—I am very glad to say I am not in the position of being one—the landlord of a tenement house has no remedy against anyone who stuffs a water-closet with ashes, remains of clothing, or anything else. If there is accommodation for two houses the tenants can be prosecuted, but where there are a number of people living in one house there is no remedy against them. The powers of the Corporation should be increased so that where the actual offender is not discovered all the parties could be prosecuted. However, we have the tenement houses and we must do the best we can; but it is a very painful thing to see closets which are fit for any house—to see them filthy. There is another fact I wish to mention. There are a great many houses inhabited by single families of the humbler middle class where the Corporation inspectors don't seem to inspect them regularly. They go if any complaint is made, but they don't inspect them regularly. Many of them are in a worse condition than the tenement houses. There are some, and I know as a practising physician, where I get a smell of sewer gas the moment I go inside.

681. Have the Corporation power to enter unless a complaint is made?

682. Right Hon. Alderman MEADE.—No.

Witness.—I think not. It seems to me that if a complaint is made of the existence of a nuisance the

officers go to inspect it; but they don't seem to regularly inspect such houses as they do the tenement houses and cottages.

683. Right Hon. Alderman MEADE.—Your idea appears to be for the housing of the poorer classes in cottages?—Yes.

684. Would it be possible to find ground within the bounds of the city of Dublin to house a fourth part of the poorer classes?—I dare say it would: there seems to be a good deal of unoccupied ground.

685. In the city?—Inside the present municipal boundary.

685A. What proportion of them could you house?—That is a matter of measurement, and, although you are a greater expert at measurement, Alderman Meade, than I am, I think you would require a little time to consider it. There is a great deal of open space in Dublin—I think sufficient.

686. You don't approve of houses four or five storeys high, with a number of families?—No; but we have them, and we must do the best we can. It is a question, first, of what is the best plan; but then the question of what we can afford is another thing. There is also a matter which concerns us all, and that is a question of the rates. They are at present at bursting point. Fifteen months' rates were collected from us last year, and I think we must have moderation, and consider not only what is desirable in the abstract, but what is financially possible.

Right Hon. Alderman MEADE.—I think you have hit on the difficulty.

Witness.—If the rates were to go on much further, we would have to go to the poorhouse, and there would be no one left to pay the rates. There are a great many people who say "put it in on the rates," and they think it is all right. They appear to imagine that the rates are an illimitable quantity, but they are not.

687. Dr. T. THOMSON.—You are of opinion that the tenement houses, although much improved, are capable of further improvement?—Yes, though they are immensely improved.

689. So you think improvement still possible as regards the way in which tenement house refuse is removed?—Yes; it ought to be removed every day.

690. There is another matter on which, no doubt, you are fitted to give an opinion, as you have been a long time in Dublin, and have an expert acquaintance with matters relating to public health—that is as regards certain alleys which Sir Charles Cameron told us are not in the control of the Corporation. What is your view as regards these alleys, their condition at present, and any possible remedy of that condition?—Sir Charles Cameron mentioned yesterday that there are about 250 of them. Some of them are in a very good condtion, others in a very doubtful condition, and some abominably bad. I have one behind my own house in Fitzwilliam-street, out to East James's-street. It is in a very good condition. A good many years ago we got it nicely paved, and some improvements done to it at our own expense. I endeavoured to get it taken over by the Corporation, but I did not succeed. There are a great number of these lanes; speaking roughly, and without wishing to be statistically exact, I imagine that about one-third of them are somewhat in the same condition as the lane behind my house, about another one-third of them are in an indifferent condition, and the remaining one-third are abominable. I think they should all be taken over by the Corporation, sewers put in them when required, and, above all, a lamp. I got over the lamp difficulty in my case by a little bit of a job. I succeeded in getting the authorities to move a lamp that was in East James's-street so as to be opposite to my lane, and it shines down it, and so I have this lane lighted at the public expense. But I would be happy to pay my share of having a sewer in it and a lamp, and to have it newly paved. I think this ought to be done in all cases.

Mr. JOHN BYRNE examined.

691. CHAIRMAN.—You wish to give evidence with regard to the sewers in Dublin?—Sir Charles Cameron tells us that enteric fever is very much generated by sewer gas and other exhalations from the soil of the city. I am of opinion that the ventilation shafts of the main sewers, being at the level of the surface of the streets, let sewer gas into the atmosphere in volume which is very injurious to health, and that going on during the entire year, must lower the vitality of persons constantly dwelling in Dublin. I have found, myself, an offensive smell in passing over these sewer ventilating gratings. On one or two occasions, in passing some, I felt quite a nausea, and I think that the ventilating shafts should not terminate on the surface of the roadway. There should be some safer way of conveying the sewer gas.

691A. Do you connect any particular illness with the emanations from the ventilators?—I believe that the sewers contain the contents of all the hospital drains and the other house drains of the city, and with that congregating in the main sewer and the shaft terminating on the level of the roadway is dangerous.

692. Do you advocate no ventilation for sewers?—No; on the contrary, I advocate the propriety of conducting that sewer gas higher to the upper air.

693. Your next point is as to the iron buckets?—Yes, the clumsy mode in which the officials remove this refuse is very objectionable. It is removed in many streets up to 12 and 1 o'clock in the day.

694. Do you mean by "objectionable" that it is injurious to health?—Yes, highly injurious to health. A cart comes up and the buckets are taken and tumbled into the cart close to the footway, and tumbled in in such a way that the wind diffuses to a certain extent some of the contents of the bucket, and throws it on passers-by. I have frequently got my coat saturated with the contents of the buckets.

695. You think it would be an improvement if the buckets were arranged so as to be emptied without any of their contents being scattered?—I think the buckets should be taken away as early as possible, and taken as they stand and put into the cart, and not emptied until they reach the manure depot of the Corporation, and that the buckets should be brought back and left clean for the persons to use them against the next day, or failing that, that two sets of buckets ought to be arranged, and that the cart that comes to take away the refuse should put a clean bucket there, and put the full bucket into the cart without tossing it in and saturating the atmosphere with the germs of fever and measles. I have seen the contents of the buckets on a windy day blown on vegetables exposed for sale, and on meat in butchers' shops. The dissemination of microbes and germs of disease, is caused in that way.

696. You don't connect any particular illness or cause with the system of buckets?—No; I submit that it is self-evident that it must convey the seeds of disease to passers-by. It would be not only an improvement if they could be emptied without the contents being blown about, but essential.

697. With regard to the deposit on the foreshore of the Liffey?—Some years ago the Corporation were in the habit of putting men in at three or four or five o'clock on a summer morning when the tide served, with brooms to brush all the stuff deposited from the shore on the bed of the river—brushing it into the centre at low water, and then the scour of river would take a very large portion away, and in that way the Corporation did reduce the smell of the Liffey very considerably. I was a member of the Corporation at the time, and Sir Charles Cameron is aware that that was done.

697A. There was a difference of opinion as to the use of it?—It was very effective, because the deposits on the foreshores were brushed into the centre, and it took away a large portion of the stuff; the scour of the water going out took it away. We found it very effective, and Sir Charles Cameron, I think, approved of it.

CHAIRMAN.—He has mentioned nothing about it.

698. Alderman MEADE.—Is not a good deal effected in that way by Guinness's barges with their screws?—No, it is a mistake to think so; they only go up the river when there is deep water to float them.

699. Yes; but they disturb the water and stir up the mud?—They don't disturb the stuff at the bottom—the slime on the bottom.

700. CHAIRMAN.—As to the subsidy to the Dublin hospitals, you wish to give some information?—Yes; I suggest that you should get the evidence of the Registrar of Cork-street Hospital, and ascertain the number of empty beds in the hospital for want of funds to sustain them, from the 1st April to the present. Up to the 1st April there was no such thing as a case of infectious disease in Dublin being refused admission to hospital. The Guardians had authority to provide hospital accommodation up to that time.

701. Alderman MEADE.—Last year.

702. Dr. J. W. MOORE.—1899?—Yes, last year. The Guardians paid Cork street Hospital about £3,000 a year for the maintenance of patients other than paupers, and when the Local Government Act passed we found that we could not appropriate the rates any more in that direction, and that it became the duty of the Sanitary Authority, and we took the opinion of Mr. Matheson, Q.C., on the matter.

703. CHAIRMAN.—The Committee will ask the Registrar of Cork-street Hospital to give information on this point?—I am giving information which was in my own knowledge of the reasons why the Guardians discontinued——

704. CHAIRMAN.—You wished that the Registrar of Cork-street Hospital should be asked these questions, and I say he will be asked to come and give us that evidence?—There were a large number of beds in Cork-street Hospital unoccupied.

705. We will ask the Registrar when he comes, and get it definitely?—The beds were left vacant because the Corporation did not supply the hospital with funds, as the Guardians did heretofore.

706. That point we must defer until we get the Registrar?—I was about to read the opinion on which the Guardians were coerced to act.

707. What I understand you to say is, that the Guardians having lost their powers, these powers were transferred to the Corporation?—But that the Corporation did not exercise their functions.

708. Alderman MEADE.—That the Corporation did not pay for these cases?—I state simply the fact that the Corporation did not take up the matter where the Guardians stopped, and that it was owing to the inactivity of the Corporation, or their not knowing their duty to the poor, that the death rate was so high.

Dr. J. W. MOORE.—We were told that eleven cases of measles were treated at home for want of hospital accommodation to take them in?—Yes; but the inability to take them in was not as regards space, but in regard to funds.

709. Right Hon. Alderman MEADE.—The Registrar of the hospital will give us the reason why?—The Corporation were fully apprised of all these matters. I got a copy of this opinion of Mr. Matheson's sent to them, but they took no notice. Mr. Matheson's opinion is as follows:—

COPY OF OPINION OF C. L. MATHESON, ESQ., Q.C.

1. In my opinion the Guardians have no power to make arrangements for the reception into hospitals, not belonging to them, of patients suffering from fever or other infectious diseases, except in the case of inmates of the workhouse. The general power conferred by Sections 155 and 156 of the Public Health Act, 1878, upon a Sanitary Authority of entering into agreements with persons having the management of any hospital for the reception of sick or convalescent inhabitants of the district on payment of an annual or other sum, is not now possessed by the Guardians, as they have ceased to be a Sanitary Authority by reason of the repeal in Schedule 6 to the Local Government Act, 1898, of that part of Section 6 of the Public Health (Ireland) Act, 1878, which constituted them the Sanitary Authority.

The Acts referred to by the Local Government Board in their letter to the Guardians of the 10th day of May, 1899, as enabling the Guardians still to exercise these powers, do not, in my opinion, give any such power to the Guardians. Section 15 of the Statute 6 & 7 Vic., cap. 32, is confined to destitute poor persons brought from the workhouse to the hospital. Section 16, in my opinion, does not relate at all to the reception of patients into hospital not under the control of the Guardians. It merely enables the Guardians to rent or hire houses outside the workhouse where poor persons suffering from fever, or other dangerous contagious diseases can be medically treated under the control of the Guardians, but confers no power to make arrangements for the reception at the expense of the Guardians into hospitals not under their control, of persons not inmates of the workhouse. Section 7 of the Statutes 25 & 26 Vic., cap. 83, is in terms confined to inmates of the workhouse.

In my opinion, Sections 155 and 156 of the Public Health Act, 1878, conferred for the first time a general power of providing hospital accommodation for the inhabitants of the district by arrangement with existing hospitals which did not exist before. This power was exercisable by the Guardians as long as they were the Sanitary Authority; but as the Guardians have ceased to be the Sanitary Authority, they cannot, in my opinion, continue to exercise them, and they are henceforth confined to the powers which they had before the Public Health Act, of providing for the reception of workhouse inmates into hospitals under the provisions of the 6 & 7 Vic., cap. 32, Section 15, and the 25 & 26 Vic., cap. 83, Section 7.

The newly-constituted Sanitary Authority has, in my opinion, the duty imposed upon it of providing hospital accommodation for the inhabitants of the district under its charge, and can exercise the powers given by Sections 155 and 156.

2. The Guardians having, in my opinion, no power to enter into the proposed arrangement with Cork-street hospital, should not do so. They should make arrangements in regard to the workhouse inmates, whom it may be necessary to send to Cork-street, but that is all.

They should write to the Local Government Board, giving them the effect of what they are advised, and it will then be, in my opinion, the duty of the Local Government Board to call attention of the new Sanitary Authority to the necessity of making the necessary provision for hospital accommodation.

CHARLES L. MATHESON.

June 9, 1899.

Now I charge that to the act of the Corporation in not assuming that duty is to be largely ascribed the the excessive death rate of the last two or three months. I believe that if those patients had been received into the hospital as they took ill, as had been done previously, that the death rate would not have gone beyond the normal rate.

710. Alderman MEADE.—You know we have the fact that when the death rate went from 30 to 51 in Dublin, in other parts of the kingdom and London the death rate was doubled?—When I find a medical officer stating that he was obliged to treat in one house eleven cases of measles, and that these could have been treated in the hospital if the sanitary authority had provided the funds to subsidise it, I assume that the death rate would have been less if they were properly treated. Dr. Newell, in his evidence yesterday, spoke of eleven cases in one house.

711. Dr. J. W. MOORE.—Mr. Byrne, during the process of sweeping the foreshore of the Liffey that you speak of, was not there admittedly a very great temporary nuisance caused through the stirring up of this foul stuff?—The work was done about 4 o'clock in the morning in the summer, and it was all completed about 6 o'clock. It was done when the state of the tide allowed.

712. How could it be done at 4 o'clock every morning when the tide varies every day?—It might be 4 o'clock one morning and 5 o'clock the next, and 6 o'clock the third, and so on. As I have said, the work was done whenever the tide permitted.

713. At all events, you are of opinion that the scour of the river by Guinness's boats, which we see going up and down the Liffey every day, is not a sufficient expedient for the purpose?—I don't think the boats do any good whatever. They agitate the water, but do not touch the stuff at the bottom of the river.

714. You are aware that a system of main drainage is in process of construction, and that that will do away with this nuisance?—Pending the finish of the main drainage we should not be poisoned off. I think when the main drainage is finished we should be allowed to be alive to enjoy it.

715. Alderman MEADE.—I hope we will all be alive then.

716. Dr. J. W. MOORE.—About the ventilation of the sewers, is it an absolute necessity?—I am surprised that the scientists and other officials of the Corporation permitted them as they now exist.

718. You allude to the ventilation in the streets?—Yes, on the roadways. I was a member of the Corporation then, and the Corporation spent £100,000 at one time in reconstructing and adding additional sewers to the city. The sewers are made egg-shaped, like an egg standing on its small end, and that turned out to be a most effective way of building the sewers; but I say it is an outrage to have the openings in the level of roadways to poison the passers-by. You oblige the owner of a house to ventilate the house above and over it, but the streets are ventilated on the level. I say these gases must contribute to lower the vitality of the people who are compelled to reside in Dublin; and when an epidemic sets in they have not the vitality of resistance, and they die wholesale.

719. Has it ever occurred to you that they may ventilate the wrong way—that is, to bring the gases from the streets into the sewers?—I believe the tendency of sewer gas is to go up, being lighter than the air.

720. Would you be surprised to hear that it is my opinion that, during the recent severe weather these street ventilators were all ventilating into the houses and not into the streets?—I am not aware of that.

721. It is a question in physics—if you have hot air in the house it will draw in the cold air from the street; I suppose you would construct ventilators at high levels, and so remedy the defect?—I would put metal tubes over the sewers so as to take the gas into the upper air—any gas that would come. I was going to Christ Church one Sunday, and there is a ventilator at the brow of Michael's-hill, and what came out from it sickened me for half-an-hour, and I have always avoided them ever since. However, it was a warm day.

Dr. J. KNOX-DENHAM, F.R.C.S.I., examined.

722. Dr. J. W. MOORE.—You are a Medical Officer of Health?—Yes, sir.

723. And have been so for a great many years?—Eighteen years.

724. You have paid a great deal of attention to tuberculosis and its prevention?—Yes, sir.

725. What is your opinion as to the influence of tubercular diseases on the death rate of Dublin?—I think one of the most serious causes of the high death rate of Dublin is the want of attention, supervision, and notification of consumption and other tubercular diseases—and that to their presence is to be traced a large proportion of an abnormal death rate.

726. You have studied this question about the death rate of Dublin?—Yes. I would like to say at this stage that I come forward as a witness before this Commission in no respect whatever as a prejudiced witness for or against the sanitary administration of Dublin city. I know that in combatting such serious evils as we know exist in our city the Corporation have done very good work; but I further affirm that there is still a good deal that can be done, that it is in their power to do, and that has not been done. I have given a great deal of attention for some time past to the subject of tuberculosis, and I am one of the honorary secretaries to the National Association for the Prevention of Tuberculosis, with my colleague, Dr. M'Weeney. At the recent Congress of the National Sanitary Association I was asked to open a discussion on the subject of "Tuberculosis and its Prevention." Feeling that I could deal more efficiently with this subject with my own city as a basis of discussion, I determined to investigate the death rate from consumption and other tubercular diseases in the city of Dublin. My first idea was to prepare a map of the whole of the Dublin registration area, and to locate from the death-registers the exact position in which each death from tuberculosis occurred, and the number occurring in such houses. I began on the south side of the city, but found that the books available for the period I had undertaken to deal with were not completed. Then I went to the north side, where I found all the books ready. I had not gone very far in my investigation when I found that I had subjected myself to a task that was absolutely out of my power to complete. I then determined to limit myself to a small area in the North Dublin District, which you see on the map before you. My map deals with a densely populated district—from the Park Gate to the Custom House—and embraces Rutland-square, Richmond Lunatic Asylum, the North Dublin Union, and the Barracks. I worked the thing from the death registers; the Superintendent Registrar at the North Dublin Union kindly placing at my disposal all the books in his charge. I went over them carefully, and extracted from them the houses where a death was registered as having occurred from tuberculosis. Having completed the four years' record ending 31st December, 1897, I then prepared this map, and in every case I ascertained as far as I could that the house I have marked down on the map was the house mentioned in the register. Every care was taken to verify the entries; but the topography of this portion of Dublin, in the short space of time since the survey map was prepared, has greatly changed, and I had a great deal of difficulty in a great many cases in properly allocating the position and the number of the particular house mentioned in the register of deaths. In all cases where I found myself at a loss I omitted mention of it on my map; and although the map may appear very tubercular, I can safely say that I have omitted hundreds of cases through my inability to locate the exact position of the house. I am unwilling to detain the attention of the Commission; but I

would like, before leaving this map, to draw your particular attention to one or two points—Firstly, it is very well known that tuberculosis is distinctly a disease which infests overcrowded, unsanitary, and poor districts. Secondly, that the Corporation, on the advice of the society which I represent, are doing all in their power to meet the recommendations of that body. In reference to my first point, that tuberculosis infests and is deadly in overcrowded and unsanitary portions of the city, I will take three distinct areas on the map, almost equally distant from each other—First, look at the position of Hendrick-street. It is a small street, only containing 24 houses, and 17 deaths occurred in 11 of these houses in the four years.

727. Dr. MOORE.—From tuberculosis?—Yes. Another remarkable fact is that six of these houses were adjoining. The second area is a place called Church-street—close to the Four Courts. This street contains 181 houses, and in it 96 deaths occurred in the four years.

728. Dr. T. THOMSON.—What do you mean by a house—one family?—I do not; I mean the houses. I have given you the number of the houses themselves—one, two, three, and so on.

729. How many would be in the house?—I could not say.

729A. Would the number vary?—Yes.

730. How many families would be in one house—I suppose the number would vary very much?—Yes; very much.

731. Alderman MEADE.—There would be four or five families in each house in Church-street?—Yes,

732. In Hendrick-street?—Not so many. In one book of death register containing 500 deaths, thirty-one of these alone occurred in Church-street from all causes, and in another book twenty-nine deaths occurred.

733. In what period?—About three months, I think.

734. Is that the register of deaths for the whole North Dublin Union?—No; the book for one dispensary district. Now, dealing with the portion from the Four Courts to Mary's-lane, consisting of fourteen houses, no less than twelve deaths occurred in the four years in ten houses. I will now ask you to go to the other end of the map and look at the portion marked "Upper Gloucester-street." This street contains forty-five houses, and thirty-two deaths from tuberculosis occurred in twenty-four houses in the four years. In that small street a block of four adjoining houses was infected, another block of five houses was infected, and there was also a block of seven infected, and in each deaths occurred from tubercular disease.

735. Right Hon. Alderman MEADE.—Was there inter-communication between the houses in these blocks?—No, sir, none. I would now ask the attention of the Commission to the North Dublin Union and the Richmond Lunatic Asylum. The number of deaths occurring in these institutions from tuberculosis is really alarming. I am convinced that every room in these institutions is infected with tuberculosis. In the Richmond Lunatic Asylum 145 deaths occurred in the four years, and 491 deaths in the North Dublin Union.

736. Right Hon. Alderman MEADE.—What is the population?—There are about 2,000 inhabitants in the Richmond Lunatic Asylum. People of this kind are very sensitive to this disease, and Dr. Conolly Norman has been fighting it for years.

736A. What is the population of the North Dublin Union?—I could not give you that.

The CHAIRMAN.—It is about 2,200.

Dr. *Denham*.—I would say about that. The insane people go into the asylum well, they take tuberculosis there, and the deaths are mostly from that disease. There is a school in the district—an orphanage—the name of which I will not mention, and in the four years seventeen deaths from tuberculosis occurred among the teachers and pupils there.

Alderman DOWD.—What was the attendance at this school?—I don't know.

737. Right Hon. Alderman MEADE.—Was it a large orphanage?—It was.

738 Dr. J. W. MOORE.—Were these deaths among residents in the institution?—Yes. I trust I have been able to demonstrate to the Commission that the abnormal death rate of Dublin is not to be solely attributed to outbreaks of measles, scarlatina, and other zymotic diseases, but to the fact that the overcrowded portions of the city are saturated with the germs of tubercular disease. I think I am not overstating the case when I say that I attribute at least 15 or 20 per cent. of the total deaths in this district to tubercular disease. In the north side of the city I inspected 17,262 deaths, and of these 3,383 were from tubercular disease. In the south side I inspected 4,008 deaths, and of these 546 were tubercular. Before leaving the map I would like to point out the curious fact that in the four years mentioned no single death occurred from tuberculosis in Rutland-square, and to draw the attention of the Committee to the fact that the dwellings on the border of the Liffey were very immune; close by the river being well known to be a healthy place.

738A. Right Hon. Alderman MEADE.—Notwithstanding the smell?—Yes, it is a healthy locality. The deaths from enteric fever and other zymotic diseases are very few. Rutland-square is inhabited by well-to-do people, and I think its freedom from disease is largely due to that. Altogether I examined 20,000 deaths, and in my examination I was greatly struck by the enormous number of deaths registered as occurring in persons, say, from twenty to fifty years of age, being due to debility and asthenia, and in children as due to marasmus. Though I did not include any of these in my lists I am sure that a great many of them are tubercular cases. I think that the value of my map consists in the fact that it enables us to put our finger on the spots where the principal *foci* of disease and infection lie; and I am confident that if the death registers were carefully examined, it will be found that all other sources of a high death rate exist in the same localities, because wherever tuberculosis is rife all other epidemic and endemic diseases will be prevalent. Therefore, the particular and earnest attention of the sanitary authorities should be directed to these localities. I have reason to know, from my investigations, that similar infected areas exist on the south side of the river. As to the measures to be taken with a view to improving the health of the city I would propose the following remedies:—First, as to the question of notification of tubercular disease, a work which is well done in New York city under the control of Dr. Biggs. The Notification of Infectious Diseases Act gives power to the Sanitary Authority to include tuberculosis in the list of notifiable diseases. Section 7 of the Act states:—"The local authority of any district to which this Act extends may, from time to time, by a resolution passed at a meeting of such authority where the like special notice of the meeting and of the intention to propose the resolution has been given as is required in the case of a meeting held for adopting this Act, order that this Act shall apply in their district to any infectious disease, other than a disease specifically mentioned in this Act." In New York the Sanitary Board has a bacteriological laboratory, where the sputa is examined free of cost. The inspectors visit the people, talk to them, and tell them how to take care of themselves, and disinfection is done where necessary. When it is reported to the Public Health Department of New York that a case of tuberculosis exists, or that a patient has died or left the house, the room which he used is not allowed to be occupied by another person until it is disinfected. That is a very strenuous method. I think we should deal more largely with the education of the people in the matter of tubercular disease, and also resort to disinfection of the rooms and house in cases of death. Secondly, I think it would be very necessary to en-

force the more regular and appropriate cleansing of public buildings, such as courts of law, railway stations, post offices, barracks, schools, orphanages, schoolhouses, and prisons. The difficulty of dealing with schools is very great, because we are met with the fact that we have no power to close a school in case of an epidemic. We can approach the manager and after a long correspondence with him, and when the epidemic is waning, we may get the school closed. The Local Government Board say we have no power to do it, and ask us not to do it in the interests of the children; and that it is only when the medical officer considers it essential that the school should be closed he should recommend the adoption of such a course. There is no power to carry it out, and the Local Government Board think we should treat the schools as inns. It would be impossible to do that, so until we have some power we cannot do much in the way of closing schools. Besides, the managers resent any interference in this case of closing schools. Then, about hospitals, we should have special hospitals for dealing with the tuberculous poor, and these would relieve mixed hospitals very much, for if general hospitals took in these patients they should be separated from the other sick. Now, about educational matters in the city of Dublin, I have got a poster here which the Corporation of Dublin have very kindly adopted and have proposed to put up in all public places in the city, with the view of educating the people what to do and what not to do. Rathmines and Pembroke townships have also kindly adopted it, and they have allowed us to put up those circulars about tuberculosis in cattle, and we also attach much importance to it. A further cause of the very high death rate is, in my opinion, that we are badly in want of houses for the very poor. I have a very strong opinion on this question, and I affirm that no person has a right to pay more than one-eighth of his income in rent. A man with £1,000 a year should not pay more than £100 in rent, and the man with £1 a week should not pay more than 2*s.* 6*d.* a week for lodgings. It is absolutely essential that houses should be provided for the poor people close to their work. In London the workingmen live near their work, and one contractor insists on his men living not more than two miles from their work. If we in Dublin are to build houses for workmen they must be built in the neighbourhood of the work. The great mistake made in Dublin has been that while large areas were cleared there was no place to put the people so cleared away, and they were again driven back to densely populated areas. Houses should not be demolished until proper accommodation was provided for the people; but the principle we have adopted is to first clear an area and then build, perhaps. About what Sir Charles Cameron said as to how to deal with owners of property, there are three classes of owners that you cannot deal with—receivers, official assignees, and absentee agents I know an executive sanitary officer who had a summons against a receiver about a nuisance, and the receiver applied to have the sanitary officer committed, and he had to appear.

739. Alderman MEADE.—What was the result?—He was not attached, sir.

739A. What was the result of the summons?—The summons was dismissed; it was held that the receiver was not the right person—it was the Lord Chancellor, or someone.

740. Did he seek to attach the Lord Chancellor?—Oh no. Then the Official Assignee cannot be dealt with. The houses are in bankruptcy, and there are no minors. It is also very difficult to deal with the owners of houses in which ten or fifteen families live, and it is difficult to keep these houses in a sanitary state. As to milk, I held the same ideas as Sir Charles Cameron on the matter.

741. What would you suggest should be done in the case of official assignees, receivers, or absentees?—I think there is a great want in the law; it ought to be remedied. The sanitary officer may do his best, and although he may prove the existence of a most outrageous nuisance, only a small fine will be imposed by the magistrates. In this way, the Public Health Act is rendered by magistrates, an absolute dead letter.

742. Dr. MOORE.—You say that the death rate along the banks of the Liffey is low, and that the number of cases is small—do you mean to say that the Liffey odours are wholesome?—Not actually, but I believe it is owing to the prevalence of westerly winds, and that it is an open space; Rutland-square is also an open space.

743. About the notification of tubercular cases, there are difficulties surrounding that course?—There are.

744. In the matter of a chronic case, the same case might be notified over and over again—but you think the Notification of Infectious Diseases Act ought to be applied to tuberculosis?—Yes.

745. You think it ought to apply?—Yes, if it is an infectious disease.

As it clearly is?—Yes.

746. Would you have some provision for the free examination of sputa?—I would. There is power under Section 7 of the Notification Act for the Corporation to add to the schedule any disease that they consider an infectious disease.

747. Dr. MOORE.—Your opinion is that rooms occupied by tubercular patients should be disinfected?—Yes, and frequently.

748. And that notice should be given about the danger of spitting in railway stations, tramcars, and public places?—Yes, by such printed notices as this which I produce.

749. Mr. SWAN.—You mentioned, Dr. Denham, that you would provide hospital accommodation for tuberculous patients—would it be possible?—I think it would be possible. It has been done in other places. As a matter of fact, the hospital in the North Dublin Union is a consumption hospital.

750. Would the National Hospital for Consumption have the smallest effect in dealing with the number suffering from tuberculosis in this country?—It would not. You would want a barrack. I will say that I regard waiting-rooms in general hospitals as a great source of infection in this matter, and I would segregate the patients as much as possible.

751. At any rate, you consider it would take a barrack to provide accommodation for these people?—I say that an out-patient department would be of the greatest possible benefit.

752. In some central position?—Yes.

753. You said that the situation of the houses wherein deaths had occurred from tuberculosis was also the places where you would look for other diseases that would increase the death rate—why do you say that?—Because I say that wherever tuberculosis is ripe other endemic and epidemic diseases are prevalent, owing to the overcrowded state and impoverished condition of the people. They live together, and their vitality is low.

754. What do you deduce from the fact that certain houses are frequently the scene of deaths from tuberculosis?—The recurrent deaths were owing, I believe, to the fact that the stairs, floors, ceilings, and furniture of the rooms were simply one mass of infection.

755. That is a preventable condition?—Yes, certainly. All these houses I have marked on the map should be immediately disinfected.

756. Alderman DOWD.—You said that some contractors of the Corporation compelled their men to live within two miles of their work, and that the men signed an agreement to that effect?—Yes. Do you want the names?

757. Yes?—I don't think I should mention them, but I will write them down for you.

758. Dr. T. THOMSON.—You are Medical Officer of Health for one of the Dublin districts?—Outside the municipal area.

759. Where is it?—Pembroke Township.

760. I suppose you don't for a moment wish us to take the view that there are not other causes than tuberculosis which are contributory to the high death rate?—I do not; but I thought the other diseases would be dealt with by other witnesses.

761. You practise in Dublin?—Yes, sir.

762. You have some knowledge of Dublin?—Yes; I have walked the districts marked on the map.

763. Generally, I should like your opinion about the condition of the poorer districts in Dublin?—I think it is very bad, especially in the districts on the north side. The houses are occupied by numerous families. The absence of water, and the accumulation of excreta, are beyond the control of any sanitary authority to properly deal with. It is indescribable in some cases. The great thing is the want of water.

764. How does that arise?—The people live at the top of the houses, four or five stories high. We are not a very energetic people, and the water has to be brought up.

765. Dr. J. W. MOORE.—Surely that is preventable?—Yes.

766. Is it not a fact that the Vartry water can reach the top of the highest house in Dublin?—Yes.

767–8. Dr. T. THOMSON.—I suppose in the course of your practice in Dublin you have occasionally had an opportunity of enforcing the maxims which you have put before us among the poorer patients?—Yes, sir.

769. What effect has it had?—I think once you make patients aware of the fact that they are liable to consumption, you can do a great deal.

770. Have you done that?—Yes.

771. CHAIRMAN.—You referred to a circular from the Local Government Board about the closing of schools?—Yes, sir.

772. Would you kindly read it?—Certainly. This is the circular:—

"Local Government Board,

"Dublin, *2nd February*, 1900.

"SIR,—The attention of the Local Government Board has recently been drawn to the diversity of practice which exists in different parts of Ireland in regard to the closing of schools with a view to prevent the spread of infectious disease; and the Board, therefore, think it desirable to address the Sanitary Authority on the subject. The provisions of the Public Health Acts bearing on the subject are Sections 144 and 146 of the Public Health (Ireland) Acts, 1898, and are as follow:—Section 144—'Any person who knowingly lets for hire any house, room, or part of a house in which any person has been suffering from any dangerous or infectious disorder, without having such house, room, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a legally qualified medical practitioner, as testified by a certificate signed by him, shall be liable to a penalty not exceeding twenty pounds. For the purpose of this Section, the keeper of an inn or school shall be deemed to let for hire part of a house to any person admitted, or a guest into such inn or school respectively.' Section 146—'Any person who shall knowingly or negligently send a child to school who, within the space of three months has been suffering from any dangerous infectious disorder, or who has been resident in any house in which such dangerous infectious disorder shall have existed, within the space of six weeks, without a certificate from some duly qualified medical practitioner that such child is free from disease and infection, and unless his or her clothes have been properly disinfected, shall be liable to a penalty not exceeding forty shillings.' While the Board do not desire to interfere with the discretion of the officer responsible for the health of the district in the measure which he thinks it desirable to adopt with the view of preventing the spread of infectious disease, they wish to point out that neither the Medical Officer of Health nor the Sanitary Authority have any power to *order* the closing of schools, and they desire to suggest that, before a medical officer of health recommends such a course, he should in view of the important educational interests of the children not affected by the disease, carefully consider whether less drastic measures may not be equally efficacious in limiting the spread of disease. In order that such interests may not be needlessly sacrificed, the Board consider that, in many instances the object in view may be sufficiently attained by the Medical Officer of Health placing himself in communication with the managers and teachers of schools. He should draw their attention to the provisions of the sections of the Public Health (Ireland) Act, 1898, quoted above, and point out the grave danger to the public health incurred by permitting the attendance at school of children residing on infected premises, and endeavour, in the first instance, by friendly co-operation with the managers and teachers, to prevent the attendance at school of pupils from infected houses and their immediate neighbourhood. In any case, however, in which the Medical Officer of Health, in addition to other measures adopted to prevent the spread of infectious disease, considers it essential that the schools should be closed, he should recommend the adoption of such a course. Copies of this circular are enclosed, and it is requested that one may be handed to each medical officer of health in the district, and that his particular attention may be drawn to the Board's views in this matter as therein set forth.

"I am, sir,

"Your obedient servant,

"H. M. SWAINE, Secretary."

773. I understood from what you said before that the Local Government Board had directed you not to close schools?—No; but they said we had no power, and told us not to close if we could help it.

774. I didn't quite gather the effect of your evidence. Thank you.

775. Alderman DOWD.—Is it not possible in a tenement house, containing six or seven families, that infectious disease might be prevalent in one of the families and the others know nothing about it?—That might be.

776. And how could the others be held responsible for sending their children to school?—They could not be.

777. I understood anyone residing in the house would be responsible, from what you read out?—Yes.

778. Does a tenement room mean a house?—It does.

779. Dr. J. W. MOORE.—You are Medical Officer of No. 3, South City Dispensary?—Yes.

780. You were asked in November last by Sir Charles Cameron to give your opinion as to the high death rate?—Yes.

781. You wrote him a letter?—I did.

782. Will you favour the Committee with your views on the subject?—The high death rate in November and December was due to pneumonia and bronchial diseases associated with measles, and in December and January to the influenza epidemic.

783. Most of the cases were those of young people?—Yes; chiefly children. I can give you the number of deaths in my district.

784. If you please?—104 deaths were registered in December, viz., 37 children, 27 persons over 60 years, and 40 adults—the 37 children were aged 10 years and under, and 10 cases of tuberculosis out of these 40 adults.

785. Right Hon. Alderman MEADE.—Were there any cases of tuberculosis amongst the 37 children or those over 60?

786. There might have been some cases of tubercular meningitis, but not tubercle of the lungs.

787. Dr. J. W. MOORE.—Is it your opinion that 40 adults out of 104 was abnormally large?—Yes.

788. It indicates a great lowering of the resisting power of vitality?—Yes.

789. On the subject of hospital accommodation, would you favour the Committee with your views?—I think if we had sufficient hospital accommodation, especially at the time of the measles, the death rate would not have been so high—I believe it would have been considerably reduced, especially in the treatment of children.

790. Do you mean that there were several cases that you would gladly move to hospital?—Yes.

791. If you had room?—Yes.

792. Cases of measles?—Yes. My district is very poor, and the majority of the children are ill-fed and have not sufficient covering to protect them from the cold.

793. There is a want of clothing—the necessary clothing to maintain warmth and strength?—Yes.

794. Were you told by the hospital authorities that they had not room?—Yes, sometimes they had not.

795. Your suggestions to the Public Health Committee at that time with a view to checking the death rate, what were they?—That they should have sufficient hospital accommodation, that the places where these cases occurred should be thoroughly disinfected immediately after the cases of measles occurred, or when they were well. Three or four or five children might take measles in the same room, but the moment a child was well of measles the place should be thoroughly disinfected.

796. You made another suggestion and a valuable one, that a list of the infected houses should be reported to the heads of all the schools?—Yes.

797. With what object?—With the object of preventing children coming out of these tenement houses and sitting with other children. A great number of children never wash; they live in tenement houses and come out and sit with others. Having good lavatories in schools and plenty of soap and water would be a great help in checking the spread of the disease.

798. Is it your opinion that it is almost impossible to check the spread of measles in schools owing to the way it is mistaken for a common cold?—Yes.

799. Another suggestion that seems a valuable one is that a caretaker should be appointed to look after these tenement houses?—Yes. I think if there was a caretaker in every tenement house it would enable the medical officer to know the number of residents in the house, and in each room. If there was a respectable married man and his wife in charge, paid each week and given a room free, they would be able to keep the house clean. A great many houses you go into are filthy. Some of the floors would not be washed once a month.

800. Are the Committee to understand that these places are really not under the control of any caretaker?—Yes. There are very few tenement houses in my district under the control of any caretaker.

801. Your view is that a tenement house should invariably be placed under the care of some responsible person?—Yes. Some one to guide you and tell you about the cases in the house.

802. With regard to the death rate of Dublin, your report is dated the 27th November, and for some months before that the death rate attracted great attention?—Yes.

803. Well, in January the death rate reached a maximum?—Yes, I heard so yesterday.

804. And during all the autumnal months with a high death rate here, it was normal in Brighton and other places?—Yes; I believe so.

805. All these reports were asked for and written before that?—Yes, before December.

805A. Mr. R. L. SWAN.—You made the suggestion that all ashpits should be abolished?—Yes.

806. Are there many in your district?—Not many. The Corporation are removing them, and substituting dust-bins in their stead.

807. Right Hon. Alderman MEADE.—In place of ashpits?—Yes.

808. Mr. R. L. SWAN.—Are there many privies?—Very few. (In answer to Mr. Swan witness pointed out on the maps the extent of his district.)

809. Right Hon. Alderman MEADE.—That is a very dense district?—Yes, and very poor.

810. Dr. T. THOMSON.—Have you many tenement houses in your district?—Yes.

811. You heard what was told us of the water supply not being laid on in the upper portions of these high houses?—Yes.

812. And that is the fact?—Yes; except in three or four houses where there is water on the second floor.

813. I take it that for cleanliness and health water should be available in the highest part of these houses?—Yes.

814. Give me briefly your views as to the cleanliness or otherwise of the houses, streets, and lanes in your district?—The houses are exceedingly dirty. I notice that sometimes when we are asked to visit people in the houses, if we go early we find the floors not washed—that after 12 or 1 o'clock they are washed, when they expect the medical officer, and if you go again you find the place filthy. It is only when they expect the medical officer that you find them otherwise than filthy.

815. Dr. T. THOMSON.—And that applies, I presume, to the staircases as well as the rooms?—Yes, and if you ask them why they don't wash the stairs they say they do not belong to them. That is why I suggest the placing of a caretaker on the premises, who would be held responsible for the cleanliness of the place. There is often an accumulation of refuse.

816. Now, as to the court-yards and lanes?—Those not under the control of the Corporation are very filthy.

817. I mean the yards of the houses?—They are in a bad state as a rule; the surface drains are bad; but the drains are mostly under the ground.

818. There are still some surface drains?—Yes.

819. On the surface of the yards do you find accumulations of refuse?—Yes, very frequently; and there seems no way of getting rid of that; there is often a lot of vegetable matter and grease.

Right Hon. Alderman MEADE.—Are not the yards cleansed by Corporation officers?—I do not think the yards are. There are dust-bins.

820. Dr. T. THOMSON.—We have had the opinion expressed that they should be emptied more frequently?—Yes, and the carts for removing the refuse should be improved.

821. How often should these bins be emptied?—Every day, certainly.

822. Now, as to the back streets and alleys?—They are for the most part in a bad way with vegetable matter and grease, and the channels blocked with an accumulation of dust and manure.

823. Have you in your district any of these alleys referred to which are not in the charge of the Corporation?—Yes.

824. As to these have you any comment to make?—Yes, they are worse than the others.

825. And with a view to remedial measures what suggestion would you make?—That all alleys and court-yards should be under the charge of the Corporation, with sufficient water supply to daily flush them.

826. As regards what you have said concerning infectious disease and hospital accommodation I should like to know when your experience of insufficient hospital accommodation for the cases in your district begins?—In the month of June I wrote to the Board of Guardians mentioning that two cases of measles had occurred in my district, and that Cork-street Hospital had refused to admit them. That was the commencement of the refusals to admit to Cork-street Hospital.

827. How long have you been medical officer?—Ten years.

828. And in these ten years that was the first instance?—Yes.

829. Dr. J. W. Moore.—And there have often been epidemics?—Yes, we had an epidemic of small-pox about five years ago.

830. And were the cases removed to hospital?—Nearly all. The cases we sent were never refused. There were cases that we did not see until they were in an advanced stage. Another thing is, we have no observation ward to send a case to before we can definitely decide whether it is to be contagious or not. I think, if there was accommodation of that kind provided, it would have a tendency to prevent epidemics.

831. But surely there are observation wards in Cork-street Hospital?—But we are only supposed to send cases of fever to Cork-street Hospital.

832. And there is an observation ward in the Meath?—You cannot always get accommodation there—and medical men cannot go around the city looking for beds.

833. Dr. T. Thomson.—You would like to be able to send any doubtful case to an observation ward specially provided for the purpose?—Certainly.

834. So that it could be observed under conditions that would not be hurtful to others if it proved to be contagious?—Exactly.

835. And there are no such wards?—Well, we do not like to send doubtful cases to Cork-street; it is only contagious cases we send. There may be three or four days before you definitely make up your mind as to the nature of the fever.

836. Alderman Dowd.—Are you in favour of the establishment of an isolation hospital?—Yes, at a proper distance.

Dr. Henry G. Day examined.

837. Dr. J. W. Moore.—You are Medical Officer for No. 3 South City District?—Yes.

838. And a colleague of Dr. Cope?—Yes.

839. You divide the district into two special districts?—We do.

840. You concur, in your letter, with the views expressed by Dr. Cope?—I do, in everything he said.

841. The causes of the high death rate and the remedies?—Yes, I do.

842. I observe that you suggest that parents who do not report to the Public Health Office, or to a medical practitioner, all cases of measles, should be fined?—Yes, I have that in my report.

843. Is there a law on the subject?—I believe there is a law.

844. Is there not a provision under the Notification Act, requiring heads of families to notify?—Yes, there is.

845. But that would hardly meet the case?—It would hardly meet the case. I mean in the case in which they knew that the child had been suffering from measles, and had not informed us. In many cases we are called to see children in the last stages of pneumonia and bronchitis, following measles, though the child must have had the rash on it six weeks before. Had we been informed in time we might have sent the child to hospital and saved its life. But it is generally too far gone to do anything for it.

846. These parents do not always call in a physician?—No, especially in measles. The rash goes off the child in a few days. Complications very often carry off the child. They think measles is not serious.

847. As a dispensary medical officer, practising in Dublin, that is not your opinion of measles?—Not at all my opinion.

848. What is your opinion of measles?—It is a very dangerous affection. It is misleading to the parents, and it leaves the children with bad pulmonary complications. It is nearly always neglected.

849. Alderman Dowd.—I see that you are in favour of the abolition of trough closets?—Yes.

850. And that all drain pipes are properly trapped?—Yes.

851. Of course whenever there is any new work the Corporation compels that?—Yes; a great deal has been done in that way, and it is much improved in my district.

852. Dr. T. Thomson.—You recommend the entire abolition of trough closets?—Yes.

853. Do you mean trough water-closets?—Just a trough under the seat, where the contents are very often left two or three days without being emptied at all.

854. Is that the fault of the trough water-closet or because of the way in which it is managed?—It is very often the fault of the people in the house. Another thing is that under the trough closet there is no trap in connection with it, and there is nothing to prevent the sewer gas coming back.

855. Is not that the fault of the particular form of trough closet rather than the fault of trough closets as a system?—It may be this particular kind. I know they exist in Dublin without any traps.

856. There are a great many people who think that trough closets are good under certain circumstances?—Some may be of that opinion.

857. Of course those who take that view refer to proper trough closets?—If they were properly consturcted. The water supplying the yard goes down to these trough closets, and where there is no trap it is very easy for the gas to go back.

858. What do you mean?—In every yard there is a tap giving water. Its pipe generally goes on to supply the cistern for these trough closets, and is a continuation of the very pipe the people are drinking from.

859. It does not supply the trough closet direct. Is there not a cistern?—The cistern is situated under the seat in the closet. It is a small-sized cistern

859A. That again is a defect owing to your particular pattern?—It may be the pattern.

860. It is no necessary portion of the trough closet to have an arrangement of that kind?—No.

861. Right Hon. Alderman Meade.—Is not the closet supplied by a ball-cock?—It is.

862. How comes the gas to force the ball-cock?—The cistern is not hermetically sealed.

863. Not the cistern, but the tap that supplies the cistern from the main has a ball-cock?—I say the gas can get back.

864. How can it get back from the main that the drinking water is taken from?—The gas can get into the little cistern.

865. Dr. T. THOMSON.—Do I understand you to say that the people drink the water from the same cistern?—No, they take it from the same main.

866. Right Hon. Alderman MEADE.—The water tap is at one place, and the tap supplying the closet is at another?—This particular closet, I think, is defective.

867. Dr. T. THOMSON.—Does your district correspond with Dr. Cope's district as regards want of cleanliness?—To a certain extent, but it is rather a better class of district than Dr. Cope's.

868. Have you many tenement houses in your district?—Yes.

869. Is your experience of these houses as unfavourable as Dr. Cope's?—It is the same.

870. And is it also the same as regards the water supply not being taken to the top of the building?—Certainly.

871. Have you any undedicated streets in your district?—I do not know of any not in charge of the Corporation.

Dr. ALBERT O. SPEEDY called and examined.

872. Dr. J. W. MOORE.—You are Medical Officer for No. 3 North City District, I think?—Yes.

873. And have been for a long time?—Yes.

874. Therefore your experience extended over a long series of years?—Yes.

875. In your letter to Sir Charles Cameron, dated the 2nd of December, you put down in the forefront of your explanations of the high death rate "The severe and prolonged epidemic of measles, coupled with the want of hospital accommodation"?—Yes.

876. You also feel the want of hospital accommodation?—Yes.

877. Did you try to get in cases of measles and failed?—Quite so, and they had to be treated at home, in their own homes.

878. Practising in your district you would be more likely to send cases to the large fever hospital in the north of the city—the Hardwicke Hospital—than to the Cork-street Hospital?—Yes.

879. Was there a difficulty in getting these cases admitted to the Hardwicke Hospital?—Yes.

880. Were you told the wards were full?—Quite so.

881. It was not a question of payment there?—No; there was no room.

882. You suggest here that the schools should be closed on the outbreak of an epidemic of measles or scarlatina?—Yes.

883. Do you include in that recommendation boarding schools?—Not at the time I wrote the report, but I think it would be a very good thing. It was more to the public schools amongst the working classes that I referred.

884. CHAIRMAN.—Day schools?—Large day schools, such as the Christian Brothers and schools under the National Board of Education.

885. Those are all day schools?—Yes.

886. Dr. MOORE.—You were dealing with day schools?—Quite so; the Protestant clergy have some schools, including Sunday schools.

887. With regard to boarding schools, do you foresee a possible danger of spreading the infection if the schools are broken up and the pupils sent home?—I do. I was rather referring to the ordinary day schools amongst the labouring and artisan classes in a large city like Dublin.

888. You are of opinion that there ought to be further hospital accommodation for infectious diseases?—I am.

889. And that there should be a convalescent home in connection with them?—Yes.

890. You are aware that there is one with a convalescent home?—Yes, in connection with Cork-street Hospital.

891. And it is for one disease only?—So I believe.

892. Scarlatina?—Yes.

893. You are aware that since 1878 the sanitary authorities have had full power to provide convalescent homes for infectious cases?—Yes, I am.

894. And that that provision of the Public Health Act has never been put in force?—It has not.

895. You, as a medical officer of many years standing, are of opinion that it should be?—I am, certainly.

896. If there was a convalescent home established it would relieve the plethora of such hospitals?—Undoubtedly.

897. And might get over the difficulty altogether?—It might.

898. You seem to think that the condition of the city dairy yards has a good deal to say to the unsatisfactory state of Dublin health?—I do.

899. In your district you see a good many of these dairy yards?—I have from time to time.

900. Are they kept as they should be?—I don't think so.

901. Are some of them adjoining public institutions?—There were; but they have been abolished since the new Richmond Hospital is in progress of being built. There were a number of them there. I heard the other day that there is one near the Hardwicke Hospital in Upper Church-street, and there is some dispute over it. It is a very bad site I should say. With regard to the location of these dairy yards, the Corporation has no power. Sir Charles Cameron has told us, and it is a fact, that the Corporation cannot refuse a licence on the mere ground of locality.

902. Is it your opinion that the law needs amendment in that?—Yes: and I can give a case in point. With reference to the case I heard the other day, a dairy yard has been purchased, and there is a dispute going on between the Corporation and the dairy yard proprietor, and it is almost under the windows of a large fever hospital—the Hardwicke. I heard that from Mr. Collins, a dairy inspector.

903. So that the law needs amendment?—In my opinion it does.

904. You are of opinion that veterinary surgeons should be employed for the purpose of inspecting the state of health of all milch cows?—Yes, I am long of that opinion.

905. Mention some of the diseases that you think might be possibly derived from milch cows?—Typhoid fever and tuberculosis, and possibly scarlatina and measles.

906. During last summer had you some diarrhœa in your district?—There was a considerable amount of it.

907. Was any public notice distributed in your district as to the necessity for taking care when the typhoid was rife?—As well as I recollect, there was.

908. I think Sir Charles Cameron distributed a leaflet?—I think so.

908A. Recommending that the milk should be treated in a special way, and so on?—Yes.

909. You make special complaint in this letter of two houses, Nos. 1 and 2 Norton's-row. You brought these under the notice of the sanitary authority, and you add this very perplexing statement—"but for some cause or other nothing came of

it"?—These houses were in a very unsanitary and dilapidated condition for a very lengthened period, and I have over and over again called attention to them. I visited the place yesterday, and I found that they had repaired some of the roofs, limewashed the walls of the dwelling-houses, and repaired some of the walls. But when I went out to see what the sanitary accommodation was—that was part of my original complaint—I found there was one solitary water-closet, covered with filth on the floor. I estimated that twelve families were using this closet. There are four families in No. 1 Norton's-row and four in No. 2; and there was another house, 18 Phibsborough, which also contained four or five rooms, and the families living in that house were using it. And I take a fair, moderate estimate when I say that there were at least twelve families who had only this wretched, horrid, stinking closet to resort to.

910. You made a complaint as long ago as November?—Long before that.

911. The state of things that you are describing exists at the present day?—Existed yesterday.

912. Right Hon. Alderman MEADE.—Where is Norton's-row?—Off Phibsorough-road.

913. In the city?—Oh yes, it is in my district—No. 3 North City District.

914. Dr. J. W. MOORE.—You suggest that the rooms in tenement houses should be limewashed. Is not that done?—I think in a great number of instances it is not done.

915. It is the duty of the landlord, I presume?—Yes.

916. Do you agree with the dispensary medical officers who have already given evidence to-day that there is an attempt to clean up when the doctor is expected?—I cannot say practically that that is my experience.

917. You suggest that additional bath and washhouses should be provided. We know that there are in Tara-street very splendid baths and wash-houses?—I am aware of that, and there are also at the Mendicity Institution, Usher's-quay. But these do not cope with the requirements.

918. You think the inhabitants of your district will not find their way to Tara-street?—No, because it is too far away altogether. It is nearly opposite the Custom House.

919. Are these baths and washhouses very extensively used so far as you know?—I should think they are. The washhouses are used. Certainly they are. The Mendicity is a very useful institution,

920. On the whole, Dr. Speedy, looking back to the last thirty years or upwards, has the sanitary condition of your district improved very materially?—I think in certain portions of it. In some of it there is great room for improvement, and my worthy colleague, I think, holds the same opinion. I am sorry to say that it is rather disheartening, as I have mentioned in my report, when some very bad places have been reported from time to time, that for some cause or other no notice has been taken of it. It is very disheartening to the medical officer who takes an interest in the sanitary improvement of his district, and certainly I think it is only fair to say, as an old medical officer, that the remuneration offered to medical officers of health is miserable and wretched in the extreme, and it is detrimental to their interests to do this sort of work.

921. I think it is very desirable that every member of this committee should know what remuneration the medical officer of health gets in this large population?—£6 5*s.* a quarter—£25 a year.

922. CHAIRMAN.—Just mention the streets that adjoin your district?—Our district is from a line drawn up the centre of Greek-street and Beresford-street up to Conyngham-road and to the extreme west near the Island Bridge Barracks, and then along the Circular-road to the Phœnix Park where the tram stops. Then it goes along up to what we call the Phibsborough district, to a place called the Cross Guns—that is at the bridge that the funerals to Glasnevin go over—then it comes down along the Phibsborough-road to where I mentioned before—a line drawn through Beresford-street and Greek-street.

923. Is that the entire of No. 3 district or only half?—The entire of it. There are two medical officers for the district.

924. Mr. SWAN.—What is the population of your district?—I think it is about 28,000.

925. You are the Medical Officer of Health for that district?—I am.

926. Do you remember the proportion or could you form any estimate of the proportion of those tenement houses in your district to the other houses?—I could not form any estimate.

927. Would you mention the nature of your duties as Medical Officer of Health. What functions have you to perform?—I have to write reports or give verbal orders to the Inspector of Nuisances, the sanitary sub-officer as to any sanitary defects.

928. Have you a large amount of clerical work?—I have had from time to time a very great amount. Many years ago in our district the midden system and filthy ashpits existed. I have worked very strenuously to try and improve the district, and I really got all these ashpits and middens completely done away with.

929. That was done by the Corporation?—Yes; but at the instigation of the Medical Officer of Health, your humble servant.

930. Most of those middens have been removed, in your district?—Yes; I think all of them.

931. And those water-closets at present in existence have been substituted for them?—Yes; the water-closets took the place of the middens.

932. But they are miserably insufficient?—What I would say is this—I gave an example. I was very sorry to have to do so; but when I was asked my opinion as an honest man I could not do anything else. I gave an example of a house reported by a medical officer of health of experience, and many years' knowledge of these things, in which the actual condition of things referred to existed, and there was not a single thing done until my letter appeared in print before the Local Government Board; and then when I went down there I saw the condition of that closet, which I have endeavoured to explain, and it was the only accommodation for twelve families at least. I think that is a pretty good example of the condition of these unfortunate people.

933. Is that a common occurrence in your experience?—I don't say it is a common occurrence. It is an example of where, having been asked our opinions, that occurred to my mind as one of the things I would mention. It is a monstrous thing, and very disheartening to the medical officer.

934. Do you remember another example?—I have known other instances of where the medical officers complained of unhealthy and unsanitary conditions, and the slightest notice was not taken of them. And, therefore, I say in my letter that it is very disheartening. There ought to be some reform.

935. Your duties as medical officer of health are extremely troublesome?—They are if you work honestly; and they interfere with your private practice, which is also very important.

936. Is it the medical officer of health that brings the condition of the tenement houses, in the first instance, under the notice of the sanitary sub-officer?—Oh, no; the point is, that if the medical officer goes into a house where he visits a sick call, and if he sees anything objectionable, such as overcrowding, filthy condition of the stairs or walls, or a filthy yard, he brings that under the notice of the sanitary sub-officer, and sends in a written report. That is the way it works.

937. Right Hon. Alderman MEADE.—To whom does the medical officer send this report?—He gives it to the sanitary sub-officer, either in writing or verbally.

938. Do you want the Committee to understand that the condition of those houses in Norton's-row is typical of the artisans' dwellings in your district?—I don't know what you mean by the artisans' dwellings.

939. Well, tenement houses?—I adhere to what I said before, that I have from time to time reported houses to be in a very wretched, dilapidated, filthy, unsanitary condition, and I might as well have been beating the air.

940. To whom did you make these complaints?—To the various sanitary sub-officers, from time to time, and I wrote reports on the regular book furnished.

941. Did you send those reports to the Public Health Office?—They were handed to the Inspector of Nuisances, or, what is called the sanitary sub-officer.

942. You handed them to the sanitary sub-officer. You didn't communicate with the Public Health Department of the Corporation, in the City Hall?—I may have done both. They may have been sent to the Public Health Committee, or they may have been handed to the sanitary sub-officer.

943. But were they sent to the sanitary officers in the City Hall?—I don't know that the cases I have in my mind particularly were sent directly. But they were handed to the official of the Corporation—the sanitary sub-officer—and then I considered I had done my duty.

944. Your evidence is that you made several special complaints, of which no notice was taken?—They were handed to the sanitary sub-officer.

945. That is not within recent years. Your experience dates from thirty years?—That is my experience about the cases that I have in my mind for some years past. Angle-court, Beresford-street

946. Could you tell us within the last twelve months?—I have not had charge of it for the last twelve months, because I made a different arrangement with my colleague.

947. I am not asking you about Angle-court. What number of reports have you made within the last twelve months that no notice has been taken of?—There is the case of Maher's-court, off Brunswick-street, reported over and over again. I certified that the place ought to be closed. It is in a very bad condition.

948. Within the last twelve months?—Yes.

949. Because I notice here, in your letter to Sir Charles Cameron—"As to the sanitary state of my district, I think it will bear favourable contrast with other urban districts"—I think that was a very proper remark.

950. And, notwithstanding that, the Medical Officer of Health, Sir Charles Cameron, and his staff, did not take any notice of several cases you brought before them?—As far as those things are concerned, I am telling you just two or three places that I have in my mind's eye, and for whatever reason it was nothing came out of it.

951. How many cases do you say?—I have given you Angle-court, off Beresford-street.

952. How many cases in your district?—I gave you the instance of Maher's-court, off Brunswick-street.

953. Within the last twelve months, you have sent notice to the Corporation, and no steps have been taken?—No; I have handed them to the sanitary sub-officer, as I have told you. I think there is another thing that it is desirable to mention, if the gentlemen will allow me, and that is merely to say that I consider, with Dr. Moore, that it would be a very desirable thing to have a refuge established as I remember existed in the cholera times, many years ago, where these unfortunate people whose relations were struck down with cholera could resort to and be made comfortable, and have some fire and food, until their own places were properly disinfected, and not be obliged to run into a neighbour's room at the risk of conveying the infection. That was mentioned in a report that ought to have been embodied in that letter, and for some reason or another it does not appear.

954. Alderman Dowd.—You consider that there ought to be more baths and wash-houses?—Yes; facilities ought to be given.

955. Dr. T. Thomson.—As I understand, you have been Medical Officer of Health for No. 3 North City District, for a considerable length of time?—Yes.

956. About thirty years, I think?—Over thirty years.

957. Have you in the course of your long experience found cases of infectious sickness that you thought should go to hospital not admitted owing to the lack of accommodation in those hospitals, prior to last year?—I cannot say prior to last year. There was one gentleman who gave evidence here to-day who said there was ample accommodation for epidemic diseases. But I thought he overlooked the fact that when we had the last epidemic of small-pox they had to put up sheds at the South Dublin Union. That showed that there was not accommodation for zymotic diseases.

958 That was not my question. My question was whether in your individual experience as Medical Officer of Health you had recommended cases for admission to hospital and admission had been refused?—Certainly, that has been my experience in 1899, during the epidemic of measles, typhoid, and so on.

959. Has that happened in your experience prior to 1899?—I cannot say that it has. I am answering in another way. An Irishman is permitted to do that. When we had an epidemic of small-pox the ordinary accommodation of the Mater Misericordiæ, Hardwicke, and Cork-street hospitals was not sufficient to meet the requirements, and they had to put up a number of wooden sheds at Christmas, and I think it is a very good answer, as showing that we hadn't sufficient accommodation when we had the small-pox epidemic four or five years ago.

960. In the course of 1899 you had refusals for admission?—Yes.

961. In your report to Sir Charles Cameron, which I have before me, I see you express the opinion that all manure should be more frequently removed from dairy yards?—Yes.

962. How often is the manure, in your experience, removed from dairy yards?—I could not really say. I know from hearsay that it is not removed half as often as it ought to be, and that it is allowed to accumulate. I heard a gentleman say a short time ago that about two years ago he went into a dairy yard and saw a cow up to its knees in manure.

963. Is your opinion based solely on hearsay?—I have seen manure from time to time heaped up. It is not cleared away as often as it should be.

964. You say that the dairy yards should be regularly hosed? Are we to gather from that that these dairy yards are in an unduly filthy state?—Yes, that is the inference that the necessity of hosing would give.

965. Are dairy yards properly paved?—I think they are.

966. What sort of paving?—Paving stones.

967. "Paving stones" covers a good many things?—Yes.

968. Right Hon. Alderman Meade.—They are not paving sets?—No, certainly not—paving stones.

Dr. Thomas Donnelly called and examined.

969. Dr. J. W. Moore.—Dr. Donnelly, you are one of the medical officers for No. 1 North City District?—Yes, the east. It is divided into two districts.

970. And it is an independent district?—Yes.

971. Would you indicate on that map just where your district lies?—Yes, I will point it out. (Witness indicated his district on the map.) Continuing, he said—That district has been enlarged—it was not so large when I was appointed in 1884—that part that takes in the North Docks and the North Strand, down by Clonliffe-road from Russell-street and Jones's-road to the sea.

972. A good deal of it is modern ground?—Most of it is reclaimed land—made land, and a good deal of it is under the level of high water mark. It is drained by a pumping station down at the East-road. That is the lower portion, the portion towards the sea. All the surface water is pumped away. The other part, of course, drains into the Liffey.

973. Have you noticed any incidence of disease as a result of that?—Yes, I have. The district is remarkably bad for acute rheumatism, rheumatic fever, and there are a great many cases of tuberculosis.

974. Much typhoid fever?—Not excessive, not so much now as formerly, when I went to the district first. There is less typhoid than previously.

975. Is summer diarrhoea prevalent in that district?—It is, but not unduly so.

976. The epidemic of measles, is it severe—very severe?—It was one of the first parts of the city affected by measles, and therefore, I have not the same complaints to make as regards hospital accommodation. At first I got cases in quite easily, but subsequently the Hardwicke got completely full, and consequently the cases were taken to Cork-street; but they spread so very rapidly—I think every child who had not had the measles and some of the parents got it—there were so many cases that both hospitals were full, at least the Hardwicke was, and that necessitated a good number of children being attended to in their homes.

977. Bronchitis and broncho-pneumonia was prevalent?—Yes. At first the cases were not so severe, but subsequently they were. The people did not seek for medical aid until the children were practically dying.

978. So that your experience corresponds with Dr. Day's?—Yes.

979. Are you of opinion that some measures should be taken to compel parents to notify?—I do think so.

980. I see you complain here specially of the unsanitary condition of the large tenement houses Nos. 4 to 18 inclusive, Upper Buckingham-street?—Yes.

981. Have you made representations about those?—Yes; they have been a trouble to me for a good while, because they are particularly unhealthy. I had cases there of diphtheria, enteric fever, as well as measles, due to the unsanitary conditions. These were large houses, palatial residences, very fine houses, and now they are occupied by ten families or perhaps more in some cases; sometimes there are two families in a room. They are greatly overcrowded. They have but one water-closet and they have no water upstairs in most of them. The result is that they are only moderately well kept. Some people are clean enough and keep their rooms fairly. Many of them do not. These houses were only intended for one family, and they have not the sanitary accommodation nor the water for more. There is no person responsible for keeping them in proper condition or looking after them in any way. They are getting dilapidated. The windows are getting broken and the doors broken, causing great draughts through the place, especially at the southern end. There are numbers of cases, and very many deaths have occurred to my own knowledge more than ought to occur.

982. Were your recommendations carried out?—In some cases they were. The sewerage was examined and looked after. There is more required to be done. Generally speaking the tenement houses of Dublin have one yard for a number of families. Provision ought to be made for all the families. These houses have accommodation for one family, but not for eight or ten.

983. Do you agree with the recommendation that there should be a caretaker if possible?—Most certainly, and the houses should be remodelled so as to give accommodation for a number of families. A caretaker should be appointed in each house.

984. To whom do you make your reports?—As medical officer, to Sir Charles Cameron.

985. What about the sanitary sub-officer?—In some cases I doubt whether there is a sanitary sub-officer in my district or not. For the last sixteen years I have had various experience of sanitary sub-officers. Some are extremely active and efficient men who came to me and reported cases. They came to me to know if I saw anything wrong, so that they may look after the matter. They have come to me and asked me for reports in cases that they had doubts about. Then, I would not see a sanitary sub-officer for nearly a year, showing great irregularity and great inefficiency. I believe if sanitary work is to be done it must be done by the medical officer of health, he must act as a sanitary officer at times.

986. Is the sanitary sub-officer the same as the sanitary inspector?—I believe so, I believe their duty is to act as inspectors of nuisances.

987. They are twenty-seven in number and each of them has to look after 1,200 families living in tenement houses. That is Sir Charles Cameron's evidence?—I cannot say that.

988. The sanitary sub-officer is the same person as the sanitary inspector of whom we heard yesterday?—Yes. It is his duty, as I understand, to bring under the notice of the medical officer any place where medical knowledge is required, or where he considers a nuisance is dangerous to health.

989. Is a report to you to be considered as equivalent to a report sent to the Public Health Office?—I don't think so.

990. Is it the sanitary sub-officer's duty to send forward reports that he gets for the medical officer of health?—I send my reports direct. I give verbal reports, and if I see the sanitary sub-officer call his attention to a case which it is desirable to visit and inspect. Then I see it, and if he wishes me to do so, I give a special report, to be used as evidence in the police court, and then I send that to Sir Charles Cameron.

991. Do you find that the performance of your duties as medical officer of health interferes with your private practice, or tends to do so?—It does tend to it.

992. Would you consider it better to have an independent medical officer of health, independent of private practice, to whom you could send your reports as you do Sir Charles Cameron?—Do you mean the medical officer.

993. Leave him as the medical officer of health. Should there not be a superior medical officer of health?—I am strongly of opinion that there should be a medical officer who has special knowledge of public health work. If I may cite, as an illustration, what happened to myself. I had two cases in adjoining houses, comfortably built, very nice little places. One of the cases was a dispensary case; the other was a private case. Both of these people appeared to have had enteric fever a couple of days. I told the sanitary sub-officer that I feared they were getting typhoid fever, and I asked him to examine the closets. He reported to me that they were perfectly right, clean and well kept. I expected to see the typical rash, but I didn't see it. I went over

the place myself; I went around and examined the drains and the closets, and I found that there was no trap between the soil pipe from one of the sculleries and the sewer; no ventilator whatever from the water-closet. I saw the agent of this property, and he had these two defects rectified next day. From that hour both patients got better. The very next day the fever had disappeared. The sanitary sub-officer was an ex-police constable, and he could not be expected to see for himself that there should be a trap between the main and the sewer pipe, and the necessity for the ventilating of the soil pipe. And further, I think it is necessary for a superintendent of inspectors to pass around and take reports from the sanitary sub-officers—to pass around the district and see what condition these places are in, and report to Sir Charles Cameron, or the superintendent medical officer of health. I think that is most essential.

994. Mr. R. L. SWAN.—Is it your opinion that those sanitary inspectors are not sufficiently educated in that special work?—I do think so. Some are, and some are not. As a rule I think so.

995. They have recently been improved?—Yes; recently they have taken out certificates under the Public Health Act.

996. Right Hon. Alderman MEADE.—You are aware that all the sanitary sub-officers now have to pass an examination, and to get a certificate before they are allowed to go on any of this work?—Oh, yes; but that is comparatively recently.

997. Do you expect a sanitary sub-officer to report to you if he goes through a place and sees that there is a person ill, and that you should go and attend him?—Oh, no; but I expect the sanitary sub-officer to let me know where he sees a nuisance.

998. And report to you?—Certainly.

999. We got him to report to the department?—Yes. I think the high death rate is due to two causes, namely, the one that we have heard so much evidence of—the overcrowding of the tenement houses, and the indifferent sewerage of the city. The other cause, in recent years, is influenza. Since it came ten years ago, it is endemic in my district. There has never been a week in which I have not had cases, and then it became epidemic in some other seasons. Another cause that tends towards a high death rate—I think there is a very great want in the city of a convalescent home, some place to which to send the convalescent workman before he goes back to his work. These poor people get an acute illness. Owing to the necessity of earning their bread, they are obliged to go back to their work before they are completely recovered from their illness. For the better class of people there is a place at Stillorgan and Linden, where people can get accommodation, on a little payment. But I speak of people who have expended every farthing during their illness. They are obliged to go back to work too soon, and they get debilitated, and a great many people have died from that, from want of change of air, and rest for a fortnight, after recovering from an acute illness.

1000. Infectious cases?—Not necessarily.

1001. Infectious cases are not taken into the convalescent home?—I am not speaking of infectious cases. I think influenza and tuberculosis ought to be included in the zymotic diseases, and ought to be notified. I am speaking generally of the high death rate, not only amongst children, but amongst adults. A vast number of our poor people get ill, they send for a dispensary doctor, and he treats them there. Then they get better to a certain extent, and they are obliged to go back to their work before they are properly able to do so. There is no place to which to send these people until they are quite recovered, and, that being so, they get so debilitated that very often they lose their lives. And their lives are often shortened. They become more susceptible to infectious diseases, and, if they get a disease like influenza they die.

1002. Right Hon. Alderman MEADE.—You mentioned some houses in Upper Buckingham-street, and you said no attention was paid to the place?—No.

1003. You said the sewers were looked after, but that the complaints were not attended to?—Oh no.

1004. That they had been most unsanitary for years, and that nothing had been done except so far as the sewers went?—No. I sent complaints; but no water was put to the houses.

1005. You told us, also, that you had experience of sanitary officers; you saw them frequently, and then for two or three years at a time you didn't see one?—I won't say two or three years. Sometimes I would see them fairly regularly, and at other times I would not.

1006. Have you ever communicated with the Public Health Department to say that the sanitary sub-officers had disappeared from your district?—Officially I have not.

The Committee then adjourned until the following Monday, February 19th.

FIFTH DAY—MONDAY, FEBRUARY 19TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

1007. CHAIRMAN.—Mr. Rice, with reference to the application you made on the last morning we met I caused a letter to be written to the Local Government Board as follows:—

"Sir,—The Committee appointed to inquire into the public health of the city of Dublin have been asked to invite the following gentlemen to give evidence at the inquiry, namely (1) Dr. Hope, Medical Officer, Liverpool; (2) Professor Wm. R. Smith, M.D., Edinburgh; and (3) Conway Scott, Esq., Executive Sanitary Officer, Belfast. The Committee consider that the evidence of these gentlemen would be very valuable and desirable, but they are not sure how far they would be warranted in soliciting such evidence and arranging for the attendant costs. The Committee would be glad in these circumstances to be advised by the Local Government Board as to the course they should pursue in this matter.

"I am, sir, your obedient servant,

"W. H. WILSON,

"Secretary to the Committee."

I have received the following reply:—

"Sir,—The Local Government Board for Ireland acknowledge the receipt of your letter of to-day's date, relating to the proposal of the Committee appointed to inquire into the public health of the city of Dublin to invite Dr. Hope, Medical Officer of Health, Liverpool; Professor Smith, Edinburgh, and Mr. Conway Scott, Executive Sanitary Officer, Belfast, to give evidence before the Committee, and in reply the Board desire to state that, having regard to the expression of opinion given by the Committee in this matter, the Board will raise no objection to the proposal, provided that the Committee obtain a statement of the evidence which these gentlemen are prepared to give, and satisfy themselves that it is necessary for the purposes of the report. It should be made clear to these gentlemen that the Committee will only be permitted to defray the travelling expenses, and grant the customary subsistence allowance.

"I am, sir, your obedient servant

"D. J. MACSHEAHAN,

"Assistant Secretary."

I was not quite clear what was meant by subsistence allowance, and therefore I got a copy of the regulations for Royal Commissions, Temporary Commissions, and Committees, and I find that the scale for certain witnesses is 3 guineas per night while necessarily detained from home. I think that is the only thing that appears open to the Committee. I cannot see that we can do anything more.

1008. Mr. *Rice*, Solicitor.—We are very much obliged to the Committee for having taken so much trouble in the matter. We will communicate with these gentlemen and see what evidence they are prepared to give, and the Committee can arrange whether they can come or not, or whether the subsistence allowance will be sufficient to enable them to subsist.

Dr. JOHN M. DAY, Registrar, Cork-street Fever Hospital, examined by Dr. R. L. SWAN.

1009. How many beds are in the Cork-street Hospital?—Two hundred and sixty-six in the hospital, and in the convalescent home twenty-six besides.

1010. Where is the convalescent home?—Out at Glasnevin—between Glasnevin and Finglas.

1011. I believe it is called Beneavin?—Yes.

1012. How is the hospital supported?—We have a Government grant, and we have funded property built up by means of donations and bequests from year to year, a Corporation grant, and two of the townships give grants from time to time.

1013. Is the Corporation grant a solid grant, such as is given to the other hospitals, or is it a capitation grant?—No, they give us £300 a year, and one year they doubled it, at the time of the small-pox epidemic, but the ordinary grant is £300 a year. We get no capitation fee from the Corporation at all.

1014. Do you get any grant at all from the unions at present?—Not from the South Union, but until lately we were getting one from the North Union—they were paying for their dispensary cases sent in to be treated with fever—they paid up to the last couple of months.

1015. What rate did they pay?—2*s.* per head per day.

1016. Had you a very full hospital last year?—Last year was the heaviest year I remember in the hospital, especially during a couple of months of the measles epidemic. It was the heaviest year I knew there since I went there fourteen years ago. The hospital was always full, and the accommodation got so crowded that we had to increase it temporarily; but we never occupied the temporary sheds, for our arrangement with the unions fell through, and we had to shut up the temporary places for want of funds. We had to shut down all round to 160 beds.

1017. Then had you only 160 beds full?—We have not even 160 beds full now, for we had to shut down to 108.

1018. Was that in consequence of the want of funds?—Yes, we are nearly £4,000 in debt to the bank at the present moment.

1019. Then you must have been unable to receive many cases sent for admission?—The way the Committee instructed me was to notify the different doctors that we could not take in any more cases, but they always left me a discretion, and if a very serious case applied I was on no account to refuse admission, no matter what it cost, and we are taking in occasional cases as best we can, but the Committee feel we cannot go on. We have reduced our nursing staff, and reduced our expenses in every way we can.

1020. But if you had been able to keep open the beds to the full number—that is, 266—do you think you would have been able to cope with any applications made to you?—Well, we did not refuse any case except at the height of the measles epidemic; and as regards measles, our take-in was equal to our out-put, and even to meet that they had to put up a temporary shed for twenty more beds; but as the agreement with the union failed us, we had to reduce the intake altogether. The union did not pay us for three months they owed us, and they said they could not pay us under the law.

1021. Right Hon. Alderman MEADE.—At what period of the year?—Our agreement with the unions fell out on the 20th April, 1899, and we gave notice that on the 1st of next month we would have to reduce our beds to 100.

1022. That is on the 1st May, 1899?—Yes; and then the unions wrote on the 20th of June that, pending the decision of the Local Government Board with reference to who should be responsible for the treatment of the poor people suffering from fever, they would pay us for any cases certified by the medical officers, and to meet the epidemic we increased our nursing staff, and increased our expense in every respect; but on the 13th October they notified us that they found their agreement was *ultra vires*, and that they could not carry it out, and they left us in the unfortunate position of having a big debt which they could not discharge, and which nobody could discharge. They sent us back our account, saying that under the existing law they could not discharge it; and then in November we gave notice we would have to reduce the number of beds. Since that we have notified the Public Health Committee. . Our present financial position is, that we owe £3,000, and when we close our year on the 31st of March, we shall be about £4,000 to the bad.

1023. How much were you to the bad on the 31st of March, 1899?—We have been to the bad for four years.

1024. Dr. R. L. SWAN.—How much were you to the bad on the 20th of April, 1899?—I could not tell you.

1025. Right Hon. Alderman MEADE.—What was your position at the end of the financial year?—Our present financial year is not closed for 1899—the financial year in our hospital closes on the 31st of March in every year, so that our present current financial year has not closed.

1026. On the 31st of March, 1899, how much were you to the bad then?—The debt carried forward on the 31st March, 1899 was £3,500 odd.

1027. Then you expect to be £4,000 in debt at the close of the present year—that is, £500 to the bad on the year?—We started with a debt of £3,500, and now we are £4,000 in debt, and as we have two months yet to pay for, we will be more than £4,000 in debt at the end of our year. There will be £200 a month to be added for the next two months, for practically we have got all the money that is due for this year.

1028. Except what is due by the unions?—But they cannot pay us.

1029. Dr. R. L. SWAN.—Has the union repudiated the debt?—The unions say that under the existing law they cannot pay us the debt.

1030. Right Hon. Alderman MEADE.—Although they made the agreement to pay it?—They wrote on the 22nd June to say they would pay for all certified by the medical officers, and then they notified in October, when we furnished the three months' account, that they were very sorry they could not pay for any case except those sent in from the workhouse itself, which they paid for.

1031. CHAIRMAN.—What amount does that represent as due by the unions?—I think about £800, but I only speak from memory.

1032. Dr. R. L. SWAN.—Has it ever occurred in previous years that you had to refuse cases of infectious disease from want of room?—Never from want of room in my memory, but it occurred through want of money.

1033. You are in this hospital for a good many years;—I am there since 1886.

1034. When did that occur before from want of money?—I think about three years ago. Then we had a difference with the unions again about the right to pay, and for three months they were not paying, and we had to reduce the accommodation.

1035. Dr. J. W. MOORE.—You have been at Cork-street Hospital for fourteen years?—Yes, about that time—I went there in 1886.

1036. And it was only this year you had to refuse cases?—No, sir, we have had once or twice some difference with the unions, and they were not paying us, and on these occasions we had to refuse admissions once or twice, but it was only for a short time.

1037. When was the Cork-street hospital founded?—In 1801, I believe, and it was opened in 1805.

1038. Since then it has been the great fever hospital for South Dublin?—For both south and north; we do a great deal with the north as well, but we don't reckon as many from the north as from the south.

1039. Have you any idea of the number of patients who have passed through the hands of the staff of Cork-street Hospital?—Yes, 224,000.

1040. 224,000 patients have passed through the wards?—Yes.

1041. That is nearly a quarter of a million of patients have been dealt with in that hospital?—Yes.

1042. Is it not the case that Cork-street is an important nursing educational establishment?—Yes, we educate nurses and supply nurses to the different unions throughout the country. We keep a staff to supply the unions in the country, and when fever breaks out they telegraph to us and we send down nurses. At present there are twelve nurses out at cases in the various unions.

1043. Is it not the case that Cork-street hospital is an institution that affords the greatest opportunity in Ireland for the training of nurses for febrile cases?—Oh yes, we train them for many other institutions, and for other hospitals.

1044. Has not Cork-street hospital been a great school for the instruction of students in fever for the last quarter of a century?—Yes, every year we have thirty or forty students coming there for clinical instruction.

1045. Is not the Cork-street hospital the best school for the teaching of fever classes in the whole of Ireland probably?—I should say it is, considering the number of cases and the variety of them. We take in all infectious diseases.

1046. I suppose your private subscription list is not as much as it should be—it is not large?—No; unfortunately it is small. Last year it only came to £650.

1047. Have you any reason to offer in explanation of that?—I think we don't advertise for one thing—we don't keep ourselves very much before the public, and I think the public have an idea we are very rich. Most of our subscriptions are largely due to the generosity of people who, when they get their servants or employees cured, very often send us a donation.

1048. So that you have a fluctuating subscription list—it is a tolerable size in times of epidemics, and then it falls to the minimum again?—Yes; at the

time of the small-pox epidemic we increased our subscriptions to double; but that was only because we got a lot of donations, but they fell off again the following year.

1049. Dr. T. THOMSON.—Is Cork-street Hospital entirely for fever patients?—Yes; it is purely a fever hospital, but from time to time cases that might not be classified as fever get sent in—for instance, if a doctor goes into a tenement house and sees a man suffering from fever, he does not wait until he makes up his mind whether it is influenza or typhus, but he sends it in promptly, and then it is diagnosed.

1050. But it is an hospital solely for infectious disease?—Yes; but there are occasionally other cases sent in before they are fully diagnosed, but that happens every place.

1051. Do you also take small-pox patients?—We have taken them in during small-pox epidemics.

1052. Supposing small-pox broke out in Dublin this year, would you take it in?—I suppose we would; we have done it before.

1053. How many infectious diseases can you deal with at one time in Cork-street Hospital?—We have thirteen blocks that we can isolate from each other.

1054. Entirely separated?—Yes; we have six blocks of buildings.

1055. You mean you can deal at one and the same time with six different diseases?—Yes; we have six different blocks of houses.

1056. Are they all buildings of a permanent character of brick or stone?—All permanent, except the last temporary house put up. That was put up by Humphreys, of London.

1057. One of these iron hospitals?—Yes; it is what we call only a tin house.

1058. How many does that accommodate?—The old one was for twenty-four and an addition was built for twenty.

1059. Do you include that number in the 260 beds?—Yes.

1060. So that you have 240 beds in the permanent building?—No, sir; we have 220.

1061. You have 240 altogether, and an addition which would hold twenty more beds?—Yes, and we have a permanent building at Beneavin which takes in twenty-six more.

1062. Right Hon. Alderman MEADE.—There are two Humphrey buildings?—There is only one Humphrey building, and we only tack on the other building. They can be separated or they can be worked together.

1063. You have forty beds in these, and that leaves 220 for the permanent building?—Yes.

1064. Dr. T. THOMSON.—When you state that number do you reckon it on the standard of 2,000 cubic feet per patient?—I could not give you the exact space, but we went through it when the late Mr. La Touche was alive. We went through the wards and reduced the beds—a good many in some of the wards—and brought them down to the standard.

1065. What do you estimate as the standard?—I think the standard all round would be 1,800 cubic feet.

1066. Does the Cork-street Hospital serve other districts than Dublin city?—Oh, yes; other than Dublin city proper.

1067. How many other districts do you serve?—Practically all the district round.

1068. All the townships around Dublin?—Yes; practically all round.

1069. Do you take cases from beyond the townships?—Yes; we have taken cases from beyond the townships.

1070. Prior to May, 1899, had you ever occasion to close any of your wards for want of funds?—We had.

1071. Within your period of office, how often has that occurred?—I could not answer absolutely, unless I went back over the time I have been there, and looked over my returns; I think it has happened about three times, as well as I remember.

1072. And on these occasions did you close any large proportion of the beds?—The instructions of the committee were—they generally told me to reduce the beds down to 100, and to reduce the working expenses, but we would not shut the whole enteric ward, or the measles ward, or the scarlatina ward, but we would reduce the number of beds.

1073. Have you any idea of the number of beds that have become unavailable in that way, prior to last year—for I understood you to say you closed a large proportion of the hospital beds last year?—We don't shut the ward and take down the beds, but we simply don't admit when we have 100 in hospital—I don't admit beyond that, except, perhaps, may be, an emergency case.

1074. I think I understand that?—The instructions of the committee are to keep down the number, but if a bad case came in, and the doctor pressed me, I never would refuse it.

1075. I appreciate that, but still, my question is unanswered. What proportion, prior to 1899, of the beds have been rendered unavailable—what was the maximum number rendered unavailable?—They calculate they are able to keep open practically 100 beds—free beds.

1076. May I take it that that has happened before—that the hospital accommodation has been reduced to 100 beds?—It has happened.

1077. On previous occasions when the number of beds has fallen as low as 100, was that during an epidemic period?—In a non-epidemic period we would not be pressed or tight at all. We have had the number down to twenty-three in a non-epidemic period.

1078. But on these occasions when you reduced your accommodation to 100 beds, was there an epidemic?—There would be—there must be an epidemic, or there would not be a demand on the beds. In a non-epidemic period it often happens that the number of patients is not 100.

1079. Right Hon. Alderman MEADE.—What is the average number in a non-epidemic period?—When I went there first, from sixty to seventy was considered a pretty heavy house. Latterly the hospital has become more popular, and there is a greater demand on it.

1080. But what is the average, in recent years, during a non-epidemic period—would you say eighty to 100?—We have fallen as low as that, but we have not fallen as low as that for some time. In March, 1888, we had only eighty-nine, and we were not reduced at all. In April, 1895, we had only ninety, but then, when the epidemic began, the number ran up very rapidly to 220 cases.

1081. Dr. T. THOMSON.—There is one matter on which I wish to be clear, and it is this—how, in 1899, did your number of beds become reduced to 100?—While these were my instructions, I was not to refuse an urgent case.

1082. But you say that during an epidemic period you have had only 100 beds available, and I am anxious to know as to how that came about?—What we generally do in epidemic times, or when we find the number getting beyond our financial position, we apply to the unions, and, as a rule, they fell in with us. Sometimes we had a little trouble to get them to fall in with us, but, as a rule, they did fall in with us altogether, and they made an arrangement to pay beyond a certain number of free beds for patients from their districts.

1083. But I should like to get an answer to my question?—I will be happy to answer it if I can understand what it is you want to know.

1084. Right Hon. Alderman MEADE.—We want to know what your Board takes as a normal number—whether you are not to take beyond 100 without making special application to some one, and you have told us that you made application to the unions in the epidemic last year, saying the number was excessive, and that the unions must pay for the additional patients?—Yes.

1085. And you say that if they don't pay you cut down the number to 100 as the maximum, but that you may increase that number by half a dozen or so in case of an epidemic?—The increase is not recognised——

1086. I understand that—you do it personally, but the 100 is looked upon as the maximum in an ordinary year?—The Board always leave me an amount of discretion as to that, and I am not to refuse if I think it an urgent case.

1087. Dr. T. THOMSON.—Perhaps we shall get at it this way—how many measles cases did you admit last year?—I could not tell you, for I have not made up the report for this year, but I could find it out in a few minutes.

1088. In previous years during your tenure of office you no doubt have admitted measles to the Cork-street Hospital?—Yes, sir.

1089. Have you ever admitted as many as you did last year, or did you admit more cases of measles last year than ever before?—I think this was the heaviest year—there was the greatest pressure, this year, we ever had with measles.

1090. But it is not a question of pressure?—But you must remember that usually we have the measles epidemic spread over a larger number of months; but, unfortunately, it went on becoming extremely heavy, and the cases came in in very rapid succession, and a larger proportion applied for admission to hospital this year than in previous years. In previous years people would not call in a doctor, and would not send to hospital.

1091. Therefore we may take it you had to admit more cases of measles than in previous years?—There was more pressure this year than in previous years. When I went to the hospital first, what were called police cases were common enough—that is, cases under a magistrate's order—but in the last twelve months I never saw one case on a magistrate's order.

1092. Right Hon. Alderman MEADE.—You would have no difficulty in telling us the number of beds occupied in each month of 1899, from March on?—No.

1093. We want to know when the hospital was full, and when you had to close it for want of funds?—Taking the averages, in August there was a daily average of 228.

1094. Dr. J. W. MOORE.—Can you begin with April?—In April the daily average was 136, in May 121, in June 128, in July 179, in August 228, in September 234, in October 244, in November 224, and in December 189.

1095. Right Hon. Alderman MEADE.—That was the time when you closed down, and it was some time in February you found a difficulty in getting payment from the unions, and then you closed all your beds?—Yes, sir.

1096. What was the number in January?—126; and the average in February is about 106 up to this. It has gone down as low as 101, and we have had 123, but 106 is the average.

1097. At the time we were told by some of our dispensary medical officers that they had got word there was no vacancy in Cork-street Hospital, the maximum was 244, so that you had then, at the height of the epidemic, fifteen or sixteen free beds vacant?—We had.

1098. That we can see, as your capacity was 260?—Yes.

1099. Dr. J. W. MOORE.—Pardon me, the figure 244 is the average for the whole month.

1100. Right Hon. Alderman MEADE.—What is the greatest number of beds you had full in one day?—Once or twice we had nearly every bed full—255 and 257.

1101. 257 was the greatest number you had?—Yes.

1102. Then the hospital was practically full?—Yes.

1103. That was the number in one day?—Yes.

1104. Dr. J. W. MOORE.—Is it your opinion that the cost of treating fever patients is high?—I think we are about the lowest of all the general hospitals in Dublin, under the Board of Superintendence.

1105. That is not what I mean; my point is this—does it cost more to treat a fever patient than to treat an ordinary chronic patient per diem?—What do you compare with—is it the other hospitals of Dublin?

1106. No; I am not comparing with other hospitals—it is an abstract question. Does it cost more to treat a fever patient than an ordinary patient?—It does in this way; you have to pay your nurses higher, and you have to keep a larger staff of skilled nurses, and, of course, you have to keep a larger staff of doctors, for you must always have a skilled doctor on duty.

1107. But in addition to that, is not the cost of preparing the food of a fever patient higher than the cost of preparing the food of a non-febrile patient?—We have always fed them pretty well; and we have always tried to send a man out able to go back to his work; and our feeding expenses are pretty high, but the great cost is chiefly our nursing staff.

1108. But the cost of food is high?—Yes.

1109. You have already pointed out that the subscriptions vary year by year, and that they come in more abundantly during and immediately after an epidemic?—Yes; and I explained already that there are a great many of these subscriptions prompted by gratitude.

1110. My next question is this—are there not some epidemics which will bring in subscriptions more freely than others—for instance, won't an epidemic of enteric or small-pox bring in subscriptions much more rapidly than an epidemic of measles?—Yes; because it is a different class of patients altogether. You get very few of the better class in with measles, at all; they never send them in.

1111. So that the subscription list was not a valuable one last year?—No; our subscription list up to now, this year, is not at all as good as it might be, or as it was when, a couple of years, we took in 230 enteric cases. Scarlatina is pretty good, too, in that way.

1112. Is that for private patients?—No, we don't take private patients; but the people of a better class who send in these cases always give some donation.

1113. There seems to be some doubt on the minds of some of the dispensary medical officers as to the existence of observation wards in Cork-street Hospital?—We have got four observation wards—two double and two single.

1114. How many beds?—Two beds in each of the two double wards and two single beds in the other wards.

1115. That is four beds in the double wards and two in the single wards?—Yes; six beds.

1116. Is there anything to prevent dispensary medical officers sending in cases they have suspicion of to Cork-street Hospital?—There is not.

1117. Do you often receive cases of that kind?—I should say a large proportion of our cases are diagnosed as febrile when they come in.

1118. So that the observation wards not only exist but are in constant use?—I won't admit that—I diagnose myself; but our observation wards are there for use, but every patient does not go into them.

1119. With regard to your convalescent accommodation, there is a house of recovery on the grounds of the hospital?—Yes; but since we got Benevain that is now used for other purposes.

1120. Beneavin is the Convalescent Home at Glasnevin, and that is only used for scarlatina cases?—Yes.

1121. Is it the only home of the kind in Dublin?—It is the only one of the kind in Ireland.

1122. Do you consider that a satisfactory state of things?—No; but we have room for enlargement, and the place is well situated. There are no inhabited houses near it. I think the nearest house is a quarter of a mile away, and we have 20 acres of land around the home held in fee-simple, so that the home is capable of being enlarged.

1123. If you received a subsidy from the sanitary authorities of Dublin would you undertake to extend the accommodation at Beneavin?—I cannot answer what the Committee would do, but I believe they would.

1124. At all events you have 20 acres of land there which could be used for that purpose?—Yes.

1125. I think you misunderstood my question a little as to the convalescent home—I am asking you as an expert in fever, as you well deserve to be so called, whether it is a satisfactory state of things that throughout the whole of Ireland there should be only one convalescent hospital for patients recovering from infectious disease?—No sir, it is not satisfactory; we are badly in want of such accommodation.

1126. Is it not a most pressing want in Dublin?—I think so; I think if we had a convalescent hospital it would ease the pressure on us at epidemic times and we never would have the great pressure we have now.

1127. Even during a measles epidemic if you had such a home, couldn't you run through a great many more cases?—Yes, and we would have had the great advantage of giving the patients a change of air and easing the pressure on the general wards of the hospital.

1128. Is it not a fact that if you had that accommodation you could have run through a great many more enteric cases?—I never refused an enteric case yet; but I may say that the convalescent homes at Stillorgan are very generous about taking in convalescent cases of enteric.

1129. Are you aware that so long ago as 1879, at a meeting of the British Medical Association at Cork, this question of a convalescent home for infectious cases was threshed out?—Yes.

1130. And that Mr. George Henderson submitted plans for a home that would accommodate four infectious diseases at a cost of £20,000?—I am afraid he would not do it for that now.

1131. But, at all events, he did submit the plans?—I am not aware.

1132. Dr. T. Thomson.—Concerning your observation wards, I presume you use these wards if you receive a case about the nature of which you have doubts?—Certainly, sir.

1133. We know, of course, that that is the object of having observation wards?—Yes.

1134. And you put into an observation ward any case that you cannot make up your mind about?—Yes.

1135. Dr. R. L. Swan.—Did you not receive a certain number of cases of diphtheria also last year?—Yes, we received over a hundred cases of diphtheria last year.

1136. Is it necessary to put these cases into the observation ward?—Yes. On the diphtheria landing we have a small observation ward, and the cases are all examined bacteriologically when they come in, and if we have any doubt about them they are disinfected and swabbed out.

1137. You might explain the technical terms you use as to swabbing out—explain what it is in plain words for those who do not understand it?—We have the throat examined bacteriologically for the purpose of making sure the case is one of diphtheria, and not an ordinary case of suppurating sore throat.

1138. And in all these cases you use the most modern scientific methods of treatment?—Yes.

1139. What is your death rate?—It is down now to about 17. Among the diphtheria patients last year it was 19, but I think it will be lower this year.

1140. It was 19 per cent. last year—what was it the year before?—There was so little diphtheria the year before, there was not sufficient to make a percentage.

1141. Have you noticed a marked increase in the cases of diphtheria in the last twelve months?—Yes; for the last two years there has been a large increase in diphtheria.

1142. In fact, it was a very rare disease a few years ago?—Yes; scarcely any cases came in from the city, except a few cases among people from England, and there were a few cases from the outlying districts. In one year we had only five cases.

1143. And last year, you have told us, the disease became quite common?—Yes, there is a very large increase in it.

Mr. Wm. R. Maguire, J.P., examined.

1144. Chairman.—You were a member of the Dublin Corporation, and Chairman of the Public Health Committee?—I was.

1145. We would be glad to hear anything you have to say bearing on the cause of the high death rate in the city, or any matter you might suggest for the improvement of the health of the people?—Well, sir, I would like you and the Committee to understand that I don't come forward to offer any evidence. I come in answer to a request from the Committee that I would attend for the purpose of giving evidence. I don't come here for the purpose of making any statement, but to answer any questions put to me, and to assist the Committee in any way I can, and I shall be very happy, indeed, if I can do so. I was elected Chairman of the Public Health Committee of the Corporation in 1893, and I remained so for one year; but in a very short time after the lapse of that year I resigned from the Corporation, and it is a considerable time since I have been in the Corporation, and I have been rather apart from public health matters since. In fact, I got quite enough of them while in the Corporation. Now I am rather in the position of a private citizen, so that unless the Committee wish to ask me any questions, I don't come here with the intention of bringing any evidence before you, because I am not at all anxious to involve myself in this question. I have always found when I speak of this matter I involve myself in a hornet's nest between the householders of the city and the members of the Corporation, and it is not a very pleasant position to occupy.

1146. Right Hon. Alderman Meade.—We thought, as a sanitary engineer of great and long experience, you might put such views before the Committee as would be useful to them in preparing their report on the public health of Dublin, and the recommendations they would be able to make with the view of reducing the abnormally high death rate in the city, and I may say for the information of Dr. Thomson that we in Dublin know that Mr. Maguire has exceptional means of knowledge as to the health of the city, and also exceptional means of knowing what has been done in the past and what might be done in the future to make the city more healthful. I may also say that we, the Corporation members of the Committee, are only too anxious that everything should be stated openly—that there should be the freest expression of opinion, and that everyone should get an opportunity of giving their views?—I have no doubt of it. I may say that when I was Chairman of the Public Health Committee two reports were presented to the Cor-

poration by the Public Health Committee. One of these reports is No. 8, and the other is No. 183, and in these two reports I think almost everything is included that I could bring before the Committee. They will find there the recommendations that were made and were brought before the Council, and which all, to a very great extent, were postponed, and perhaps never treated afterwards. I suppose the Committee have all these reports before them.

1147. CHAIRMAN.—What are the dates of these reports?—No. 8 is dated 1892—that was when Mr. Smyth was Chairman; and the report No. 183 is dated 1893, when I was Chairman of the Public Health Committee. In the report of 1893 there are twenty or twenty-one recommendations made, and they were all brought before the Council, and they were dealt with one by one. Of course I have all the reports of the transactions in my possession, privately, that took place at that time, and the only thing I can recall that I was really able to do when I was Chairman of the Public Health Committee, was to get a survey of all the public sewers throughout Dublin started, and to make arrangements with Mr. Harty to have that survey continued until it was completed. Such assistance as he required was given to him then, at my initiation, by the Corporation.

1148. Did that include the house connections?—No sir; it was simply intended to go over all the public drains of the city.

1149. May we take it that your report of 1893 applies to the present time?—I think it does.

1150. Right Hon. Alderman MEADE.—Could you tell us shortly what the recommendations were?—Certainly.

1151. These reports of Committees of the Council to the Council, although they are printed, and although copies are to be had by members, they are not published in the usual acceptance of the term, and although the members of the Corporation know them, perhaps, yet the general public do not, and if there is anything in these reports useful to the Committee to know we would be very glad to hear it?—The recommendations contained in the report are very clearly laid down. A great deal of controversy arose at the time as to sub-soil drainage, and the first recommendation was that a limited area of the city should be subjected to sub-soil drainage in the following summer, by which some useful information as to the best place for the experiment will be obtained. I think that was carried out by Sir Charles Cameron, but I left the Corporation the year after, and I don't know whether that is continued or not. The question of the main drainage was before us, and we were entirely in favour of that, and we hoped that the main drainage scheme would get rid of a great deal of the trouble caused by the backing up of the tidal waters through the public sewers and house drains both north and south of the Liffey. That, we expect, will produce a very marked effect on the death rate in connection with typhoid.

1152. CHAIRMAN.—Was this report consequent upon a typhoid epidemic?—of course it was—both in 1892 and 1893 the matter was before us, and in 1892, as a member of the Committee, I then drew up a report ont he subject of typhoid fever, and how it could be prevented. I recommended, first, a main drainage system, to purify the Liffey, and the lower gravel subsoil now saturated with sewage, second—a thorough reconstruction for renewal of all street sewers now imperfect, in section size, gradient or level, or which may leak sewage into subsoil. That we conducted by giving the Borough Surveyor power, and the necessary assistance for making a thorough survey of these sewers, and I don't know the result, except in the earlier portion, when we know he discovered they were in a very bad condition.

1153. Right Hon. Alderman MEADE.—You have no difficulty in getting the Corporation to make these orders that were necessary for this purpose?—No, not in that particular item. The third recommendation was a thorough reconstruction and renewal of all connecting house drains from houses to public sewers which are now allowing the escape of sewage into sub-soil, or sewer air into houses; which are not laid on concrete foundations having sufficient even gradient; which are too large in section to flush thoroughly, or liable to become choked by any defects, or which pass from one house under any portion of another house.

The provision of proper intercepting traps, with easy access for inspection and cleansing at every house drain, placed in the open areas where such exist, or otherwise in the most suitable sanitary position, where the street connecting drain enters the premises, always provided with fresh air inlet and outlet arrangements.

The proper construction and arrangement of all internal sanitary fittings, pipes, and drains.

The impervious paving of all stables, stable yards, dairy yards, and cowsheds, back yards, lanes, and streets, and the constant efficient cleaning of the same, to prevent soakage of filth into sub-soil.

The abolition of all privies, ashpits, and manure heaps.

The constant rigid inspection of all dairies and farm-yards, and the effectual prevention of all infection therefrom.

The maintenance of the purity of our water supply and distribution.

These, shortly, are the proposals made in 1892, and in 1893 they were extended and brought before the Council, paragraph by paragraph, and dealt with then, and the larger proportion were postponed, and, as far as I can remember, the principal reason for postponing them was that the bye-laws had never been completed. I had a great struggle, all through the time of my connection with the Corporation, to get these bye laws perfected and brought forward. I was always met with difficuties. I think a great deal of the difficulty in getting matters into better order was caused by delays in the office of the Law Agent, which, I think, was out of order at the time, in some way.

1154. CHAIRMAN.—However, the bye-laws are now passed and confirmed?—That I don't know of.

1155. Right Hon. Alderman MEADE.—Wasn't there a great deal of difficulty and difference of opinion as to the duty and responsibility, and upon whom they should be cast, for carrying out this reconstruction of the house drains?—Of course there was.

1156. Some people thought that the Corporation should do it, and the Corporation thought it was not their duty?—Of course there was that difficulty. The Corporation were in the habit of laying the drains from the different houses at the expense of the householders, and for years up to 1884 or 1885 they laid these drains—9-inch pipes—without any cement joints and without any concrete bed. That is admitted in a letter from the Committee and from the engineer at the time—Mr. Harty was not then engineer.

1157. But that was the mode adopted at that time generally?—Yes, by the officers and the Corporation.

1158. But it was the mode adopted by the great majority of the engineers and architects of Great Britain?—I suppose it may be said so.

1159. This was in 1884?—Yes, and of course the householders paid for these cross drains, and it was felt that it would be a great hardship after ten or fifteen years' time to ask them to pay again for relaying the drains on modern principles. At the same time all these cross drains are leaking into the subsoil, and I suppose there are thousands of them at the present time.

1160. Dr. J. W. MOORE.—Is the cross drain the drain that connects the house drain with the main sewer?—That is what I call it—from the area of the house to the main sewer.

1161. The term is constantly used in this report of 1893, and I wanted to be quite sure as to the meaning

of it?—Yes, it is from the area to the public sewer. The mischief was going on at that time, and the chairman of the Public Health Committee was anxious to have it put to an end, and the suggestion was made that in any streets that were about to be repaved all the cross drains should be opened and re-laid on modern principles, with a concrete foundation, and with 5 or 6-inch pipes, as the Borough Surveyor should arrange, and that the Corporation should undertake to supply and fix the traps at the end of that drain. That was my idea—that they should not lay the drain as they had done in the past into the house, and that they should not leave the contractor or the householder to fix in any kind of trap he liked. Also that the Corporation should test the new drain from that trap out to its junction with the main sewer. I consulted with Mr. Harty most carefully on every point as to these things, and every step I took was with his approval. He was really with me in every suggestion I made.

1162. Right Hon. Alderman MEADE.—That test is always made in the new connections with new houses?—I don't know whether the water test is put on.

1163. Yes, it is done by the Corporation now, and has been for years?—It was not done formerly.

1164. But it is not many years since that means of testing was introduced?—No; it is from ten to fifteen years in use.

1165. And there was a very large question as to who should pay for the reconstruction of the old cross drains and the putting in of the new ones?—Yes, and the suggestion was made that up to a certain date the cross drains that had been laid by the Coporation, and badly laid, should be paid for by the Corporation, and that all others should be paid for by the householder; but when the householders saw that there was likely to be a demand made upon them a storm arose and a hornet's nest came about my ears. They thought, in fact, I was doing something for myself—in fact all the time I was in the Corporation it was said every matter I suggested was for the purpose of benefiting my own business.

1166. Dr. T. THOMSON.—Do I understand you to say there are still a number of these cross drains so defective as to allow leakage of sewage into the subsoil?—I believe there are a large number; I believe if you took any street in Dublin I would not be exaggerating if I say you would find at least half the cross drains leaking into the subsoil, and I think Mr. Harty will let me say that.

1167. Do any of these drains run under inhabited houses?—In Dublin nearly all the drains come from the rere to the front, and pass under the houses.

1168. They pass beneath the houses?—Yes, nearly every drain does; but the Corporation have not, as a rule, laid any of the drains under houses—they are only responsible for the cross drains; but it is the householder who employs a contractor to lay the drains through the house.

1169. But what you say does not necessarily apply to the house drain—the part under the house itself?—Not necessarily; but in my time the Corporation were not inspecting the indoor drains at all.

1170. Has your experience led you to form an opinion as to the condition of house drains under inhabited houses?—Yes; I have an experience of thirty years in this matter, and I have inspected, perhaps, 4,000 houses altogether in the course of my business and in the first ten years, I could not find one house out of ten that was not wrong—nine out of every ten houses were wrong.

1171. The drains were leaky?—Yes, and the other sanitary arrangements very imperfect. But as the work went on of reforming these drains and fittings, the percentage became less and less every year; but still I think if you took the whole city and went from house to house, no engineer would pass more than half the houses.

1172. Right Hon. Alderman MEADE.—That is the old houses?—The whole houses, taking the new and the old together—every street.

1173. Including Merrion-square?—Including Merrion-square. Taking the whole range of the Dublin houses, I think no unprejudiced engineer going in without fads could pass half of them.

1174. Do you know an engineer without fads?—I think I do a few, and I know, as compared with the inspection made in London—for I have had some experience of them there, and they are extremely severe—in the better class houses at all events—our inspection is very defective.

1175. But you are speaking of a recent date?—Well, three or four years ago.

1176. For I know the experience of London surveyors was that it was not very exhaustive?—I am only speaking of the experience of visitors. Of course there are plenty of other points that I could bring before the Committee; but I only got the summons on Saturday evening, and have not had time to think it out. I just put a few papers in my pocket that bore on the subject. I have all the memoranda I took during the time of my connection with the Corporation, and I would be very happy to prepare a written statement to lay before you at any time if you think it would be useful—going into the various points shortly.

1177. Dr. J. W. MOORE.—I take it this report of the Public Health Committee, dated 1893, was really the outcome of the Typhoid Fever Committee's recommendations—for you may remember that in 1892, after a serious outbreak of typhoid fever, a committee was appointed under the presidency of our friend, Dr. Meade?—Yes.

1178. That Committee was appointed partly by the Dublin Sanitary Association and at the suggestion of Mr. Maunsell, then proprietor of the *Daily Express*. A meeting of citizens was held at the Shelbourne Hotel, and presided over by the Lord Mayor. Then the Dublin Sanitary Association joined in and added members to the Committee, and there were certain co-options afterwards. Then on the 10th November, 1892, the Committee agreed upon and signed a report, and that report was laid before the Public Health Committee, and these recommendations are based, I find, on the suggestions to the Public Health Committee by that committee of the citizens?—Yes. I remember that that was before the Public Health Committee, and this report is based more or less on it, or at least it was written at the time we had the report of the Typhoid Committee before us; but I think the suggestions were worked out independently. I know in the report we did not follow it rigidly.

1179. With regard to the drains, I gather from your evidence there are three different portions of the drainage system—first, the house drain which is under the control of the householder?—And which Mr. Harty wished to have under the control of the Corporation more or less.

1180. At all events it is still under the control of the householder?—I believe so.

1181. Then we have the connection between the house drain and main sewer—what you call the cross drain?—Yes.

1182. And that even still is no man's land?—It is laid by the Corporation invariably.

1183. And up to a recent period you considered it was indifferently laid?—Yes, quite so.

1184. CHAIRMAN.—What do you mean by a recent period?—Everything connected with house drainage was improving when I left the Corporation.

1185. Right Hon. Alderman MEADE.—Are you quite certain these cross drains were laid by the Corporation?—The very old ones I think were.

1186. I mean the drain from the front wall of the house to the area railings, if there was a basement?—I think they were. There is a letter written by the Secretary of the Public Health Committee, which seems to take the responsibility. It was written to

the Sanitary Association on the 18th of April, 1884, saying it was not the practice of the Corporation workmen to cement the pipes of these drains, as the pipes if cemented could not be taken up again wherever required without breaking them.

1187. And that was considered good architectural engineering at that date?—It was not good, but I suppose it was adopted, and used generally.

1188. I know distinguished architects in the city of Dublin who are prepared to say that pipe clay or puddle clay is the best mode of jointing?—So do I, and I heard that one of the architects said that at the Sanitary Congress, and Sir Robert Rawlinson, or one of the members, wished immediately to contradict that suggestion.

1189. I merely want to show that gentlemen of eminence in their profession are still of the opinion that the old method was good?—I don't think they would say that now—I don't know of any one who would hold that view now.

1190. Dr. J. W. MOORE.—Your experience now is that it is necessary before passing a house drain to find whether it responds satisfactorily to certain tests—the smoke test, and especially the water test?—Yes; that is always done now in new drains.

1191. And are these tests ever applied to cross drains in your experience?—The water test was not up to the time I went into the Corporation, but I think it is applied now.

1192. It is applied now, and before we leave the subject of drainage, you know there are ventilators in the main sewers in the street?—Yes.

1193. Do you consider, as a sanitary engineer of great experience, that these are satisfactory and work satisfactorily?—Well, I think there should be a great many more of them, as far as I can form an opinion.

1194. Is it not the case that unless they are set very accurately the seal is very apt to unseal?—What are you speaking of now?

1195. Of the ventilators in the streets?—They would not be sealed.

1196. Right Hon. Alderman MEADE.—It is the siphons are sealed.

1197. Dr. J. W. MOORE.—Is it possible that the extern air may enter these ventilators instead of the sewer gas escaping?—Of course, in cold weather, when the houses are warm, if the house connections are bad, and especially if there are a large number of connections between the house and the sewer, the current might be reversed.

1198. One of the recommendations adopted by the Public Health Committee—No. 14—is: "We are about to compel tenement house owners to employ responsible persons to maintain the passages, lobbies, staircases, and sanitary appliances of tenement houses, wherever these are used in common by two or more families, in a clean condition, day by day, by means of sweeping and washing." That is practically the recommendation made by two or three of the dispensary medical officers; but it appears not to have been carried out since 1893 up to the present day. Does the Corporation at present compel the tenement house owners to employ responsible persons to keep the passages clean, or do they carry out the daily cleansing of the dairy yards, which it was recommended should be undertaken by the Corporation—has that ever been undertaken?—The daily cleansing?—we did wish to see it done.

1199. The recommendation No. 20, in January, 1894, is—"We propose sending a circular to the members of the medical profession, again drawing their attention to the law as regards the notification of disease, with an intimation that all cases which occur in future of default in this respect, shall be rigorously dealt with according to law." Was that circular sent out?—I cannot answer that.

1200. "And in order that the public may be duly informed of the fact that notification is now absolutely compulsory on all medical men, that the aforesaid notice be advertised in the daily papers"?—A great many points came before me in the Public Health Committee, and of which I have a great deal of internal information, for I took a note of it from day to day; but, in order to lay them before you without a great loss of time, the better way would be to lay a written statement before you, if you wish.

1201. CHAIRMAN.—I don't think we need trouble you?—No, sir, I think not.

Mr. SPENCER HARTY, C.E., examined by the CHAIRMAN.

1202. You are Borough Surveyor and City Engineer?—Yes.

1203. How long have you held that post?—Since the death of the late engineer, in October, 1886.

1204. You carried out a great number of improvements in the city since?—A good number; in fact, I am connected with the Corporation, altogether, since 1862, and I have had a hand in every improvement carried out by the Corporation.

1205. Since 1862 the Corporation have carried out largely the powers for sanitary improvements?—Certainly; before the passing of the Dublin Improvement Act they had very limited powers indeed. That Act came into force on the 1st of January, 1851. They were limited to a 2*s.* improvement rate until that time.

1206. Will you just state when the improvements began in the state of the streets?—The streets were macadamised, and they were in a very bad state indeed. The mud was lying on one side of the street, and I recollect having, myself, to walk the whole length of a street before I could pass over to the other side. The mud was left at the side of the street, and it was scattered about, and got into the middle of the street again. Now these streets are paved, on the newest system, on a foundation of six inches of concrete, square setts, tar jointed. All the principal streets are scavenged regularly from day to day.

1207. And that must tend to an improvement in the health of Dublin?—Most undoubtedly.

1208. What other improvements have been made with regard to the sewers—I am not talking of the new intercepting scheme?—The old sewers of Dublin were flat-bottomed—some of them of earth, others had flags, and they simply had flagged covers also. Well, the present Corporation inverted all these sewers, turned arches over them, and built new sewers on the newest principle—egg shaped sewers—in some cases we have pipe sewers.

1209. And you can tell us now with regard to the house connections—how are they done now?—All house connections are now laid on a bed of concrete.

1210. And that is done by the Corporation?—In the streets they are, but never in the houses; the pipes are jointed with cement.

1211. That is what I call house connections?—That is the cross drain from the house to the main sewer; that is laid by the Corporation.

1212. Have they done anything to the old cross drains?—In some few cases they have. Where we were paving the streets we have opened, in several cases, these drains, and made improvements.

1213. Have you systematically examined the cross drains from the houses?—Not from the houses; that is in the Public Health Department, and does not come under me; but every house drain, both the cross drain in the street and in the house itself,

are all tested now by the Corporation, under the Public Health Department, both inside and outside the house.

1214. That is done under the Public Health Department?—Yes; both by the smoke test and the water test.

1215. Dr. T. THOMSON.—In the case of new houses?—Both in the new and old. Every drain that is laid is tested in that way.

1216. That is every new drain?—Yes; and I think within the last ten years there are 5,500 new drains laid in connection with old houses, and about 1,000, independently of that, in the new houses.

1217. CHAIRMAN.—What is the ventilation provided for in the bye-laws as to house connections, and also the ventilation of the sewers?—The sewer ventilation is the old-fashioned surface ventilation, and it is a moot point, at present, amongst all engineers how to properly ventilate sewers. There is no proper arrangement, as yet, discovered that would prevent the inlet acting as an outlet. Sometimes the ventilator acts as an inlet in place of an outlet, as Dr. Moore has referred to.

1218. Right Hon. Alderman MEADE.—Are you speaking of the ventilators of the main sewers, and not of the sewers of private houses?—Well, they both act that way occasionally.

1219. CHAIRMAN.—What is the provision in your bye-laws for the ventilation of the house drains?—That is altogether under the Public Health Department.

1220. There have been improvements made also, I believe, in the markets of Dublin?—Yes; the wholesale markets in Dublin are entirely new—built within the last seven or eight years. The old markets were shocking. The Committee of that date, in 1884, called attention to the state of the markets, and they found filth and even excreta amongst the vegetables in the markets.

1221. Right Hon. Alderman MEADE.—They were private markets at that time?—Yes.

1222. And not under any supervision?—None whatever.

1223. CHAIRMAN.—Have you anything to add, with regard to the tenement houses, to what Sir Charles Cameron has already told us?—I am entirely in accord with what he said. I agree thoroughly with him; and I know the tenement houses well. I have taken down several hundreds of them in Dublin, and in some cases we have found between the floor and the boards packed solidly with excreta, and filth of all descriptions. You would hardly credit it, but we found excreta in the vessels they are in the habit of carrying porter in, and even in the roofs of the houses. Some of the things we have seen in these tenement houses are too shocking to describe, and you would very often come out of them quicker than you went in.

1224. These were the houses that you were taking down?—Yes; these are the houses that were taken down by the Corporation. I have seen, in some cases, where they were making blood puddings for sale in a single room where the family lived and slept.

1225. But they converted some of the large houses into smaller holdings with new sanitary accommodation at the rere—I am now thinking of the Blackhall-place houses?—Oh, yes; that was done by the city architect. He will give you information about them.

1226. However, that can be done?—It can be done; but, in my opinion, no house originally built for the occupation of one family as a private occupier, should be allowed to be let recklessly in tenements, without some law to compel the owner to put it into a proper state, to the satisfaction of the Public Health Department.

1227. That involves separate sanitary accommodation for each family?—Certainly; and on each landing.

1228. Right Hon. Alderman MEADE.—You would go so far as to say that no private house should be sub-divided and let in tenements, unless a certificate was given by the public authority that it was in a fit state—something in the nature of a licence?—Yes.

Sir *Charles Cameron*.—That is the law now, and we require it to be done.

1229. CHAIRMAN.—Under what law, Sir Charles?

Sir *Charles Cameron*.—Under the Public Health Improvement Act. If a private house is converted into a tenement house, there must be notice given to the Sanitary Authority, and we have to keep a register now of all the tenement houses.

1230. CHAIRMAN.—Under what Act of Parliament do you say is that done?

Sir *Charles Cameron*.—The Improvement of the Public Health Act, 1896.

1231. CHAIRMAN.—Is that the General Public Health Act?

Mr. *Spencer Harty*.—Yes; the general Act for Ireland.

Sir *Charles Cameron*.—It is, really, the same as the old Act of 1878.

1232. Right Hon. Alderman MEADE.—There is no power, under that Act of 1878, to deal by licence with tenement houses.

Sir *Charles Cameron*.—Yes; and there are bye-laws under that.

Examination of Mr. SPENCER HARTY continued by the CHAIRMAN.

1233-39. What are the bye-laws I was asking you with regard to the ventilation of house connections?—That is not under me. I don't interfere at all, now, with the house drains.

1240. Shortly describe what is the new intercepting system of drainage?—Perhaps it might be better to say before I describe that that there are tide-locked sewers, which the intercepting system will ultimately deal with. On the north side of the city there are 700 acres in which the sewers are tide-locked twice in the twenty-four hours, and there are 300 acres on the south side where the sewers are similarly tide-locked. Consequently these are sewers which simply become sewers of deposit, neither more nor less, during these times. All the blue area on that map before you on the north side is tide-locked. Within that, again, there is part below the high water mark to the extent of 230 acres in one place, and twenty acres in another, and the yellow portion of that map is the portion relieved by the pumps, to the extent of 250 acres on the north, and 100 acres on the south.

1241. Right Hon. Alderman MEADE.—Sir Charles Cameron, when giving his evidence, referred to the basements of the houses being below Ordnance datum—is that so?—That was a mistake; he evidently meant below the high water mark. There is no basement in Dublin below Ordnance datum.

1242. What is Ordnance datum?—It is the level of a low water in Dublin Bay on 8th April, 1837, and 8·094 feet below the mean level of the sea.

1243. Dr. T. THOMSON.—How long do these sewers remain locked up?—About two hours before and two hours after high water.

1244. That is four hours out of the twelve?—Yes.

1245. CHAIRMAN.—It may be taken that in that blue district the sewers are all provided with tidal flaps?—Not altogether. Most of them are.

1246. Right Hon. Alderman MEADE.—They all discharge into the Liffey?—Every one of them.

1247. CHAIRMAN.—Are these tidal flaps effective?—Some of them have two flaps—one inside the other.

1248. And the result is that they are effective in keeping back the water?—Yes; but we require to have men constantly examining the gates to see that nothing gets in which would prevent them working. There is also a large district outside the muni-

cipal boundary, the drainage of which is coming into the city, and a great deal of that district is built on, about Cabra and Chapelizod. The sewage of these places comes into our system.

1249. Is that by arrangement with the Corporation?—No, sir; Kilmainham township drains into the Camac, and that comes into the Liffey.

1250. Dr. T. THOMSON.—But if I understand you rightly, these two areas, Kilmainham and Chapelizod, drain into the Liffey direct, and not into your system of sewers?—Yes; they don't come into our sewage system.

1251. CHAIRMAN.—But part of what is coloured yellow on the map comes into your drainage system?—Yes.

1252. Dr. T. THOMSON.—So that when your new system of drainage is completed these two areas will still continue to drain directly into the Liffey?—Yes, and they will have to be dealt with, ultimately; but in the design of the main drainage system we have made arrangements so that we will be able to take these areas in.

1253. Right Hon. Alderman MEADE.—You will be able to make provision for them when the terms of including them are settled?—Yes.

1254. CHAIRMAN.—What would be the effect of the intercepting sewer, as regards this blue district, and as regards the backing up of the sewers?—Mr. Matheson referred to the under-ground water courses in Dublin, and our dealing with them in connection with the main drainage works, which, I think, we will have completed in two or three years. Pumps will be constantly at work, and there will be no such thing as tide-locked sewers in any part of the city when the intercepting system has been completed.

1255. In the portion of the main sewer that has been completed, has the roadway been made up again?—Yes. There is portion on the southern quays not done yet, but that is by arrangement between the Corporation and the Tramway Company, as they are going to lay down their new line along it.

1256. And is there any more excavation to be made on the quays for the main sewers?—None; the only thing that will have to be done is the very simple one of turning the sewage into the intercepting connections which are made, and in a couple of hours we could send the whole sewage through the main drainage system.

1257. There is no object in doing that at present?—No; we have done a small portion of it in connection with the Poddle river; the sewage from about 700 acres is diverted from it, so that very little sewage now enters the Poddle.

1258. Will these house drains that now drain into the Poddle be taken out?—Yes, immediately, when the drainage works are completed.

1259. As to the other underground systems—another was the Swan river?—That goes by Harold's Cross and Ranelagh, and does not affect us; but there is another river there which is really a sewer.

1260. I think Sir Charles Cameron stated that he thought the effect of opening the ground on the quays for this main drainage work had allowed gases out that might be deleterious to health—what do you say as to that?

Sir *Charles Cameron*.—I am of opinion that any extensive excavations in the soil of Dublin is very likely to produce enteric fever. A case occurred in reference to a large institution in Earlsfort-terrace, where a very extensive excavation was made for the purpose of putting in a new drain, and in due course of time, allowing for the proper period of incubation, a large number of the inmates of that house and of the adjoining houses were affected with enteric fever, and I have no doubt—and it was also Dr. Moore's opinion—that was due to the disturbing of this soil, which was in a very offensive state.

1261. CHAIRMAN.—Have you noticed anything of the kind as regards smells during the excavations made by you for these sewers?

Mr. *Spencer Harty*.—The only real trouble we had was in connection with the Poddle river; and there I got Sir Charles Cameron to deal with that, I called his attention to it, and he got disinfectants used.

Sir *Charles Cameron*.—Some of the stuff taken up on the quays was offensive, and we also employed disinfectants. It was very black stuff.

Mr. *Spencer Harty*.—That is principally from leakage of gas.

1262. CHAIRMAN.—It was not part of the contract to disinfect the excavations?

Mr. *Spencer Harty*.—No, sir.

Sir *Charles Cameron*.—There were other complaints, also, about offensive odour in Amiens-street, and in that case we applied disinfectants. That was where the excavations took place in the neighbourhood of old sewers, and, of course, there was offensive stuff.

Right Hon. Alderman MEADE.—The old bed of the river was there also, remember.

Mr. *Spencer Harty*.—Yes; that was the ancient slob land.

1263–71. CHAIRMAN.—With regard to the Dolphin's-barn district—how is that dealt with?—That is the green portion on the map, and it goes into the city system also.

1272. Apart from the intercepting system, what amount of work was done in the matter of internal drainage during your time?—Up to 1884 there were about 98½ miles of sewers either reconstructed or built in the new, and since then about fourteen miles have been built; the former cost £163,000, and the latter about £36,000.

1273. Right Hon. Alderman MEADE.—That is £200,000 altogether?—Yes.

1274. That is for internal sewage?—Yes; for the internal sewage of the city.

1275. CHAIRMAN.—What is the number of street ventilators you have?—About 2,400.

1276. What does that give as the average distance apart?—About twenty to the mile.

1277. That is quite as much as there are in other cities?—It is about the same thing. Strange to say, Bristol won't ventilate their sewers at all, and they have a very low death rate.

1278. Have you any arrangement for flushing the sewers?—We simply flush them, at present, with a hose from the street hydrant, and I have applied to the Public Health Committee to get flushing tanks similar to what they have in Liverpool.

1279. Is the hose put at the head of the sewer?—Yes; at what is called the dead end of the sewer.

1280. You don't flush by the system of banking up the sewage?—No; we find that by the system we have, everything is swept before the water. There is a great deal of difficulty in flushing, in consequence of the scavenging of the macadamized streets, from which muddy deposits get into the sewers.

1281. There is a good deal of cleansing of the sewers done?—Yes, a great deal; in the last two years about five miles of sewers were cleansed.

1282. How are the pipes of the sewers joined?—They are joined with cement, and laid on a concrete foundation.

1283. Does that apply to the cross sewers also?—Yes.

1284. Right Hon. Alderman MEADE.—How far do you run your cross sewers? Do you go to the wall only—and I suppose you don't go into private ground at all?—No; we do that at the cost of the owner.

1285–6.—Because Mr. Maguire thought you went into the house?

Mr. *W. R. Maguire*.—I only meant the trap.

1287. CHAIRMAN.—If the drain from the sewer serves more than one house, you don't consider it a

sewer?—We deal with it under a clause in the Public Health Act of 1890, and charge the expense of cleaning it against the different owners.

1288. That section in the Act of 1890 is solely for the purpose of enabling section 50 of the Act of 1878 to be put in force, and that only applies to where there is a complaint made as to the bad drainage, and it does not affect the question of its being a sewer for other purposes?—That is, if belonging to different owners; but it seems that if they belong to the same owner the section does not apply.

1289. Are there any villages or districts now near Dublin that will continue to discharge sewage into the Liffey after the intercepting sewers are completed, and that won't be taken into the intercepting sewers?—With the exception of Kilmainham and Chapelizod none immediately adjoin; but of course, Clontarf and Drumcondra at present also foul the foreshore.

1290. But I am talking of the portion of the river within the city?—None, except what was mentioned already about Newbridge and places some distance away from the city.

1291. It was also said that Chapelizod discharged into the Liffey?—Yes, but if it is included in the boundaries of the city under the Boundaries Bill we will have to deal with it ourselves.

1292. It is not a very large district in any case?—No; the population is about 950.

1293. Have you any refuse destructor?—We have one.

1294. Where is that?—That is at the Stanley-street depot.

1295. Describe what the destructor is, and what it is used for?—That destructor was put up in 1895. It is one of Goddard, Massey and Werner's—they are well-known people in Nottingham. The entire cost roughly was £1,200. It commenced to work in October, 1896, and between the 2nd of October and 31st of December, 1,759 tons of refuse were consumed, and the average cost for labour, at that time, was about one shilling decimal 28 pence per ton. In 1897 8,670 loads of dry refuse were consumed at a cost per ton for labour of 9 decimal 14 pence per ton. In 1898 there were 9,419 loads of refuse burned at a cost of 9*d.* per load—the refuse of ashes and clinkers being about 33 per cent. But there is no doubt the cheapest way of getting rid of refuse beyond all question is barging it out to sea as long as it can be done.

1296. Right Hon. Alderman MEADE.—Supposing the Corporation erected destructors at the Pigeon House where there is plenty of ground, and in the immediate proximity of the Electric Light Works, would the refuse be of any use in getting up steam?—To a certain extent it might as is done in Shoreditch.

1297. What do they do there?—They utilise it for getting up steam for electric light purposes, but they must have a lie-by for coal.

1298. And we have made arrangements with the Tramway Company to send all the refuse over their line in that direction?—Yes; we have taken power to do that.

1299. That is without paying for way leave?—Yes.

1300. CHAIRMAN.—You might give a short description of the water supply of Dublin?—I think it speaks for itself now, and it is one of the best in the United Kingdom I should say. We supply at the present moment an area of fifteen miles in length and about two to five miles in width, measuring from the sea coast. We supply all the townships except Rathmines. We supply Kilmainham, Clontarf, Drumcondra, Blackrock, Kingstown, Bray, Killiney, Ballybrack, and Dalkey.

1301. Right Hon. Alderman MEADE.—Do you supply Greystones?—Well, Greystones is before the Corporation now, and the people have agreed to take the Vartry from us, and we will supply them from the Glen of the Downs, near Delgany, we also supply a very large district round Dundrum, and between Dundrum and Killiney and also Rathfarnham. These are all supplied directly by the Corporation. They laid all the pipes themselves in these districts, and I calculate the population we at present supply amounts to 330,000. We have ten filter beds at work. The process of filtering is now very slow. It is about 2·4 gallons per square foot per hour.

1302. What would that be in gallons per day?—About 500 for the day per yard. 700 used to be the formula, we are down to 500, which is slow, it gives excellent results.

1303. How does that compare with the filtration under the London Companies?—I think they are all down to about the same thing.

1304. Can you say anything as to the quality of the water supply to Dublin?—The water supply is excellent.

1305. Dr. T. THOMSON.—Before leaving the question of filtration we might as well know the area of the filter beds?—Our filter beds are at Roundwood.

1306. That is at the source of supply?—Yes. The total area of the filter beds is 237,500 square feet, and if you allow for one bed being cleaned you will then have 213,750 square feet always at work.

1307. Does that amount of filtration area suffice?—That, at the rate of 12 millions and a quarter a day gives you 2·4 with nine filter beds at work.

1308. So that with that filtering area, filtering at the rate you mention, you can provide a sufficient quantity of water for your area of supply?—Certainly.

1309. Now, do you at all times?—Yes, at all times a continuous and constant supply.

1310. How much water goes over the measuring weir?—12,122,307 gallons per day for the year 1898.

1311. Right Hon. Alderman MEADE.—You used to take more?—Yes, up to 14 millions.

1312. And that gives roughly, I believe, about gallons per head per day?—Not quite. It is 37·97 for everything in the city.

1313. CHAIRMAN.—You are providing for more storage?—Yes.

1314. What is the area of the Reservoir itself?—2,500 million gallons in Roundwood.

1315. And what will be the new storage?—1,226,000 gallons. We are purchasing land for the purpose of new storage,

1316. Does the 38 gallons per head include or exclude what is sold?—It excludes the townships and extra municipal districts.

1317. Does it exclude what is sold for manufactures?—No; it includes manufactures. If you take the purely domestic supply it is down to 26½ gallons for the city.

1318. Right Hon. Alderman MEADE.—And that is what we are using now?—Yes, 26½. We are purchasing 509 acres above the present reservoir for additional storage at a cost of £6,750.

1319. CHAIRMAN.—What is the cost of the waterworks?—Up to 1899 the cost was about £738,000.

1320. Dr. T. THOMSON.—What is the acreage of the catchment area?—14,080 acres.

1321. What class of country is that area as regards population?—It is very sparsely populated indeed—with very little agriculture. It is all principally grazing land.

1322. Right Hon. Alderman MEADE.—It is mountainy land?—Yes. I think Mr. Byrne in his examination referred to the subject of the cleaning of the foreshore of the river Liffey, and he seemed to think that that was stopped, but it is not stopped, it is still going on, and while we are cleaning, Sir Charles Cameron disinfects the stuff.

1323. Have you found any sensible improvement in the condition of the bed of the river since the Guinness barges began to run up the river?—There is some, but not a very great improvement.

1324. Dr. T. THOMSON.—There were certain sites in the city cleared of old houses in recent years—did these clearances come under your supervision?—Yes, I cleared them all.

1325. In conducting these clearances did you come across any old cess-pools?—Yes, a good many.

1326. You found them numerous?—Yes, fairly numerous.

1327. Did these cess-pools contain filthy material?—Yes. There was one very bad one at Tara-street.'

1328. Taking them as a class, did they contain filthy material?—Oh, I could not say very bad.

1329. They had been disused for some time?—Yes.

1330. Well, as regards these in which you found a certain amount of filthy material, what procedure did you adopt?—They were simply filled in with clay. We filled in the whole thing.

1331. Was the foul material first removed?—I could not say that from recollection.

1332. Right Hon. Alderman MEADE.—Very likely it was not?—Very likely. In some of the cess-pools the material was removed.

1333. Sir *Charles Cameron*.—Yes, in some cases the material was removed.

1334. CHAIRMAN.—Can you tell the Committee what action has been taken under the Baths and Wash-houses Act?—Yes; we built baths and wash-houses, which are at the present moment in Tara-street.

1335. What works have been carried out under that Act?—The City Architect will be able give you any information with regard to them.

1336. You did not carry out the Tara-street works?—No. It was the City Architect.

Mr. CHARLES J. M'CARTHY, M.R.I.A., examined by the CHAIRMAN.

1337. You are City Architect?—I am.

1338. How long have you been in that office?—Since December, 1893.

1339. Can you give us some information about the works carried out bearing on the improvement of the health of the city during your time?—I think these are chiefly confined to artisans' dwellings. Two schemes have been carried out since that date. One is the White's-lane or St. Joseph's-place dwellings. There we acquired an area of about 2½ acres of very bad property, about the worst part of the city of Dublin. They removed all the old houses there, and erected eighty cottages on the site.

1340. Right Hon. Alderman MEADE.—I believe it is the worst part, both morally and physically?—Yes; in every way it was about the worst part of the city morally and physically. We have eighty cottages built on that site, each with its own yard and its own sanitary accommodation.

1341. Are these one-story houses?—Yes, and each with three rooms—and on another area, which was the property of the Corporation, at Blackhall-place, and which was also a very bad place, it was cleared, and they built there a number of two-story dwellings—some single houses and some are let in flats—they are only two stories high—and on the Blackhall-place area there are eighty-five tenements altogether provided.

1342. With regard to the White's-lane houses, what is the sanitary accommodation provided for these cottages?—There is a water-closet provided for each house.

1343. And a yard?—Yes, a yard ten feet deep, and the width of the house is about nineteen feet.

1344. Is it a paved or concreted yard?—Concreted. The whole site under the house is concreted also.

1345. That applies to all the single houses on the Blackhall-place area?—Yes, the yards in all cases are concreted.

1346. What is the sanitary accommodation to the houses let in flats?—Each flat has its own separate water-closet and water supply.

1347. Is the yard common?—No, the yard belongs in that case exclusively to the tenant who occupies the ground floor.

1348. Do you know the cost of the White's-lane dwellings?—The cost of the site was about £9,000.

1349. For the 2½ acres?—Yes.

1350. And the building how much?—Something like £11,000, and the roads and sewers £3,738, and there were law and other expenses, £2,026 15*s*., so tha the total cost of White's-lane or St. Joseph's-place scheme was £24,962 8*s*. 6*d*.

1351. Of which £12,000 was for buildings and £12.000 for the site?—£11,000 for the building and £9,259 for the site. That was where we built one story cottages, so that the cost of the site was nearly equal to the cost of the buildings—in fact double the rent of the cottages.

1352. That means that the Corporation is to provide the site and the tenant is to pay the interest on the building?—I think the revenue derived from the White's-lane cottages very nearly pays all the cost. These are cottages let at 4*s*. 6*d*. a piece. I have not got particulars of the revenue. Then in addition the Corporation have acquired Bride's-alley area. About 3 acres of that has cost I think £32,000 in round figures, and the estimated cost of the buildings is £47,000, roads and sewers, £9,000, and the other expenses have been estimated at £3,000, which is probably under what they will be.

1353. What class of buildings are they to be?—Buildings of three stories, and some four stories high.

1354. Are they to be let in flats?—Yes, and each flat will be self-contained—that is to say, nothing will be in common except the staircases and entrances, and each flat will have its own sanitary arrangements and water supply.

1355. Does the same apply to these—that the yard will be exclusively with the ground floor?—No, the yards will be common to the whole space, but the rear will be open and not divided into separate yards.

1356. Will they be paved or concreted?—Paved with concrete and asphalt.

1357. Right Hon. Alderman MEADE.—Concreted Well probably asphalted, for we intend to bring in the Corporation carts at the back to remove the dust bins.

1358. In that case again the cost of the site and roads is half the amount of the scheme?—It is. Of course it would be impossible to build single story cottages on an area costing that amount of money. These are the only schemes that have been dealt with since my appointment.

1359. CHAIRMAN.—Could you give us any information about the baths and wash-houses in Tara-street?—They were erected before my time; but I know they contain two large swimming baths, a first class bath and a second class bath, and we have recently constructed a plunge bath, which is used by women of the Jewish community in Dublin, and there are a number of private reclining baths both for men and women, but I have not particulars of the exact numbers. There is a wash-house attached.

1360. Do you know anything about the cost of erecting these?—I do not, but I am told by Mr. Harty that the cost was about £14,000.

1361. Do you know anything about the use that is made of them, and to what extent they are availed of?—I know they are used to a considerable extent.

1362. Sir *Charles Cameron*.—The figures as to that have already been given in in evidence, and they state also the cost, the number of people using the baths, and all the particulars. It is in the last annual report.

1363. CHAIRMAN.—There is only the one at Tara-street.

1364. Sir *Charles Cameron*.—Yes.

1365. CHAIRMAN.—Are they remunerative?

1366. Sir *Charles Cameron*.—No there is an annual loss on them. They don't pay

1367. CHAIRMAN.—Is that bath and wash-house availed of by the people on the south side only.

1368. Sir *Charles Cameron.*—It is used by people on both sides, but most of those using the wash house come from the eastern districts of the city—both north and south eastern portions of the city. It is a very large place, and it is crowded with women.

1369. CHAIRMAN.—Do you consider it would be desirable to have more wash-houses?

1370. Sir *Charles Cameron.*—I do. I have often made that report, but it would be desirable to have wash-houses and baths of a less expensive character. In my opinion, there should be two more, but not so expensive—a very plainly built wash-house and six or eight reclining baths.

1371. Right Hon. Alderman MEADE.—There is not quarter of the accommodation that there ought to be in baths and wash-houses.

1372. Sir *Charles Cameron.*—No, not near so much as there ought to be; but the Mendicity Institution supplies a want in the extreme west of the city, but it is not a popular place.

1373. Right Hon. Alderman MEADE.—Can you tell us the cost of clearing the Coombe area and what is derived from it in the way of rent.

1374. Sir *Charles Cameron.*—I may state that the Town Clerk will give a short statement, showing the expense of every one of the improvements referred to from time to time. That has been carefully prepared, and it gives the expenses of baths and wash-houses, and of the artisans' dwellings in a succinct form, and the Town Clerk is here to give that in a short way in evidence.

Mr. M'CARTHY's examination resumed by Dr. T. THOMSON.

1375. Are the plans of all new houses in the city of Dublin submitted to you prior to construction?—Yes.

1376. And you deal with these under your building bye-laws?—Yes. There are building bye-laws under the Public Health Act.

1377. What is the date of these bye-laws?—1880; but they are now being revised. They have been revised, but not formally adopted by the Council. They were revised a couple of years ago.

1378. Does that imply that the 1880 bye-laws are open to improvement?—Yes; but they are not by any means very defective—even the present bye-laws—but we have included numbers of matters in them that were not in them before; for instance, bye-laws regulating the construction of theatres and things of that sort. We have also made some alterations in the bye-laws for the construction of ordinary dwelling-houses.

1379. What are the alterations included in the proposed bye-laws?—I cannot tell what the alterations are.

1380. Sir *Charles Cameron.*—We have handed in a copy of the amended bye-laws.

1381. Dr. T. THOMSON.—What are the main points in which the 1880 bye-laws are defective?—I cannot answer that question, for I have not got a copy of the new bye-laws.

1382. You are acquainted with the old bye-laws. They are the bye-laws under which you work, and therefore you have a thorough acquaintance with them, and in carrying out these bye-laws you must have formed some idea in what respects they are unsatisfactory? I don't consider the sanitary provisions are unsatisfactory, but under the new bye-laws we exempt certain buildings from the bye-law requiring all buildings to be enclosed by stone walls; that is to say, we have allowed iron structures to be put up, but as regards the sanitary arrangements there are very few alterations.

1383. CHAIRMAN.—They have not been submitted for approval yet?—They have been submitted to the Local Government Board.

1384. Dr. T. THOMSON.—You consider the 1880 bye-laws as being fairly satisfactory?—Yes, they are, as far as the sanitary provisions are concerned.

1385. As regards one of these housing schemes you have mentioned to us, I gather that the dwellings that have been put up are three and four stories high? Yes, in the Bride's-alley scheme.

1386. These are the houses containing several flats?—Yes.

1387. One of the witnesses that have given evidence before us expressed the view that the Dublin working-classes don't take kindly to houses of that description—that they had a marked preference for cottages. If that is so, how will your scheme meet the circumstances of the case?—Well, I think, there may be a preference for cottages; but it would be impossible, when you have to pay such a price for sites, absolutely impossible, to provide cottages. If we could build cottages outside the city it would be a different thing, but where you have to pay £10,000 per acre for a site it would not be possible.

1388. I am not asking you to defend your scheme, but rather what you anticipate will be the result of it. Do yon anticipate the houses won't let because they are four stories high? No, they will all be let, because they are a very large improvement on the present houses. The objection is not so much to the height of the houses as the use of one water-closet for a number of families. Each flat with us will be perfectly self-contained. It may be objectionable to have houses so high, but that is not a great or serious objection, and it won't prevent their being let. All our dwellings are occupied all the year round. We have scarcely any tenements to let. Even in Benburb-street area, where the houses are four story houses, they are nearly always occupied, although in that case there is no separate sanitary accommodation for each tenant, and I think it is a defect in these dwellings, and we will be careful not to repeat that—that was an experimental building, done fourteen or fifteen years ago.

1389. What rents will the Bride's-alley buildings bring?—Some of them will be three rooms, and the rent will be 4*s.* 6*d.* to 6*s.* The two rooms will be from 3*s.* to 4*s.* 6*d.*, and I think the 3*s.* rent is the minimum.

1390. CHAIRMAN.—What is the size of the rooms?—I think one of the rooms will be about 14 feet by 10 or 11; that is the largest room, but I would not like to say that without looking at the plans.

1391. Dr. T. THOMSON.—Will it be practicable to erect buildings, whether in the form of cottages or otherswise, in Dublin city, at such a cost as would make a scheme profitable at a rental of, say, 2*s.* for each flat?—How many rooms do you propose to have in that flat?

1392. I wish to get that from you?—I don't think it would be possible. I am assuming that you have at least two rooms in each flat, and I don't think it would be possible to let them at a rent of 2*s.* Certainly not, if we have to pay the very high price we have paid hitherto for the sites.

1393. Supposing they were one-roomed houses. We know that in some towns blocks containing single rooms have been put up, these being, of course, under supervision to see that they are not overcrowded, and that other conditions are complied with. Would it be possible to erect tenements of that class, and yet to charge such a rental as 2*s.*, and pay the cost?—I think 2*s.* could be made remunerative in the case of single-roomed tenements.

1394. Right Hon. Alderman MEADE.—What size of room?—Perhaps 14 by 12. I remember making a sketch plan for such a block of buildings.

1395. For 2*s.* a week rent?—Yes, I think 2*s.*

1396. What price did you put on the site in that case?—I cannot give you the particulars. It was at

the time when a scheme for the housing of the very poor was in hands, and I was asked to make a rough sketch.

1397. But you did not mean to pay £12,000 for the site?—No. It would not be possible if we had to pay the price we have paid up to the present.

1398. Dr. T. THOMSON.—Not even single rooms? —I think not, but it is a matter for calculation.

1399. Right Hon. Alderman MEADE.—You made a report at the time, showing it could be done?—Yes; but it was not the Corporation Committtee that were doing it.—

1400. But still you had information, and you placed it at the disposal of the Committee to show how you had worked out the housing of the very poor, by houses without plastering, and of a plain sort, and not a single shilling spent that could be avoided, and you provided about £5 a year for every pair of tenements?—I don't remember how the rent was estimated, or whether it was estimated by me at all, but I remember the cost of the building was estimated by me.

1401. Sir *Charles Cameron*.—I can give you the cost of the four groups of artisans' dwellings built by the Corporation.

1402. Dr. T. THOMSON.—We have some knowledge of the cost of land in Dublin. Does that come within your province?—No. Of course I know what these sites cost.

1403. I gather from what you said that you are acquainted with the actual tenement houses as now existing in Dublin. Can you tell us as to the nature of the sanitary accommodation in them?—Yes, I know them by hearsay, or very little more. I have been through a few of the tenement houses, but it is not part of my duty to inspect the tenement houses.

1404. I am aware of that, but if you have been through some of them, you may be prepared to formulate an opinion on the subject. It would be advantageous to know what you think of these tenement houses from an architectural point of view—are they well-constructed buildings?—They are not well constructed for tenement houses at all.

1405. That is not my point. Are the buildings of good construction, and what is their present condition from that point of view only?—I have no doubt they were originally houses of a very good construction; but, of course, they were not intended for tenement houses, and you have wooden staircases and halls floored with wood, which are very difficult to keep clean, and, therefore, quite unfit to be let in tenements.

1406. Are they solid structures generally?—No. As a rule, not. Many of them are in very bad repair. They vary very much in their condition; but there is a very large number let in tenements, and a great number must be in bad repair.

1407. That is not quite what I wish to know from you. One would rather expect that a house which was in its time a good class house would be a good solid structure, whatever its present condition of repair. Are these houses still solid structural buildings, notwithstanding their being in a state of disrepair?—I think the walls are probably quite sound, but the roofs are often in a very bad state, and we have seen indications of that by the damp on the walls. They might have been once very sound, but they got into disrepair by lapse of time in many cases.

1408. Dr. J. W. MOORE.—Is it not the case that a good many of the parting walls are lath and plaster?—I don't think so.

1409. I mean the walls in the interior, between the several apartments, and between the passages, the halls, and the staircases, and the dwelling-rooms—are these walls often of lath and plaster?—By parting wall we mean a wall separating one house from another.

1410. It is my mistake. You know the walls I mean?—I don't think in the older houses they are. No doubt, that may be in the case of the bedroom floors.

1411. Dr. T. THOMSON.—I wanted to know the condition of the external walls.

1412. CHAIRMAN.—Dr. Moore wishes information as to the divisions put up in the houses since they became tenement houses?—I have no doubt the partitions put up since the original construction are of that nature.

1413. Dr. J. W. MOORE.—But the walls between the staircases and the several apartments, are they not lath and plaster?—No; as a rule, they are brick walls.

1414. Right Hon. Alderman MEADE.—The walls between the staircases and the rooms proper are all of brick?—Yes, and also the walls dividing the front from the back rooms are generally brick, but then the upper floors are sometimes divided into a greater number of rooms, and these partitions may be brick and stud, or lath and plaster. There has been some talk about the drains of houses, but with reference to new houses, the plans of which are lodged with me, the drains are most carefully tested in all cases. The testing of the house drains was done by the engineer until 1896, and since then by me and by the two building surveyors under my direction. I get a report in every case where they make a test as to the result, and if the result is that the drain is defective the drain is tested again, and sometimes it is tested three and four times, until I am satisfied it is staunch, and it is only on receipt of that certificate that the builder is allowed to close in the earth over the drain, and before a house can be occupied a further examination has to be made by the building surveyor and a report made to me of the effect that the house is built, not only drained, but that the whole house is built in accordance with the plans—the plans being in accordance with the bye-laws—and then a certificate of fitness for inhabitancy is issued by myself and the Borough Surveyor jointly, and the value of that certificate is understood by the house owners and the tenants, and I know a number of people who cannot let their houses to tenants until they have got the certificate from me. I am frequently asked for a duplicate where certificates have been lost, because they require to have it before they can let the houses.

1415. Right Hon. Alderman MEADE.—That applies to every bit of the houses as well as the drainage?—Yes, every bit of the houses.

1416. Dr. T. THOMSON.—With reference to what you stated some time ago concerning the fairly satisfactory nature of the present building bye-laws, I find on looking at these bye-laws that they include a provision respecting drains passing under buildings which is not such a provision as you would probably approve of at the present day?—No. The new bye-laws provide that the drains are to be encased in concrete, and even at present our drains are jointed with cement and flax gaskin and laid on a bed of concrete.

1417. You refer to drains under houses?—Yes.

1418. Is that in accordance with your bye-laws?—It is.

1419. Can you compel that to be done?—We can—at least it is always done as a matter of fact.

1420. That is another matter. That is an instance in which the bye-laws could not be considered satisfactory?—No; I did not say they were quite satisfactory; they are fairly satisfactory all round, and I am quite sure they are carried out very strictly.

1421. Alderman DOWD.—Have you any idea of the rents paid by the tenants in the Bride's-alley area previously to the clearance?—No; it was cleared before my time, but that information is available, no doubt.

1422. Sir *Charles Cameron*.—They were generally about 1*s*. 6*d*. to 2*s*. 6*d*.

1423. Alderman DOWD.—The lowest now will be 3*s*.

1424. Sir *Charles Cameron.*—And very few at that. I would like, in a very few words, to state what these dwellings cost. The Benburb-street cost £27,430 8*s.* 7*d.* They are inhabited by 492 persons. The payments amount to £2,188 4*s.* 11*d.* The revenue left a debtor balance of £570 18*s.* 5*d.*, which must be made up from the rates.

1425. Right Hon. Alderman MEADE.—That is, on the year.

1426. Sir *Charles Cameron.*—Yes, this is for the year.

1427. Right Hon. Alderman MEADE.—That would repay the instalment and interest.

1428. Sir *Charles Cameron.*—It would pay the interest and a small portion of the instalment. The Bow-lane buildings accommodate 338 persons. The outlay was £10,325, and the payments in 1898 £782 5*s.* 9*d.* That is, to keep the building in repair, and the cost of management and the interest on the loan and the instalments of the loan, which is a loan for a period of forty years. The revenue fell short of that sum by £126 3*s.* 9*d.* It paid the whole of the interest and about half of the instalment, so that the Corporation are getting one or two houses there every year for practically nothing.

1429. Right Hon. Alderman MEADE.—Would you be able to say what these houses will be worth in forty years?

1430. Sir *Charles Cameron.*—They are kept in repair every year and carefully attended to, and they will become the property of the Corporation ultimately; but before that time, and from this out, on account of the decreasing amount of interest on the balance of the outstanding loan, in one or two years more the revenue will pay the instalment of the loan, and practically the Corporation will get over the property free. Then St. Paul-street area, there are 340 people. The cost was £12,057 19*s.* In 1898 the expenditure was £1,026 4*s.* 5*d.*, leaving a debtor balance only of £63 19*s.* 8*d.*

1431. Right Hon. Alderman MEADE.—That was our own property—the site. Did we charge anything for the site there?

1432. Sir *Charles Cameron.*—Yes, we always charge ourselves. The Bow-lane area was valued, and whatever value was put on it by the Finance and Lease Committee was charged against the Artisans' Dwellings Committee. In the St. Joseph's dwellings there are 288 persons. The cost was £25,925 19*s.* 7*d.*, and the expenditure in 1898 was £1,866 13*s.* 5*d.*, leaving a large debit balance of £930 11*s.* 11*d.* This is the most serious loss of the Corporation. That does not pay the interest, and no portion of the instalment. Only twenty-seven of the whole of these dwellings are let at 1*s.* 6*d.* a week.

1433. Dr. T. THOMSON.—The cost includes everything—the land, clearing the site, the building, and everything else?

1434. Sir *Charles Cameron.*—Everything to a halfpenny, and only 27 of those places out of 270 altogether are let to the very poor at 1*s.* 6*d.* a week rent.

1435. Right Hon. Alderman MEADE.—Where are these tenements?

1436. Sir *Charles Cameron.*—The most of them are in Benburb-street—the top part of the Benburb-street houses.

The Committee adjourned until next day.

SIXTH DAY—TUESDAY, FEBRUARY 20TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Dr. FITZGIBBON examined.

1437. Dr. J. W. MOORE.—You are a past president of the Royal College of Surgeons?—Yes.

1438. You have been for a very long time connected with the General Post Office?—Yes. I have been for twenty-one years principal medical officer.

1439. How many employees of that great department have you under your care?—It was increased from the time I was appointed twenty-one years ago. Then the department was represented by something between 900 and 1,000. Now there are about 1,600.

1440. You visit the employees of the department in their homes?—Yes. My duty is a two-fold one. My first duty is to the department, that is to visit all those in it who represent themselves as being absent owing to sickness. That I do in my capacity of medical inspector, in order to protect the department against malingering, and also to inspect the buildings that are used; that I do as sanitary inspector, and even the dwellings where the Post Office people reside, to see if they are in an unsanitary condition, and to report that to the department, and as a result I very often persuade them to go elsewhere. My other capacity is that of medical attendant on all officials whose official salary is below £150 a year; they are placed in my capitation list, and when they go out sick I am not only obliged to see them (they come to me when well enough to do so), but I have to satisfy myself that their illness is *bonâ fide*, and if they wish to avail themselves of my professional services, they are entitled to do so. They are not prohibited from employing outside medical aid, but in that case after the second certificate is sent in by an outside medical man, I am to visit the absentee, which I generally do with his private attendant, to prevent professional friction—in order to satisfy the department that the illness is *bonâ fide*. My radius, I may mention, is three miles from the General Post Office, and therefore includes the whole of the city of Dublin, and the greater portion of the populous suburbs.

1441-91.—In fact, all the coloured portion of that map, with Pembroke, Rathmines, and Clontarf?—Yes; all that is in it.

1492. And something more, perhaps?—Yes; I go as far as Chapelizod, and out to Crumlin-road, and further than that a good deal.

1493. When you come across an unsanitary dwelling, what is your duty?—Well, my duty, in the first instance, is to try and get the people to make it sanitary if I can; but I invariably report it to Sir Charles Cameron; and in the case of telegraph messengers, I report it to the Superintendent of Telegraph Messengers, and he goes and speaks to the parents, and a good deal of good is done in that way.

1494. When you speak of Sir Charles Cameron, I suppose you mean you notify to him about unsanitary dwellings within the city?—Yes; as a matter of fact, I have notified to him typhoid cases even outside the boundary, but he has generally sent me word to say that it is outside; still I notify it. I may say that I am not paid for this notification, at least, not by the Corporation.

1495. What is your sick record in the department?—The sick absence in Dublin is very high as compared with most other places.

1496. We would like to know something as to the comparison.—Well, I cannot give quite recent statistics of last year, for I have not the return for 1899 yet. Here is a return for Dublin, giving the average sick absence. The average sick absence amongst the female staff was 35·2 days. Those are the persons actually out sick. The whole average absence in Dublin is 14·13 in the case of men, as against 32·4 in the case of women. Now I would like to contrast that with the absence in Glasgow, which is very remarkable, because I think it illustrates, to a certain extent, that I am right in my theory as to one of the chief factors of the death rate. In Glasgow the average length of absence of sick officers, that is of those who went out sick, was 17·8 days, as against 21 days in Dublin, showing that the illness in Glasgow was not so prolonged or so severe as in Dublin, unless the Glasgow medical officer was more efficient than I am in treating the cases. Then the other point is the average sick absence per officers employed. Well, there the contrast is very much more remarkable. The average sick absence in Glasgow is 6·4, whilst in Dublin it was 14·3 for the men; and for the female staff in Glasgow it was 10·5, while in Dublin it was 32·4. Now, there is another place that, I think, we might include, because our suburbs are such as have parallels, say, Clontarf, or Ringsend, with Greenock. In Greenock, anyway, for absence the return was 4·3 for men, and for women 5·8. I have not the return for Ringsend.

1497. Right Hon. Alderman MEADE.—What is the population of Greenock?—I could not tell you.

1498. Possibly 100,000?—I could not tell.

1499. Dr. J. W. MOORE.—These are your facts generally as to sick absence?—Yes; I have statistics here that confirm that. I went to Glasgow myself two or three years after I was appointed, to try and see why Dr. M'Cleod has so much better a record.

1500. He filled the corresponding position to yours?—Yes. As to the sick absence, I may explain that I take the Post Office as a good illustration of the whole population of Dublin of all grades, because it includes the higher grades of both comfortable houses and positions, down to the very poorest. I really do not think there are any more miserable dwellings in the city of Dublin than the dwellings of some of the telegraph messengers that I have gone into; and where you see, sometimes, that the father is dead, and the mother endeavouring to eke out a living by the little earnings of the children, perhaps one or two small boys in the Post Office. Now take from 1891 to 1899,

and the figures will be suggestive of the fact. I may say I have my own statistics of 1899, but not the official ones. Well, in the case of zymotic disease, the number of cases of small-pox there were, up to 1899, during the ten years, only three cases of small-pox. In the case of measles there is a rule introduced from England, which I objected to in the Post Office, that they would not allow the rule of compulsory absence to apply to. Well, in the case of measles, in 1891 the number was one, in 1892 the number was one, in 1893 six, then one, next year one, then ten, next thirteen, next fourteen, next fifteen, in 1898 none, and in 1899 three. I may say that I was officially informed that compulsory absence was never to be enforced in the case of measles. These regulations, however, were modified, why I do not know; but it was in or about 1893, when I had six cases, that the rule was made that compulsory absence should be at the discretion of the local medical officer. The department in England thought I was putting them to too much expense by including measles in the category of compulsory absence, and I got an instruction not to include it.

1500A. Dr. J. W. MOORE.—How many cases of measles had you in the ten years?—Fifty, exactly.

1501. Three cases of small-pox, and fifty of measles?—Yes.

1502. Now as to scarlatina?—In 1891 there were none, and in 1892 none; and I may point to the fact that the compulsory absence was a factor in the reduction; and I may say that although I have the power, it is restricted.

1503. How many cases were there in those nine years?—Thirty-eight; there were none in 1891, none in 1892, seven in 1893, seven in 1894, seven in 1895, three in 1896, two in 1897, and one in 1898. I had become very strict, in 1898, about compulsory absence.

1504. Now as to typhus?—There were no cases from 1891 to 1895; in 1896 there were two cases, which I traced to the same source—a house in Gloucester-street. In the nine years ending 1899 there were four cases.

1505. Now as to typhoid. Let me say that it is necessary to explain—because there is a difficulty about this very question in the public mind—that typhoid fever and enteric fever are precisely the same disease?—Yes; the London medical officer has changed the term from typhoid, within the last year, to enteric fever. Well, in 1891 there were twenty-three cases, in 1892 fourteen cases, in 1893 40 cases, in 1894 twenty-four cases, in 1895 twenty-three cases, in 1896 fourteen cases, in 1897 twenty-five cases, in 1898 ten cases, and in 1899 twenty cases. 1899 was, therefore, very much higher than 1898, but not higher than the average of previous years.

1506. That is 193 in the nine years?—Yes. As to diphtheria, there were no cases in 1891, one in 1892, two in 1893, one in 1894, two in 1895, no case in 1896, one in 1897, no cases in 1898 or 1899.

1507. That is seven cases?—Yes. Now influenza is the bane of the department. In 1891 there were 136 cases, in 1892 there were 155 cases, in 1893 there were 162 cases, in 1894 there were 160 cases, in 1895 there were 265 cases, in 1896 there were 149 cases, in 1897 there were 155 cases, in 1898 there were 217 cases, and in 1899 there were 391 cases.

1508. Are you responsible for the diagnosis of those cases?—Yes; those I am not responsible for the diagnosis of are those attended by their private medical attendants.

1508A. There were 1,690 cases in the ten years?—Yes; many people had it several times; I myself have had it four times. One attack does not appear to give any immunity from another—rather the reverse. It is endemic in Dublin now.

1509. Right Hon. Alderman MEADE.—Did you compare your cases of influenza with those in other large towns?—Roughly, yes; but I have not gone into the details. I know that in Belfast, Glasgow, and Birmingham, it is one of the chief causes of sick absence. I know that from the medical officers.

1509A. You don't know how they compare in figures with Dublin?—Well, I could make it out for you.

1510. Dr. J. W. MOORE.—Your evidence, so far, has been regarding sick absences?—Yes.

1511. Now as to the death rate?—The death rate is very small, considerably less than that of the city at large. But that can be accounted for in this way. The Post Office establishment is composed of people in the working period of life. The infantile death rate is eliminated, as well as the death rate, at extreme old age—there being a retiring rule applicable to sixty years of age, and men generally avail themselves of the privilege of going out after forty years' service, on two-thirds pay. I have an accurate return of the death rate for every year, and can send it to you without any difficulty. It is very small, and compares very favourably with the general death rate.

1512. Right Hon. Alderman MEADE.—For the same period of life?—Yes.

1513. Dr. J. W. MOORE.—You have formed some opinion on the subject of the scavenging, and disposal of rubbish in the city?—Yes; I think that that is at the bottom of a great deal of malarial disease and infection. If the Chairman will let me, I will hand in a paper I wrote on the subject of the enteric type of influenza. Influenza was divided by me in 1891, when it first made its appearance as an epidemic in Dublin, into three classes—simple, pulmonary, and enteric. Coincidently with that, Dr. Auchinleck divided it into catarrh, pulmonary and typhoid. The third class is a malarial fever, identically the same as that produced by malarial miasma, arising from slob lands and filth, largely composed of decomposing vegetable matter.

1514. When you speak of the enteric type of influenza, do you mean the influenza which we know as a specific fever?—I believe it is a primary bacillary disease. I believe it is a malarial fever, and I call it influenza simply because it is the fashion. The culture ground of the bacillus is such slob lands as those lying inside the railway viaduct at Clontarf, and forced land, consisting of scavenging matter. Now I think the defective method of scavenging is one of the causes of this epidemic—by accumulation of it in Corporation depots and tipping stations; and the suggestion I would make is, that instead of the system of indiscriminate scavenging, there should be some form of discriminate scavenging. By that I mean that the scavenging should be done separately, of vegetable markets and fruit markets, of eating houses and hotels, and places of that sort, where there is a large quantity of refuse vegetable matter, which used to go to what used to be called the pigs' buckets. All that is very valuable feeding stuff, and could be utilized if the system I suggest of discriminating scavenging were carried out, and the offal from butchers' shops and other places, and kitchen stuff generally was separated from the ashes, and old sardine boxes, tin cans, and newspaper placards that are mixed up with it in the Corporation refuse carts, which look, in the distance, like a beautiful bouquet, until you come near them, and then you see and smell the difference. I would suggest a system of discriminating scavenging. I would have ashes put in one box, and kitchen refuse in another. It could be easily done, and could be enforced. I used to be well acquainted with a pig farm, years ago. My father, who was a barrister, had a large farm. He had as many as 150 pigs, and there never was a healthier house than the house on that

farm, which was not far from the pig yard. I believe in that way that vegetable and kitchen stuff could be profitably utilized, and the Corporation refuse yards deprived of their present objectionable condition. *Apropos* of that, I may say that many farmers who used to buy from the Corporation yards won't do so now, because the stuff destroys their land, there being too many tin cans, sardine boxes, and broken bottles, which destroy their cattle's feet. I think it would be well if this Committee got the evidence of men like Philip Grierson, near Clondalkin, John Mooney, and Mr. Haddon; they could tell you of thousands of pounds worth of valuable stuff being sent down to the sea.

1515. By the hopper barge?—Yes; in fact, I think if a joint stock company were started, to take a pig farm, it would do. I would take shares in it.

1516. On the subject of unsuitable sites, have you something to say?—Yes; about two years ago I was brought down to examine ground intended for building sites, and on which rubbish was being deposited. It was at Kilmainham, near Islandbridge Barracks. Typhoid fever, there, had been very prevalent, and it was attributed to the tipping station right opposite the barracks, on the Hanson estate. By the contract under which the people were permitted to take gravel away, they were to restore it to the natural level, suitable for building purposes. They were restoring it, but not in the way the agent thought suitable for building purposes. Five or six acres had been restored. I went down, and the first thing we did was to make test holes, like sinking wells, into the place where the tipping had been going on. The first deposit, of fourteen or fifteen years ago was very good, and composed principally of road scrapings. It was hard compact stuff, well puddled, as you would say. Then we came to ashes, then sacks, then vegetable matter, then an immense quantity of old hats and sardine boxes, the remains of dead dogs and cats, and, finally, the last deposits consisted of night soil. That was all supposed to be ground for building houses. It came before the Master of the Rolls, and he made his opinion so self-evident, mainly on my evidence, that the action was settled, and the land was not allowed to be used for building purposes, but for the accommodation of cattle going to Smithfield.

1517. Right Hon. Alderman MEADE.—Is that in the city?—Yes; on the road from Kilmainham to the South Circular-road. There is another place, on the road to Fox and Geese, where the land is being filled in with the same kind of stuff.

1518. Dr. J. W. MOORE.—That is outside the city?—Yes; but such things influence the death rate.

1519. Do you know of any sites within the city where houses are being built on "made" ground?—Yes; take the district that lies between the East Wall and St. Lawrence's-avenue and Amiens-street terminus, or round by Fairview and Drumcondra and the North Circular-road. I have seen this rubbish deposited there, and have seen women and girls take bottles, and corks, and cinders from it.

1520. Dr. T. THOMSON.—Has there been any building on that site?—Not yet; but at St. Lawrence's-avenue, behind the East Wall, it is about five feet below the level of the tipping station, and the stuff is actually running to the back walls of the houses. I have had bad cases of typhoid and influenza from that locality. In Glasgow there are, under the Building Regulations Act of 1892 and relative bye-laws regulations preventing such a state of things. They provide—"The site of every building shall be prepared by removing therefrom all animal or vegetable matter, and unless such site be gravel, sand, or other solid bed, and sufficiently dry for the proposed building, it shall be covered with a layer of concrete, not less than six inches thick, and smoothed on the upper surface. Where necessary, such site shall be drained by means of agricultural tile drains, properly laid and connected with the main drain or sewer in such a way that any sewer gas is effectively intercepted. Any filling up that may be required, in consequence of excavations, for the purposes aforesaid, shall be done with hard brick or dry stone shivers, or other inocuous materials."

1521. Dr. J. W. MOORE.—Now as to stables being converted into dwellings, you have something to say?—Yes; my opinion, shortly, is that it should be prohibited to let stables or such places for the purpose of dwellings without a certificate that they were put into sanitary and suitable order beforehand.

1522. Is it not quite a common thing that lofts over stables are let as sleeping apartments?—Yes; and underneath occupied by fowl. In one case, a telegraph messenger boy visited me. He was ill, and I told him to go home and go to bed, and I would visit him. I went to the place—a stable occupied by fowl, very stinking, and full of rubbish. I went upstairs where the boy was supposed to be, and I found him sitting up with his uniform on. I asked why he was not in bed, as I had directed. His mother, the owner of this establishment, told me he could not go to bed, because she had a lodger, a night man of the Corporation, and he occupied the bed. In addition to that, she was doing a profitable business as caterer for a number of working men, who were then sitting at a table eating their dinner of very fragrant bacon and cabbage. On examining the boy, I found him suffering from very severe scarlatina, and I sent him to Cork-street Hospital. I took some measures about the place, and I believe it was improved. That is the kind of place occupied by cabmen principally, and should be inspected.

1523. This nuisance of converting stables into dwellings exists in the best parts of the city?—Yes, the very best. The place I speak of was not 100 yards from your own back door. At the back of my own house there is a place of this kind, but the people have no family. They are old people, and have become inured to the smell.

1524. Lest that answer should be misunderstood, it is not your own stable?—No; my stable is well washed out with Condy's fluid, as I think the streets ought to be, as in London.

1525. As to the Notification Act in Dublin?—I think that notification ought to be compulsory, and I think, in the case of typhoid being notified, immediate steps ought to be taken to inspect the house where the case occurred, and the place made sanitary; otherwise, the recovery is much slower, according to my experience. Therefore, I think that all cases should be inspected at once. That is the case in Pembroke.

1526. You are strongly in favour of notification?—Yes, strongly.

1527. And you practise it?—Invariably. All houses where infectious cases occur should be promptly examined. The tenants in small houses are afraid to make complaints which may involve expense being put on the landlord. If they do complain, I am afraid, in very many cases they get notice to quit, and are evicted. Steps should be taken to prevent that occurring. I will give you an instance, and a hard case. A respectable man and woman, earning a decent livelihood, lived in a house that ought to be comfortable. The children got typhoid, and three of them died in intervals of eight or ten months, and two were left alive. The vent pipe of the whole row of houses was there, right opposite the back door, and some one had told the woman that nothing would be done unless some one agitated in the matter. I agitated, and something was done. But the agent came, and gave them notice to quit. They did not go, but paid the rent;

and now the house is being allowed to go into disrepair and dilapidation. The stairs are falling to pieces, and the rain is coming in through the roof, and very soon these people will have to go *nolens volens*. That is the result of their having been supposed to have agitated in the matter.

1528. What kind of remedy would you suggest for that?—I would encourage them to make their reports to the sanitary officer, and would take measures to prevent their paying the penalty of eviction, if they were only a week or so in arrear. The Public Health Committee should not notify where they receive the information from. I may say that Dr. Chapman, of the Pembroke township, has informed me that some such system is adopted in the Pembroke township. They treat notification coming from the tenant——

1528A. Dr. J. W. MOORE.—As confidential?

Witness.—Yes; and they won't tell any one where they received the information, but they act on it.

1529. Would this meet your view—if the number of sanitary inspectors, which is only twenty-seven, was largely increased? We were told, a couple of days ago that in Dublin there are twenty-seven sanitary inspectors, and that they have to visit nearly 1,200 families, each of them. If the force of sanitary inspectors was increased, and, as a matter of routine, if they went into all these places and observed the sanitary conditions, would that meet your view?—It would; but I think the sanitary inspectors should be men possessing expert knowledge of sanitation.

1529A. The staff do now.

Witness.—And their reports should be promptly acted upon; and they could, I should think, enlist the services of charitable ladies, who would report to the Corporation where they found insanitary conditions. I have very little doubt that that could be done without any extra expense.

1530. Well, lastly, you wish to make some observations with regard to the Vartry water?—Yes; some years ago, I observed that the Vartry water supplied to my house was a bad colour, and had a bad smell. When it was left in a large bath for twenty-four hours it got a bad smell, like what rain water gets in a puncheon. I sent some of it to be examined by Sir Charles Cameron, and this was his report—"Vartry water from 49, Merrion-square; colour, deep yellow; microscopic examination satisfactory; about fifty micro-organisms per cubic centimetre; albuminoid ammonia 0·009, ought to be 0·006 grains per gallon; saline ammonia 0·008, ought to be 0·006 grains per gallon. This water has evidently absorbed tarry matter from the main." That was his report. In some subsequent years the Vartry water occasionally got offensive if it was left in any large quantity in a bath for forty-eight hours. I have a large bath in my house, and sometimes, if it was filled and left for forty-eight hours, it had a smell. It ought not to do that. I fancy that organic matter got into the water. Another sample of Vartry water was brought to me in a bottle, and it was full of lively-looking maggots kicking about in it, about an eighth of an inch long. These things had come out of the water tap direct from the main near Blackrock. On examination, I found that they were larvæ of the ordinary common knit. They no doubt got into the water where knits were playing over the reservoir, at Stillorgan; and I think that their presence in the tap directly communicating with the main, showed a defect in the filtration at that time. As to filtration, I believe the filtering beds at Stillorgan——

1531. Dr. T. THOMSON.—Is that a reservoir?

Dr. J. W. MOORE.—Yes.

1532. Dr. T. THOMSON.—Is it a service reservoir?

Dr. J. W. MOORE.—Yes, distributing.

1533. Dr. T. THOMSON.—The water is, presumably, filtered on leaving the reservoir?—The filtering beds require constant examination. They were left a long time without being examined. At the instigation of the Corporation they were examined six or seven years ago, and then the bottom stratum they found to be very bad indeed—black tarry matter. I don't know whether any member of the Corporation here is cognisant of the matter or not.

Right Hon. Alderman MEADE.—Not as you put it.

Witness.—That is the way it was described to me, at all events.

1534. You don't know yourself?—I did not see it.

1535. What filtering beds?—Stillorgan.

There are none.

1536–7. Dr. J. W. MOORE.—The water is screened there. There are filtering beds at Roundwood.

Witness.—Well, the Vartry water has a bad colour frequently; and particularly when the pressure is low, and that indicates the necessity for careful examination of the filtering beds at stated periods.

1538. Right Hon. Alderman MEADE.—Had you any difficulty in your own house, as far as drinking water is concerned—using the Vartry?—I boil and filter it when I can get it done, but it is hard to get servants to carry it out in a private house; they sometimes forget.

1539. Had you any reference to the internal fittings of your own house, after you found out that water left for forty-eight hours had, I think you said, larvae?—They did not come out of my tap. They were in another sample sent to me by a gentleman residing in Blackrock. It was the colour of the water attracted my attention. There was a smell after it was not used.

1540. Is it not necessary to execute repairs on portions of the mains in the city?—Yes.

1541. Will that not disturb the quality of the water locally and temporarily for a while?—I think it might, and also might disturb it, as suggested by Sir Charles Cameron, with tarry matter, which might be harmless.

1542. Dr. J. W. MOORE.—It is impossible to avoid that disturbance.—There is another fact. When the pressure is lowered—I speak subject to the correction of people who know more about engineering than I do. I am not certain of this being the cause of it, but I have mentioned it to some persons, and have been told that it is possible. There is a ball and socket system of hydrants. The hydrants get closed by means of a ball, which is pressed up by the water pressure. When the pressure is lowered, I believe that the ball falls in such a way that it is possible for a certain amount of surface drainage to make its way into the mains. Surface drainage will be charged with organic matter, and, once it gets into the main, any organic matter has a very good culture bed, and, I think, that is possibly one of the reasons that the Vartry water is not now as pure as it used to be.

1543. Dr. T. THOMSON.—Are we to understand that your statement is that the Dublin water supply is affected through the ball hydrants?—I think that is the case. I have never examined one, but I believe it is. I throw it out as a point worth inquiring into. Don't take it on my statement. It has been given to me as an explanation of why, when the pressure is removed, the water becomes sometimes——

1544. CHAIRMAN.—Have you been informed that, as a matter of fact, the pressure falls, in Dublin, so low as to allow the balls to drop?—But if it is so low that I can't get water out of the water pipes in my house. When they have to economise it, they cut it off in certain periods.

1545. Has that happened since 1893?—I think so.

1546. Dr. J. W. MOORE.—Is it not a fact that the water is cut off during repairs?—I suppose it is.

1547. That is a perfectly local thing. There are just two questions I want to ask you about the filtration of the Vartry water. Are you aware that some

experts consider that it is injurious to clean the filtering beds too often; that from the deposit that takes place from the water the most perfect filtration is secured—a viscous matter preventing the passage of dangerous micro-organisms into the mains?

Witness.—Yes.

1548. Have you traced any disease in Dublin to the use of Vartry water?—Well, where there are so many other factors it is hard to throw the blame on one.

1549. We have had the Vartry water for a good many years?—Yes, there is one point about that; I think that the old canal water was better drinking water, and I don't think we had the same amount of rickets among children when we were drinking Lough Owell water, and the Royal Canal, as since the introduction of the Vartry water——

1550. CHAIRMAN.—That is on account of the hardness?—Yes, the lime was useful; and if the citizens could get Lough Owell water for drinking purposes, and use the Vartry for domestic purposes, it might be better. I don't know whether the old pipes would be available or not. I believe they filled in the old beds, and built on them.

1551. Dr. J. W. MOORE.—With regard to the amount of lime taken into the system, does not a good deal come from solid food?—Certainly.

1552. Fish, bread—brown bread?—Yes; I think you will admit that hard spring water is better for drinking than soft water.

It is much more palatable.

Right Hon. Alderman MEADE.—When it is uncontaminated.

1553-5. Dr. T. THOMSON.—May not hardness in water be a serious defect?

Witness.—If there is too much lime it produces constipation. That is one of the defects of the Lucan Spa, as compared with the Harrogate Spa.

1556. Alderman DOWD.—You are aware that there are storage cisterns, in some places, where supplies are taken from?—I am.

1557. Would that account for what you have mentioned?—Not for the condition of the water in my house. I have not got such a thing.

1558. Would it account for it in other houses?—I have no doubt, and for the water being unpleasant in odour. If it remains stagnant for forty-eight hours you can perceive a smell, which good water ought not to have.

1559. Right Hon. Alderman MEADE.—You said standing for forty-eight hours in a bath?—Yes.

1560. With an overflow?—No.

1561. An overflow communicating direct with the soil pipe?—Certainly not; communicating direct with the open air.

1562. The overflow of the bath?—Yes, it does not go into the soil pipe; both the discharge pipe and the overflow go into a separate pipe, and the water runs out separate from the soil pipe altogether.

1563. Over a grating?—Yes; the grating communicates with the sewer. It is in a yard outside the house.

1564. Alderman DOWD.—Is this the bath in which the larvae were found?—No; they came from a pipe.

1565. Right Hon. Alderman MEADE.—In Blackrock?—Yes.

1566. Mr. R. L. SWAN.—There is only one question I want to ask in reference to an instance of typhoid in a house you visited?—Yes.

1567. The Registrar General stated that typhoid was equal in its proportionate victims among the better class and among the very poor?—That is so, and I think that the amount of typhoid fever among the Post Office people is equally distributed among the higher and lower grades—the latter consisting of postmen and telegraph messengers. That is genuine typhoid fever. I have a good many among the higher grade class—quite as many as among the others.

1568. You don't attribute the occurrence of typhoid to the class of houses in which the people live, or to their manner of living?—I don't think we can attribute it to that; but influenza is, I think, very much influenced by that. It is influenced by it in consequence of the surroundings of these poorer houses, such as in Marrowbone-lane, the smaller houses in the neighbourhood of Spencer-street, and other places of that sort.

1569. Right Hon. Alderman MEADE.—What is the date of the certificate about the water?—It is some years old—the 2nd of April, 1897.

1570. Dr. T. THOMSON.—In the figures you have given about sickness in the Post Office, as far as I understand you, your information was classed into two divisions—one had relation to the average duration of illness in each case, and the other, if I understand you rightly, had reference to the percentage of the staff that had been sick?—Yes.

1571. In those figures that you quoted for us how many years did you deal with?—From 1891 to 1899 inclusive.

1572. In reference to the general sickness—I don't refer to particular zymotic diseases, but to the general sickness—relating to the duration of illness and the percentage of the staff attacked, are your figures for one year or for several years?—That was one year.

1573. Which year is that?—It was from rather older statistics than the ones I gave, but you may take my word as to the relative proportions being pretty nearly the same, or at least not varying very much. 1894, this one was (indicating the document); this happened to be the only one I could find, they got mislaid in the office some way or another. And this one (indicating another document) was 1895—1894 and 1895—they were included in the ten years. That is just exactly in the middle of the nine years.

1574. You compared the figures of both 1894 and 1895—you took the two years?—No, I gave these years separately. I have 1894 and 1895 here. This is the one I gave you, where Glasgow is 6·4.

1575. The Right Hon. Alderman MEADE.—Is that 1895 or 1894?—1895, the more recent of the two. Glasgow is 6·4 for the men and 12·8 for the women, and Dublin was 15·2 for the men and 29·6 for the women. That was the proportion of the average number of days.

1576. The number of days?—The average number of days for every man, woman, and child engaged in the Post Office.

1577. They were absent during the twelve months, 6·4 in Glasgow?—That was the average for the whole male staff in 1894. In Dublin it was double that; in 1895 there was really very little difference. It was worse than in 1894, being 14·3 as against 15·2 for the male staff and 29·6 as against 32·4 for the female, while in Glasgow it was 6·4 for male and 10·5 for female staff, being precisely the same for the two years. That has been maintained for twenty-one years—that superiority of Glasgow over Dublin, and of almost every other city in the United Kingdom.

1578. Dr. T. THOMSON.—Do those figures deal not only with the absence of the staff from duty, by reason of illness, but, also with their absence by reason of the occurrence of certain infectious diseases in their homes, the staff themselves not being sick with infectious disease?—I think that question is actually in debate at St. Martin's-le-Grand, as to whether they will include compulsory absence in the statistics of sick absence or not. I cannot answer the question; I am not quite certain.

1579. You don't know whether it has been done?—I don't know. I think compulsory absence is on a separate basis altogether, and not included in the return of sick absences. It is not very great; it would not make a very great difference. Compulsory absence is not a very large amount. Most of the cases go to hospital—typhus cases particularly. With respect to that compulsory absence, I think it is important that if a case of scarlatina occurs in a house, even though it may be disinfected, and the person removed to hospital, a person who has been about

that scarlatina case should not return to duty until about eight or nine days have elapsed lest any other cases might break out in the house or the person himself might have contracted it. The rule now, which is a modification of the old rule, is that as soon as a case is removed to hospital, the sanitary authority of the city furnishes a certificate that the house and the clothing have been disinfected. If it occurs to-day the patient is removed to hospital this evening, the house is disinfected to-morrow, and anyone who may have been sleeping in the same room having had his clothes disinfected is allowed to return at once. In measles it is not required—they are not required in the case of measles

1580. Right Hon. Alderman MEADE.—They are not included at all?—They are not included at all, but it was under recent consideration.

1581. Dr. T. THOMSON.—Have you made a comparison between the proportion of sickness among the Post Office staff in Dublin with that of other places besides Glasgow and Greenock?—Yes.

1583. How does it work out with regard to other places?—I could leave this if you like (producing a document).

1584. Give us the information with regard to other districts; we cannot say whether Glasgow may not be the most favourable town in the United Kingdom. You may be comparing with the best?—There is Peterhead, Rothsay, Stirling, or one of the big English centres, such as Birmingham or Manchester.

1585. Right Hon. Alderman MEADE.—Take Leeds, then?—Take Leeds, then.

1586. Or Sheffield?—Leeds is bad, though not as bad as Dublin—19·4 of the whole staff; that is out of every hundred men. 19·4 days the average absence. From sick absence 19·4, that is the number of days that they remained absent, and the women 24. They are always a little longer getting well. The average for every officer employed, 11·5 men and 15·1 of women that year.

1587. As against 12 and 14?—That was Dublin, 21 and 32 as against 19 and 24, and 15·2 as against 11·5, 29·6 as against 15·4, so that Leeds is much better.

1588. Has the inspection been equal?—No doubt it has been; I think it has probably been. There is something about the head office in London; perhaps you would care to see something of it.

1589. Yes?—The head office is cut into the Comptroller's department and the Stores department, &c. It is divided.

1590. Dr. T. THOMSON.—That would not be so good?—No; that would not give a good criterion.

1592. Glasgow seems better off than some other districts in Great Britain?—There is very little doubt the regulations have something to say to it. Our former Comptroller, Mr. Anderson, told me that he thought that as soon as a man got into bad health in Glasgow they told him he might go about his business, and dismissed him.

1593. Right Hon. Alderman MEADE.—That is the reason I asked you is the inspection equal. You may be more merciful than the Inspector in Glasgow?—I don't think so. I think the most merciful thing with a postman, if he is in bad health, is to put him on pension. He cannot get up and go out at half-past four and five o'clock in the morning without accelerating his death.

1593A. That is what I say—that you may not order them back to work as quickly as they do in Glasgow; you may give them more time to recover?—My duration of sickness is a little longer. I don't think it is owing to that fact. I don't think they recover as quickly in Dublin. That may be the climate.

1594. Dr. T. THOMSON.—Is it possible that the amount of influenza, which has been so great in Dublin in recent years, may account to some extent for the unusual extent of sickness among the Post Office staff?—It does account for it.

1595. As far as I gather, you take the view that Dublin suffers proportionally more from influenza than most towns?—It suffers very largely from it. I doubt very much that it suffers more than Belfast. This large record of influenza that I have on the return this year, or rather last year, is partly due to the fact that I have been recognising cases, as cases of enteric influenza, which were formerly put down among the exteric disturbances, and now I have no doubt what they are, and that has probably raised the number to a greater number than it would otherwise have risen to by the actual increase in the number of cases of influenza.

1596. There is a question I want to ask you as to the disposal of Dublin refuse. You are aware, Dr. Fitzgibbon, that the difficulty as regards the disposal of town refuse is far from being special to Dublin?—I know that. I think the difficulty of disposing of it would be got rid of by discriminate scavenging. You would have no difficulty in disposing of kitchen offal which goes into the Corporation boxes as feeding stuff for pigs. You would have no difficulty in disposing of stable refuse for fertilising purposes. I think that you would have no difficulty in disposing of cinders if they were separated from vegetable matters. As to tin cans, which are so numerous, I suppose tin is of some value, and if all these things were put aside and smelted, they could turn them into corrugated iron or something of the sort.

1596A.—A great many towns and districts have made efforts in the direction you have indicated, and with unsatisfactory results. It is a very difficult matter indeed. Your proposal is no new proposal?—I have no doubt it would be very difficult, but it is worth trying, I think.

1597. Dr. J. W. MOORE.—Are you aware that Professor Percy Frankland wrote an official report on the Vartry water four years ago, and here is his opinion—"As to the Vartry water shed I am of opinion that it is a magnificent gathering ground." Then, as to the reservoir, he said its great area afforded abundant opportunities for the purification of the water, and with regard to filtration he said, "The works designed for the purpose of filtration appear to be admirably adapted for their task." Then, as to the general collection, he says, "I am of opinion that the Vartry water complies with the most stringent demands of modern sanitary science." That is Professor Frankland's opinion. I think a good many of the appearances met with in it are due to local disturbance. I have noticed them myself?—I know you did. At the time an analysis was made, and submitted to you. There are the official reports of the medical officer-in-chief. I can get them.

1598. CHAIRMAN.—(To Sir Charles Cameron.)—Sir Charles Cameron, whether I understood you rightly or wrongly, I understood you to say that there was power to prevent the turning of a house into a tenement house until it was approved of by your department?

1599. *Sir Charles Cameron.*—Under our bye-laws.

1600.—CHAIRMAN.—Will you refer me to the bye-laws?

1601. *Sir Charles Cameron.*—I sent a copy of them. They are under the Public Health Act, and we have a right to register tenement houses.

1602. CHAIRMAN.—Under your Act of 1890?

1603. *Sir Charles Cameron.*—Yes.

1603A. CHAIRMAN.—I am aware of that.

1604. *Sir Charles Cameron.*—We have ascertained now the owners of tenement houses in Dublin. There was an enormous number, and it was a very difficult thing to ascertain, but we have gone so far

as to have a complete register of the houses, and to get bye-laws dealing with registration amongst other things.

1605. CHAIRMAN.—Is the registration carried out by the bye-laws enforced?

1606. Sir Charles *Cameron*.—These bye-laws have been adopted by the Public Health Committee and they only await the sanction of the Local Government Board.

1607. Right Hon. Alderman MEADE.—They are not authorised yet.

1608. Sir Charles *Cameron*.—No, but they show what we have been doing Preliminary to that it was necessary to ascertain the existing tenement house owners, so that in the event of old houses being converted into tenement houses we could at once ascertain it by referring to the record of tenement houses existing before.

1609. CHAIRMAN.—You have not stopped the conversion of them until the arrangement is approved of?

1610. Sir Charles *Cameron*.—We have no power to do so. We have warned the people that unless they did such and such a thing, what would not be be done, but that has only been done in very few cases. I merely produce those to show what we are on the eve of doing under these bye-laws.

Dr. JOSEPH O'CARROLL called and examined.

I have come in obedience to an invitation from your Secretary. I had up to that no intention of appearing before your Committee.

1611. Dr. J. W. MOORE.—You are Physician to the House of Industry Hospitals?—Yes.

1612. Including the Hardwicke Fever Hospital?—Yes.

1612A. And you are Consulting Physician, and you have been formerly Visiting Physician to the National Hospital for Consumption, in Newcastle, county Wicklow?—Yes.

1613. What are the chief causes of the Dublin death rate, which are amenable to sanitary control?—Tuberculosis and the group of fevers—the acute infective fevers—commonly called zymotic diseases. I am inclined to consider tuberculosis the greatest of all zymotic diseases. It is playing with the word "zymotic" to boast of the diminution of zymotic diseases while tuberculosis is on the increase.

1614. Its position with regard to the group of zymotic diseases is one to which the attention of the sanitary authorities has been less directed?—Yes.

1615. Tuberculosis?—Yes. Tell us something about tuberculosis as regards its spread?—I think there is no doubt it is just as infective as the other fevers, as any of those others which are much shorter in their course. It is vastly more damaging to the health of the community because of its longer duration, and takes off a larger number. In the report of the late regretted Registrar-General, for 1896, which I happened to have examined, I find that the average yearly mortality in Ireland from zymotic diseases for the decade 1886–95 was 7,997, or practically 8,000, while the average mortality from the commoner tubercular diseases was 11,916, or practically 12,000. That is to say that the tuberculosis mortality in Ireland is once and a half that due to the so-called zymotic diseases, and the disproportion is vastly greater in Dublin.

1616. Have you quoted the figures for Dublin?—I have. I have your figures. In England and Wales the total number of deaths—the ratio of deaths from tuberculosis to all other deaths was 12·7 per cent., in Scotland 13·8, in Ireland 14·9, and in the two Dublin Unions 18 per cent., and it would be vastly greater within the city itself.

1617. Tubercular diseases are in your opinion an ordinary cause of the high death rate in and about Dublin?—I think a primary cause, and I don't think the ordinary statistics of tuberculosis as given in the register at all represent the full mortality, for instance, you have a group of diseases entitled diseases of the bone. We all know that the larger number of deaths from bone disease are due to tubercular bone disease. Similarly we have under the head of diseases of the nervous system a vast number of deaths in Ireland. We know that the group of nervous diseases is a rather small one in Ireland—we are not as prone to the ordinary nervous diseases as more highly wrought communities. The number of deaths registered under the head of nervous diseases or diseases of the nervous system is exceptionally high in Ireland as a result of the immense amount of tubercular meningitis which occurs in this country, and in the cities especially. Again an immense number of cases which are really tubercular consumption are registered as influenza, or bronchitis, or pneumonia.

1618. From your experience in the Hardwicke Fever Hospital, and your experience practically in Dublin, have you come to a conclusion as to the means by which tuberculosis is spread through the population?—It is spread very largely by the tenement system. It is spread, I think, especially, and I know of its being spread, by infected tenements. I know of cases where healthy people, mother and father and children, have had occasion to come to Dublin; they go into a house, or tenement, where there is a continuous history of people dying of consumption, and hardly one will be left in five years—some of the children die off like flies in a few years.

1619. This has come under your observation?—Yes; I have habitually asked for the family history of those who came under my care in the Whitworth and Hardwicke Hospitals, and I find that that is given as a matter of history—namely, that the fathers and mothers of these families in town have come up within the past ten or twelve years, that the children seemed healthy like other children, and that nearly all died off, and that out of seven only one, perhaps, remains. I ask about their collaterals in the country, and find that their brother in the country has, perhaps, eight or ten children, and that they are all alive. That is the common history in Dublin.

1620. Do you think that tuberculosis is spread owing to the absence of hospital accommodation?—I do, sir; of course that follows from tenement crowding plus tenement infection. If you have actually tuberculous persons in a stage in which they are confined to the house, and absolutely unable or unwilling to go out, requiring to be nursed, spitting on floors and handkerchiefs, and so forth, I should say that they are a fruitful source of infection to the rest of the family. Several times I have seen cases such as this—the daughter who has nursed her mother with consumption coming in two months afterwards with disseminated tuberculosis, and dying. I have seen that over and over again—that history being carried out.

1621. Has milk played a part in the production of tuberculosis?—I am perfectly satisfied that milk supplies a most important agent in the dissemination of tuberculosis—especially with children who suffer from abdominal tuberculosis frequently—the child which has been healthy at the mother's breast becomes diseased as soon as it is put on Dublin milk.

1622. Have you suggestions to offer in the way of a remedy?—I suggest the recognition of tuberculosis by the Sanitary Authority and the public as the most deadly of these infectious diseases; that is, deadly by reason of its total mortality, and the amount of illness and incapacity it entails. I would suggest that there ought to be some definite instruction given in the schools on the elements of knowledge about infectious diseases; so that, for instance, a child would not put its neighbour's pen into its mouth or use its neighbour's handkerchief

—certain elementary ideas of cleanliness which the children might carry home to their families, and transmit and carry on as they grew older.

1623. With regard to the spitting?—They ought to be taught that spitting is a most dangerous habit, that spitting in rooms—dried tuberculous expectoration—is a horrible source of danger. They ought to be taught this.

1624. You would strive for the gradual abolition of the tenement system?—I should, sir. That is a very difficult matter—much easier for me to theorise upon than for anyone to carry out.

1625. Well, pending the arrival of that consummation?—There ought to be very effective sanitary supervision. Some of the tenement rooms are abominable rooms for the people to dwell in, and it is no wonder people who are in them drink. I see that Mr. Harty told a story of sausages being made in a tenement room. I have seen oranges and apples lying under the beds waiting for to-morrow's sale—lying under the beds of tuberculous patients, and to be sold in the streets next day.

1626. Is it not the case that a good deal of the tailoring of Dublin is done in the tenement houses? I think so; but I am not sure of the fact.

1627. Would you propose the disinfecting of dwellings which had been inhabited by tuberculous patients?—I think there is quite as urgent need for this disinfection as after most of the zymotic diseases.

1628. Would you wait for the death to occur without disinfecting?—I think it would be well to have it done more or less frequently. It would be a great source of expense, but it would save the expense in the education of the inhabitants of the rooms, and in the lessening doses of infectious organisms which they would get from time to time. Infection is largely a matter of dose, the other element being receptivity.

1629. Are you in favour of the notification of tuberculosis?—I am, decidedly.

1630. Is it practicable?—I don't see why it should not be.

1631. Would you suggest that tenements should be disinfected after each occupancy?—I think that should be obligatory, even apart from the question of cases of consumption being known to be there before, because consumption is so frequent, and as in an average family of seven, one is so likely to be more or less phthisical, there ought to be disinfection after every change of occupancy.

1632. Does the danger from milk extend to butter?—I think it does, but to a very small extent. The tubercular bacillus is a heavy bacillus, and falls to the bottom, probably before the cream is taken off for churning purposes, but it has been found in butter. Skim milk however, is all the more dangerous because the bacillus is left behind after churning.

1633. Have you any suggestions with regard to the danger from butter or milk?—I should insist on the greatest possible cleanliness in the handling of milk, from the moment of milking till it reaches the vendor, and indeed afterwards. Milk should be sterlized by the vendor; and, as in Denmark, I believe, sterlization should precede churning.

1634. That is done in Dublin already to a certain extent?—I don't know, but I should make it obligatory. I have attended cases of tuberculosis in dairies where several members of the family were tubercular.

1635. You would suggest a provision for consumption hospitals, I assume from what you have mentioned as to the causes?—Yes, sir. I think that consumption hospitals are needed of two kinds—the one philanthropic, to cure early cases, but the other selfish, for late cases, to prevent the spread of the disease in the community.

1636. Is there any provision for those two classes of cases at present?—The only provision for early cases that I know of in our neighbourhood is Newcastle Hospital, where they can take in only twenty-four cases altogether now.

1637. Although the deaths in Ireland count thousands a year?—At least 12,000 from phthisis alone.

1638. Right Hon. Alderman Meade.—That is Newcastle, County Wicklow?—Yes. The other cases find their way into the hospitals and the unions, and those who are turned out of the hospitals and won't go to the unions find their way home again to infect their neighbours. I should like them put into a hospice or asylum for late tuberculous cases.

1639. Dr. J. W. Moore.—I am anxious to elicit information as to the treatment of consumption or tuberculous illness in the wards of the general hospitals; is it quite safe?—I do not think it is advisable at all. I think it is advisable now and again to take them in for teaching purposes at the non-infective stage, but we have all arrived at an agreement that the moment a case is at the infective stage, with expectoration and destruction of lung, we try to get rid of them for the sake of protecting the other patients.

1640. Is it good for consumptives themselves to be treated in the general wards?—No, though often enough chronic consumptive cases come in with mere acute catarrh, which impresses them still more urgently with being ill, and they are better in a week or so.

1641. Acute infective fevers, so-called zymotic diseases, they do not play as important a part as tuberculosis in the death rate?—I do not believe they do.

1642. Illustrate your opinion?—Small-pox comes to Dublin very seldom.

1643. Under what circumstances?—It comes almost always imported by some sailor or some one who comes from foreign parts, and very probably the neighbourhood in which he takes lodging has an unprotected or ill-protected population of labourers who have come up from the country during the years since the previous epidemic, and it spreads amongst them and from them to the people who have been vaccinated and in whom the vaccination protection has substantially lessened. In the epidemic of 1894 and 1895 in which I saw at least one-third of the cases, the total small-pox mortality in Dublin was 178.

1644. The total deaths?—Yes, from small-pox in the epidemic which created great excitement in reference to an isolation hospital which would have entailed an expenditure probably, if I judge by Edinburgh, which is a smaller city, of a quarter of a million of money, and no doubt an annual subvention of £20,000 or £30,000 at least.

1645. Does Dublin run a risk from a local outbreak of small-pox in an English town?—A very small risk indeed; but I should be sorry to be taken as not approving of a small-pox emergency building—I think that would be a desirable thing.

1645A. For instance, an outbreak recently at Hull was a danger?—I don't think we suffered anything from it.

1646. How about typhus?—It is rare in Dublin now as compared with what it used to be when I was a student. I think, however, the conditions are always here for an outbreak. We see from ten to twenty cases a year in the Hardwicke hospital.

1647. What in your opinion are the most fatal epidemics in Dublin?—I think, without looking at statistics they are measles, scarlatina, enteric fever and influenza, and there is from time to time in various summers, especially, a great deal of mortality from diarrhœa in children.

1648. On the subject of milk, you assign it as one of the causes to which this epidemic is due?—Yes, I regard milk as a very potent source of enteric fever, and it is a subject, too, upon which I think people ought to be instructed. I need scarcely say we all know of an outbreak recently at Castleknock in which this occured, and which was responsible for a large number of deaths. Every physician to a fever hospital knows that infected milk is responsible for many of the typhoid cases he treats. Cases of tuberculosis, both chronic and

acute, are attributable to this cause of infected milk, combined with overcrowded infected tenements, and insufficient accommodation for late cases.

1649. You would be in favour of more accommodation for convalescent patients?—Yes, I think we ought to have convalescent hospitals for fever cases where, for instance, scarlatina patients could remain for six or seven weeks after they were able to walk about. If such patients were provided with such homes in healthy country air we could use the present fever hospitals for the treatment of a larger number of acute cases. The same thing holds good for measles and small-pox.

1650. Then you give it as your opinion that, as a preventive measure for the high death rate, there should be convalescent homes for infectious cases?—Yes, and for the treatment of advanced tubercular cases. I am also of opinion that there should be very stringent regulations with regard to the milk supply.

1651. Dr. T. Thomson.—Am I to understand it is your view that the greater part of the enteric fever in Dublin is due to the milk supplied?—I could not say the greater part, because I cannot prove it, but now and again we are able to trace an outbreak of enteric fever to this cause, and there must be very many that are not traced. Recently there has been an outcry in the newspapers about the case of a dairy at Castleknock, the typhoid-infected milk from which was coming into the city—an unregistered and unlicensed dairy—and I understand that the Local Government Board has dismissed an official who allowed this milk to pass in to the district under their control; but it also passed freely into the city and set up several cases.

1652. You have no statistics on the subject?—I have not.

1653. We have had statistics from Sir Charles Cameron as to the causes of enteric fever, and amongst them he included milk as a cause—are you prepared to go a great deal further than Sir Charles Cameron; prepared to describe milk as the main cause?—I would say it is the chief, or at least one of two or three main causes. I believe that an honest and stringent inspection of milk supplies and of dairy hands and dairy yards would materially diminish the death rate in Dublin.

1654-5. Chairman.—Thank you, Dr. O'Carroll.

I understand there are two ladies here who are desirous of giving evidence, and I will now ask Mrs. Hartley to give evidence.

Mrs. Hartley, 36, Waterloo-road, was then examined.

1656. Chairman.—I understand you wish to give evidence before this Committee of Inquiry, which is sitting to inquire into the causes of the high death rate and the remedies that will improve it?—Yes. There are many causes of the high death rate in Dublin, but I don't think it is possible to exaggerate the importance of the matters of the food and the training of the people. When people are in a low state of health caused by bad food and coarse food they are much more liable to contract zymotic diseases, or die before their time from general decay. But I wish to point out some matters that went before. It is not enough to speak of the bad food to-day; we must go back to the fathers and mothers of the people of the present day, and indeed beyond that. I had got ready a paper on this subject, but I have not got it all typed, so that I must ask you to excuse me if there are some seeming repetitions, as I must speak from memory. The food of the Irish of all classes has changed, and I propose to give as a leading authority the writings of one whose name I remember being quoted when I was a child, as a friend and helper of the poor of Dublin. Swift noted the change of food so long ago as 1773—163 years back. He complained of the graziers ousting the little farmers. It was due to the ignorance of the farmers, who cropped and re-cropped the land with corn, never giving it a rest or a change, until it became impossible to extract either rent or living out of it. Then the landlords were approached by the graziers, who paid the tempting "lump sum down" for possession, consolidating whole districts into grazing lands, and the so called farmers were driven out—rather quietly withdrew—to swell the wandering tribes of beggars, whose posterity has been the puzzle and trouble of the legislation ever since. Swift notes with alarm the increase of the cheaper grown and earlier produced potato crop. There is no doubt that until well into the eighteenth century the Irish were meat and corn fed. They had wheat coarsely ground (not like modern flour, deprived of everyone of its nutritious constituents), meslin (wheat and rye together), and later on, pease and barley bread. The potato and milk make together a very good food, but it is clear that Swift viewed the change with no kindly eyes. It is a curious fact that he complained not of the prevalence, but of the increase of lunacy; and this seems to have been a subject of general remark at the period—say 160 to 170 years back—much as it is now. Swift deplores the use of tea, which, possibly because it disagreed with him, he describes as a poisonous, Indian drug. It was a luxury exclusively confined to the rich in those days. Still it is very interesting to know that opinion as far back as nearly 200 years was so very closely on all fours with our own. The ruin of the farmers was proved to be due then, as now, to their ignorance and incompetence. The consolidation of the land by graziers entailed beggary, the change and deterioration of food, and consequent on all this, evils uncountable, arrested development, famine, &c. That Swift, whom long residence in England had habituated to a higher standard of living, wrote with knowledge and foresight, reaching the level of statesmanship, is uncontestable. The next writer after Young (whom I do not quote)—a man who had also acquired a higher or foreign standard—was the Rev. James Whitelaw, whose essay on the population of Dublin, published some sixty years later, was partly incorporated by Wakefield, into his famous account of Ireland in 1812. Like Swift's works, this was largely used by the Commission appointed by William IV. to inquire into the condition of the poor in Ireland. I do not propose to give any quotations; suffice it to say, that just as Whitelaw echoes Swift, and after Swift, Arthur Young (also a foreign-trained observer), so most strikingly and faithfully does the *Lancet* Commissioner, who described Dublin one month ago, re-echo almost word for word the awful picture of human misery and degradation drawn by Whitelaw. The overcrowding, the joint tenancies, the absence of beds and bedding, of sanitary conveniences, the streets of ruined houses, the habit of throwing refuse, &c., out of windows into the back yards, out of which it was so seldom removed, that he had seen it piled level with the first floor windows; the halls, in which he was knee-deep in filth, the slaughter yards, dairy yards—one hundred and two years have elapsed since this picture of Dublin was presented to the English-reading world, and can we, dare we, say that it is not true to the present day! That human nature has survived it says wonders for human nature. Cleansing and scavenging seem to have been at that time the duty of the landlord. The municipal authorities perform it now at a cost which might, I think, be considerably lessened if the habits of the people had been at all changed in the interval; but it is a matter worthy of consideration that two such similar accounts as Whitelaw's and that of the *Lancet* Commissioner could be written and admitted to be true, taking into account that they are divided by an interval of a century. Everything is relative in this world, our critic has judged us by a standard which we must acknowledge to be worth adopting, and take measures

to attain. The death rate is the modern test of civilisation, and the death rate condemns us. It is the habit in Dublin to maintain that the poor are not capable of improvement. We are told they don't care to be different; that it would be quite useless to give them any conveniences such as are held necessary for the analogous class of the community elsewhere—in fact in every other country in the world. They are roundly and bitterly abused for dirtiness and for offensive habits, but the fact is forgotten or conveniently ignored that no provision whatever exists in their wretched dwellings for cleanliness or comfort; the fire-places are the antique patterns, wasteful and cumbrous, which were left behind by the original inhabitants of these houses when they migrated to more fashionable quarters. I cannot help thinking that these migrations were determined by the appearance of typhus among their poorer neighbours quite as much as by fashion. To return to the food question, valuable information is contained in the reports of the Poor Law Commissioners, 1835. This included an inquiry into the state of the Irish in English and Scotch towns, and testimony abundant is given as to their wild ways and rough food. But the point is, these are not new, for the Irish have been going over to England since the beginning of the fifteenth century. Such a number rushed in after 1798 that complaints were made that they were barbarising the native English. Hence the inquiry. The converse was proved to be the case. Some 30,000 or 50,000 (accounts differ) were in Manchester alone. The children of these wild people are noticed to improve steadily and rapidly; their descendants are undistinguishable; some witnesses said the first generation of Irish brought up in schools with English children became the same in dress, habits, &c. From other towns the same accounts were given. Why should they, how do they, develop in the natural order *out of their own country?* What is there wrong here that our poor have not changed, that their development is arrested, that they have learned nothing in the century and three-quarters since Swift spoke his mind about them, abused and pitied them; held them up to ridicule and befriended them as no one else did since? The reports of the Poor Law Commissioners referred to above deal with the increase of lunacy, to which Swift had referred. So do we refer to it now. We blame tea chiefly. There was no tea possible to the poor people before the duties were reduced in 1850; tea was a luxury up to that date. As a matter of fact, tea was not used as a food until thirty-five or forty years ago. Lunacy was rife then, and tea could not be blamed. It is a *poison*, and it is now used as a *food*. Tea and bread, it is well known, form almost the sole food of the poorest of our Dublin people. What is this bread so-called? A Dublin gentleman interested in this matter got an analysis made of six loaves, each made by a different baker. The result was, hardly a trace of nutritious matter was found. The baker is not to blame; wholemeal is not made, or can be bought only with difficulty. All over Ireland it is the same story. The baker's cart has superseded the flour cake. Stirabout is a thing of the past. American bacon is suspected of furnishing a fat which is of doubtful value compared with that of the potato and buttermilk-fed pig of old days. We don't know, and never can know, what the mortality rate of Whitelaw's day was. Typhus was plentiful; possibly consumption has taken its place. The population in 1801 was under 4,000,000; under the potato *régime* it rose to 9,000,000. The poor are slow-poisoned rather than fed. Their houses are without any provision for cooking. The old grates and fire-places are not suited; they don't favour effort in this direction, and as for washing their clothes, that is scarcely possible. We are told that the water supply of Dublin is ample—is inexhaustible. Why, then, not give public free washhouses or even water troughs? The very poor people in Italy wash their clothes in cold water, without soap or lye, and they are wholesomely clean. Their methods of cooking express a very high level of civilisation. A soup made of beans, water, and oil, with some bread—not fermented rubbish—is food: a food that makes bone and brain and muscle. I assure you there is a vast deal more wrong here than dirt or overcrowding. Now, reverting to the Poor Law Commission of 1835, among the witnesses whose evidence appears in the report, was Dr. Scott, Catholic Bishop of Glasgow. I think it well to quote his words as bringing out my theory that education is the remedy. He deposed—"Everything connected with the state of the Irish in Great Britain shows that their mode of life is very slowly and very slightly improved, unless some civilising influence descends upon them from above. Some external moving, fixed independent of their own volition and of the masters, employers, superintendents, education and municipal regulations. Wherever they are untouched by any influence of this kind they appear for the most part to remain the same, or to deteriorate whatever may be the amount of their earnings." I adduce this testimony on purpose to show that the Irish are susceptible to education, because the contrary is openly alleged here. It was proposed, some five years back, when the grant of money set free by the remission of Probate and Excise duties became available, to establish schools of cookery, laundry, and sewing in Dublin. The request was laid before the then Lord Lieutenant, and refused on the grounds "that the persons whose advice the Lord Lieutenant was bound to take assured him that the money would be wasted, as the Irish cared for none of these things." That money was given to Ireland for technical education; of which the above subjects are certainly part. The grant was actually ear-marked by the Treasury for technical education. It has been turned aside from its legitimate purpose. It is an error to suppose that poverty has much to do with the rates of mortality. I have been in a room in Dublin where 39*s.* a week was pretty steadily coming in. There was no bed—a heap of sacks and rags in a corner, no furniture, a broken box by the fireside, one damaged chair. The people slept in their clothes like the rest. They never washed them—never took them off. The only fire-place was a grate of the oldest fashion, too large, without hobs, the bars broken, wasteful to a degree. I was shown a fire which was made of 4*d.* worth of cinders picked out of the waste heaps. When we speak of lunacy now we mean violent cases of mania, needing confinement; but what about the crowds of people outside; the women, of whom thousands may be seen in the streets – young, often good-looking, but whose utter recklessness of appearance, want of self-respect, sense of decency even, is proof positive of being below the normal standard. I shall be accused of exaggeration, but what I say is true. A foreign doctor, a Belgian—a great expert, I believe—said that of the people he saw in the streets of Dublin—90 per cent, were deficient. Last spring a German savant was here, and explored this quarter of the town. He was utterly horrified at what he saw—rags, disorder, and foulness, which in his country would be instantly dealt with by the police, and which evidenced to him mental degeneracy. Not long ago I was in a room, and I spoke to the eldest daughter—a girl whom I knew to be trained to laundry work—and asked her to wash some very dirty counterpanes. She had nothing to wash them in; no tub, nor could a neighbour lend a tub. To please me they sent a quilt to a public laundry, and paid 6*d.* for it. I don't know how these poor people can be blamed for their condition. But if Manchester and Glasgow can train the children of Irish immigrants to-day, as they did seventy years ago—as was found in the Report of the Poor Law Commission of 1835—why not Dublin and Ireland? Are we to manufacture savages for ever? I say they are worse than they used to be, and I maintain that the death-rate is simply increasing on all

fours, with the degeneracy which is now well marked. Not long ago a lady said to me that the factor which, alas! is so common and so complained of—and which one encounters in Church every Sunday, or wherever a crowd is assembled—"was the natural smell of the low Irish." —This proves that a raising of the standard all round is called for. A few days ago a hawker woman whom I have known for 38 years came into the tramcar carrying her basket, she was ordered out by the passengers, and the conductor put her off the car, although she said she had been in the market from 6 o'clock that morning, and that she had a sore leg. The conductor said he could not help her, as he dared not risk a complaint being made to the head office. Now, I don't see why the poor woman should not have been allowed to ride in the tramcar. The people who would object to such would do nothing to help in getting the poor people means to wash their clothes. It is said that these poor people would not use washhouses and kitchen ranges if they got them—but I think the instance I have related, where the poor woman paid 6*d.* to a laundry to get a quilt washed dispels that statement. As I said before, poverty is not the only cause of this state of things. Why I know a family, three grown men of which, artisans, inhabiting two rooms, bring in about £4 a week, and what is the condition of the place and themselves. People in Scotland and England would give their sons professions out of that sum of weekly earnings. From my experience and knowledge of these matters anything that has been done for the poor—I except, of course, the Guinness family, merchant princes who are princes indeed—has been done by the Corporation so far. They have put up houses which are recognised as the best known anywhere in Great Britain. The Corporation has received but little assistance or sympathy from the educated classes here. It is but a poor education that enjoins no sense of public duty or responsibilities. In London there have been for many years university settlements among the poor. In Edinburgh a distinguished man of science lives in the poorest tenement house, and befriends his neighbours. There is no sympathy between class and class here, little or no visiting—I refer you to the dispensary doctors for the truth of that. The poor are spoken of and to in a manner now out of date; but here again want of education comes in. The other day a lady was urged to put a water supply up through her tenement house, to save the women carrying it up. Her answer was—"It is no hardship to them. They are used to it.." Again, the claim of a poor tenant to have a new grate put in place of one which was broken all to bits and almost useless, was urged on another lady landlord, who replied, "It is quite good enough for this class of person." And these are the people who are loudest in their blame of the Corporation. It is a case all round of Darwin's law of degeneracy of islands. One hundred and fifty years ago we reached the stage of arrest of development, and it has been downhill ever since. But we have reached a very bad state indeed. The *Lancet* expert held the same opinion that I do. Government must interfere, the English Government, not the Castle, which is the really responsible party. Mischief has been done here by ignorant persons placed in authority, and that mischief must be repaired. The people lead a poisoned life. Conditions depressing to body and mind surround them. Their vitality is low. They look melancholy, and they are so. They are short-lived; they age early. Few of those born in Dublin ever pass fifty. Nor is the reason far to seek. The deterioration of the food standard by degrees from meat and corn to starch and tea, two semi-poisons, entailed that of the race, and must not be left out of sight on estimating the causes of the death rate. The number of patients which the slums of Dublin furnish to the Richmond Asylum is phenomenal, or rather would be so were it not that modern science has discovered that among the most potent factors of certain forms of lunacy is blood poisoning, caused by foul air, acting on a lowered state of the constitution, insufficient nourishment, alcoholic poisoning—in short, defiance of all natural laws. Good air, good food, education are foremost among the prophylactics. As I have said, the Corporation have done something towards improving the state of affairs here; but nothing compared with what Glasgow has done, which city now leads the van in the way of improving the dwellings of the poor. If our people can improve out of Ireland, they ought to improve in it; and it is a terrible reflection that Dublin is now pretty much in the same state that it was a hundred years ago. There is no disputing that the English Commissioner for the *Lancet* showed the things as they appeared to his standard, which is much higher than ours. The experience of Bishop Scott has been my experience too. The people are amiable and teachable, but the standard of the teachers is too bad. I don't think I have anything more to say on that subject; but I would like to make a remark about the difference of standard between the English Inspectors of the Local Government Board and their Irish analogies here. A short time ago I was asked by a guardian to look over the laundry at the North Dublin Union and to write a report on it to him. I inquired as to the water supply, and found that in addition to the Vartry water they had also the Royal Canal water—a double supply—I said it was dangerous to have the two supplies. Not long after, I was written to and told that typhoid had broken out in the nursery. I remembered the water, and I wrote to the Local Government Board, and gave the Master's, Mr. Dooley's, statement. The Local Government Board sent up two inspectors, who denied the truth of my statement but nevertheless I was told that one of the inspectors went up to the union and cut off the Canal water directly afterwards. We want a higher standard, a higher grade of inspectors in Ireland. I believe the inspectors under the English Local Government Board must be men who have a university degree, and be particularly competent to discharge the duties of their position, the responsibilities of which are tremendous. Here the Local Government Board do not get first-class men. I think it is a bad thing not to insist on a higher standard for inspectors. The Irish Government appoints—other considerations take precedence. During the past hundred years there has been no improvement in the condition of the people, and I wonder if, one hundred years hence, another Commission be sitting here, will it find the same state of things.

Mrs TOLERTON, Secretary of the Philanthropic Reform Association, examined.

1657. CHAIRMAN.—I understand you are desirous to give some information to the Committee?—Yes; and I would like to say at the outset that when I speak for myself individually I will mention that fact, otherwise my evidence generally will be given on behalf of the Association which I represent. In August, 1898, when the Congress of the Royal Institute of Public Health was held in Dublin, I read a paper before that Congress on the "Dublin Tenement Houses," and later still Mr. Charles Eason, Hon. Secretary of the Philanthropic Reform Association, read a paper before the Statistical and Social Inquiry Society of Ireland on the "Tenement Houses of Dublin: their Condition and Regulation," and it is because of this fact I appear here as a witness. Hitherto every statement I made as to the condition of the people was construed into an attack on the Corporation, and I would like it to be distinctly understood that I am simply here to state that things are so, and not to lay blame on any particular body, except in one or two instances, which I shall give. While I state how they are I am not ready to be catechised as to how they should be set right, as my mind is very hazy on the point. That is not to be wondered at, as I am told by the Public Health Authority that their powers are limited, and by another authority that the Czar of Russia has no more autocratic powers than the Medical Officer of Health. The evidence I wish to give will be derived from the experience of between 25 to 30 hours a week, which I spent in visiting the tenement houses during three and a-half years, and for the past two years in connection with the Police-aided Children's Clothing Society. Reports from various sources have been made to me with regard to the children that needed clothing, and these returns contained particulars as to the number of families, the accommodation of the houses, the water supply, and the sanitary condition; and it is owing to these facts that the Society decided to send me forward as a witness. The reports of the Police-aided Children's Clothing Society were written by four secretaries of four different divisions, and in giving the information about the sanitary condition each of the secretaries called attention to the very distressing circumstances in which the tenement houses were. Before giving this evidence I wish to say that my evidence is not relative. I would rather not be asked whether we are blacker than in English or Scotch towns. I have only to do with the positive blackness of Dublin and not its comparative blackness; nor am I prepared to say how far the conditions here are chargeable with the high death rate. I will simply lay my evidence before you, and you will decide whether it is relevant or not. We (the Society) think that the tenement house system is not a good one. Tenement houses may be divided into three classes. The first class is that of the houses which are fairly fit, and not bad on the whole; the second is that of the houses which could be made fit by the expenditure of some money; and the third class is that of houses which are quite unfit for occupation. These three classes are all mixed up together in the different streets; so that I think, for the purposes of registration, three different registers should be kept, and it is very important that the names of the landlords should be given. Quite recently the name of a landlord was suppressed in the newspaper report of a prosecution, which, I think lessens very much the value of public information. In reading the evidence given before this Committee, I noticed that someone—I don't know who it was—stated that there were no houses existing without yards. I am sure the person who gave that evidence thought so, but it is absolutely incorrect. There are a number of houses without yards, and I think these houses should be gradually blotted out of existence. You cannot do it at once. A house that has no yard space is hardly a place for people to live. I also noticed it was stated that there were no cellar dwellings. There are cellar dwellings, but I am not prepared to say, on behalf of the Association, that there should be none, for good boarded dwellings of the kind are better than rooms with bad, flagged floors. I think there has been a steady deterioration in houses going on, and there is a dereliction of duty somewhere when this exists. When a whole street of houses is condemned entirely there is a terrible outburst—all Dublin rises against "the wholesale eviction." We think that this deterioration should not be allowed to take place; and if houses have got into this state it is owing both to the fault of the landlord and to misuse by the tenant. There are various things which make a house unsanitary—roof bad, yard unpaved, bad sanitary accommodation, and defective water supply. If the landlord fails to do what is right in providing a proper water supply, we cannot reproach a woman for keeping her room filthy, when, after a hard day's work, she would have to carry the water from one tap in the yard up five flights of stairs, and then carry the slops down in the water-bucket to the yard again. I am told that full statistics can be given about the prosecution of landlords. That may or may not be; but I have always found there is nothing more fallacious than statistics, and I have often thought that statistics ought to be put on book-shelves and labelled "fiction"—not because the figures are untrue, but because the inference from them is not true. I believe there is a want of uniformity in the prosecution of landlords. I have watched these prosecutions, and I cannot help saying that a number of landlords were prosecuted or threatened with prosecution—had notices served upon them for comparatively trifling things—things that, to my mind, were not nuisances in themselves—while a number of other houses had evidently not had prosecutions instituted in respect of them, though in them the nuisances were very much in evidence. I was told that some landlords were inaccessible or hard to get at, and that prosecutions could not be had as the Sanitary Authority was not able to get at the guilty person. In this matter I would suggest that the Corporation should apply for power to enable magistrates to appoint a receiver of rents, in order to use the rent of a house in making it sanitary; and as I have been told that the Collector-General has power to impound the rent in case of rates default, the giving of the power I speak of to magistrates would be simply employing the same power in the case of houses with defective sanitation. The end would be gained, and perhaps much more easily than following a landlord hard to get at. Coming to the misuse by the tenants, I think the best Corporation that could be could not keep the houses right unless the tenants are punished for the misuse of appliances and for the filthy condition of their rooms. On this head I don't quite understand why the Corporation does not exercise the power to make bye-laws in respect of this matter. There are few bye-laws up to date with regard to the misuse by tenants such as are in use in other towns, examples of which I have here. It is very hard on a landlord who has put a house in good sanitary condition, and has given it the very best sanitary accommodation that he possibly can, to find in a comparatively short time he is summoned to do the same thing over again because the tenants have misused and destroyed the appliances he provided. I think that the joint responsibility that can be enforced in the case of two houses which have accommodation in common should be applied to a house with a number of families in it, in order that the people may be punished, whether the right people have been found or not. I think this thing should not be allowed to go on, and that the power given in this respect should be exercised. I now come to the matter of sanitary inspection, and I have not the smallest hesitation in saying that, taking my three and a half years' experience in the

slums, the sanitary inspection was faulty and defective. In some cases notices were served for the abatement of things that were not nuisances. I went into a yard once and I saw both a heap of mortar and a heap of filth in it, but on the notice served it is the mortar that is to be removed not the filth. Thus we may discount the statistics we see in the papers about the number of notices served. I think the sanitary inspectors might be classified, and that certain men should get a certain class of work to do in this respect. More women should be employed as sanitary inspectors, and these should have specific duties allotted to them that might be called inside. I think there should be more outside co-operation; rent-collectors should be asked to co-operate and encouraged to do so. In England and Scotland there is much more encouragement for outsiders to help in this matter. There is a great lack of domestic utensils in the tenement houses, and you must remember that a slop basin will carry out the foul matter and bring up the drinking water from the tap. A woman inspector should get a district to look after in regard to the condition of the sanitary accommodation in the houses, not to decide whether the wall of a house should come down or not, as she is no architect. Sanitary inspection of this kind would prove useful, and most conducive to the health of the children in these houses. About a year ago the Earl (who is our President) and Countess of Meath suggested to me their giving prizes to sanitary inspectors for the best kept districts, but for reasons I gave them the suggestion was not carried out. I think if inspectors were properly classified and that certain people got certain duties, a good effect would result from the offering of prizes. Now, I wish to observe about the cleansing of the yards, that in every case which I saw the filth was simply spread over the yard and not carried away. As to the dust-bins, a good part of their contents are left in the passages and trod on there. About the spread of infectious disease, I agree with Doctor Fitzgibbon that the people are often guilty in this respect, because they hesitate to call in medical advice lest the sanitary inspector should be sent to disinfect the place and to injure their property; and I am now talking of the class above the very poor, not the very poor themselves. If the disinfecting officers carried with them instructions that they would be held responsible for any destruction of property, it might be an encouragement to more people to call in the doctor, which they now don't like to do. Then, about overcrowding, I saw it stated that this was the case with regard to the number of families in one house, but not as to the families in one room. My own opinion is against that. I have known three families in one room, and two families in one room is very common. There ought to be a bye-law restricting the number of *persons* to one room. One family that I saw consisted of a grandmother, an uncle, an aunt, father and mother, five or six children, and one or two nieces or nephews. The Corporation bye-laws about overcrowding deal with the hours between 10 and 4 o'clock; but the time of the overcrowding is before 8 o'clock in the morning and after 10 o'clock at night. As in other towns, there ought to be cards hung up showing how many *persons* ought to be in each room, and the number of cubic feet of space for each person. A prolific source of disease, or the spread of disease—a source I have not yet seen mentioned as far as the inquiry has gone—is the Dublin Metropolitan Police Courts. I have had occasion to go there on special business; and considering the number of persons congregated there from day to day, and considering the places they come from, I think the police courts are accountable for the spread of a great deal of the disease that prevails. I have been there on a Monday morning and the smell has been intolerable. Again, the system of "wakes" is most reprehensible, and must prove a fruitful source of disease; these "wakes" are bad, both for the morals of the people and for their physical well-being. A number of people attend the "wakes," and they carry out disease with them as well as being liable to bring it in. This prolific source of disease is allowed to go on without being interfered with by anyone. Another thing that contributes to the high death-rate is the number of children done to death on account of the insurance money. Sir Thornley Stoker has given testimony on this point, and so have other eminent men, and there is no doubt that children are deliberately done to death for the insurance money of £2 10*s.* or £3. I want to make a charge personally against the Corporation in respect of the difficulty of getting information from the departments of that body when one seeks it. I have had experience of Corporations in England and Scotland, and I don't think the Corporation of Dublin encourages outside effort as they do in the cities across the Channel. When I wanted copies of the bye-laws from the Dublin Corporation I succeeded in getting six copies after much trouble. On writing to an English Corporation I received a very courteous letter, together with twelve copies of their bye-laws, accompanied by the statement that when certain other matters were printed they would be promptly sent to me. The impression left on my mind with regard to our own Corporation is, that they would be inclined rather to pass a bye-law to have me removed as a nuisance than to give me information. I have not the smallest hesitation tooin blaming the Local Government Board very much in not seeing that the duties are properly discharged. I think they can *veto* the number of sanitary officers employed, and I think they can *veto* the amount of money; but they are absolutely indifferent as to how the money is spent. I wrote to the English Local Government Board for a copy of their model bye-laws, and received them; but when I wrote to the Irish Local Government Board for a copy of their bye-laws a clerk was sent down to me to know what I wanted, and from that day to this I have not received them.

1658. CHAIRMAN.—I might as well explain that the Irish Local Government Board have no model bye-laws of their own. The English model bye-laws applied so fully to Ireland that there was no need for any others.

Mrs. *Tolerton.*—That information ought to have been given to me. I did not know that you represented the Local Government Board.

1659. CHAIRMAN.—I do not. But the fact is that the Irish Public Health Act was so very identical with the 1875 Act for England that we could not do anything but follow the model bye-laws of England.

Mrs. *Tolerton.*—If I might suggest to that august body it would be well if they adopted the English model bye-laws, get them printed, and sent out as an example.

Sir *Charles Cameron.*—The six copies Mrs. Tolerton got were only proofs, and we could not give her any more than we had. I never received any communication from any Dublin Society that I did not give it all the attention it required.

Mrs. *Tolerton.*—Over and over again we have only succeeded in getting information in what I cannot describe in any other way than a corkscrew fashion. I thought we should have got, at least, fifty copies of the bye-laws. I asked for a dozen and I got half. The next time I go I will ask for two and I shall probably get one. I think the men who are trying within certain limits to do their duty ought to receive outside assistance, and a number of ladies interested in the Police-aided Childrens' Clothing Society would be glad to give them any help they could. I think here in Dublin we will never have very much improvement in anything until we are less ready to condone the existing systems. Over and over again I have heard it said, "We do the best we can; we are not as bad as we are represented." I think the lack of a healthy public opinion has a very great deal to do with the case as it stands. But the public have not got the bye-laws. We, as an

association, are discussing as far as we can these provisions, but they require to be thoroughly thought over. Regarding the definitions of "owners" and "occupiers," we think "roomkeepers" and "landlords" would be very much better. In the borough of Bolton the two terms used are "landlords" and "lodgers," but here "landlords" and "roomkeepers" would be better. I suppose the high death rate is more or less due to certain things which will have to be dealt with by bye-laws

1661. Right Hon. Alderman MEADE.—I understand Mrs. Tolerton's evidence is merely general. She is not conversant with the Public Health Act or the powers of the Corporation.

Mrs. *Tolerton.*—Pardon me, I am. I made my statements with a positive knowledge of the Act, and of the powers of the Corporation.

1662. Right Hon. Alderman MEADE.—You make the statement that the bye-laws are not sufficiently drastic under the powers of the Public Health Act?—They are and they are not. You must please allow me to express what I mean in my own words. They require a great deal of careful thinking out before they can effect the purpose entertained.

1663. And still be within the powers of the Public Health Act?—Yes.

Sir *Charles Cameron.*—Wouldn't it be well to give us what they do in other towns?—We can do so.

Sir *Charles Cameron.*—You can get any number of the bye-laws you like when we have them printed.

Mrs Tolerton.—I did not want them for myself. I speak with a certain restriction when I don't speak for myself.

Sir *Charles Cameron.*—We sent a copy to Mr. Daly and Mr. Eason some time ago.

Right Hon. Alderman MEADE.—Those were the proposed bye-laws which we were going to introduce?

Sir *Charles Cameron.*—Yes.

Right Hon. Alderman MEADE.—And Mr. Eason is Hon. Secretary of the society for which Mrs. Tolerton appears.

1664. Sir *Charles Cameron*—They are comprehensive enough. They are drafted from the bye-laws of every big town in the United Kingdom.

Right Hon. Alderman MEADE.—In that opinion Mrs. Tolerton does not agree.

Mrs. Tolerton.—I say the bye-laws as they exist at present require very careful thinking out before they are a fit weapon for the Public Health Authority to use in order to combat the condition of Dublin at present. While the Public Health Committee have been very kind in allowing us to make suggestions, it has not saved me in my position as Secretary in having to come to the Public Health Office and to make myself be considered as a nuisance.

Sir *Charles Cameron.*—It was on the highest legal advice we made use of the terms "owners" and "occupiers."

Right Hon. Alderman MEADE.—I may say that the Public Health Committee have given this matter every attention for two years, and the bye-laws are drafted in a way that the Public Health Committee think to be most effectual.

Mrs Tolerton.—I am expressing the opinion of the Society, as well as my own, when I say that I think it would be of great advantage to the Committee if Mr. Eason was asked to give evidence.

Right Hon. Alderman MEADE.—On behalf of the Corporation I can say that we would like if Mr. Eason would give some service to the Corporation by becoming a member of it.

The Committee then adjourned to 11 *o'clock next day.*

SEVENTH DAY.—WEDNESDAY, FEBRUARY 21st, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Rev. GILBERT MAHAFFY, M.A., examined by the CHAIRMAN.

1665. There is some evidence you wish to lay before the Committee?—Perhaps I ought to apologise for appearing before your inquiry, but the reason is that I have been working for a very long time amongst the poor of Dublin. I have been in four of the very largest parishes in the city, and I have seen a good deal of the life of the poor in the twenty-five years during which I have been employed in the city. I would like, in the first place, to say that there has been a very great improvement in the condition of the poor in that twenty-five years, both in the way they are housed, and in the cleanliness and the condition of their houses. There has been a great deal done in various directions, though there is still a great deal more to be achieved. No one that has not been amongst the poor in this city can realise how much has been done during the period that I have mentioned. I recollect when the houses were much more dangerous to public health, when large cesspools reeking with filth existed, and the very schools were in a most unsanitary state; I remember White's-lane very well when I was Curate of St. George's, and have seen pigs lying about the floors, and fowl roosting over the beds of the occupiers of these places. All that has been swept away, and admirable buildings have been built there instead of the miserable houses. I think it is not right to ignore what has been done. Both the Artisans' Dwellings Company, and the Corporation have done a great deal to benefit the poor in the matter of houses and of sanitation, and private enterprise has also done a good deal. I know the houses of Alderman Meade in Henrietta-street, which have been reformed, and they are very different to the class of houses that these people were formerly accustomed to. In my judgment there is no place where so much is done for the relief of the poor in their time of sickness as in this city, so that although there may be a high death rate, it is in spite of what is being done. The very best medical skill is within the reach of the poor very readily. The skill for which the rich pay highly is freely placed at the service of the poor, and we can always readily get them into hospital; in fact, they are put in when the ailment from which they suffer scarcely renders it necessary that they should be put into hospital, and under circumstances where they would not be sent into hospital in more sanitary towns, and the reason is, that the homes of these people are not fit for their treatment. I know the amount of sympathy that is shown by the upper classes towards the poor in their sickness is very great. Some of the causes of sickness in Dublin are not merely physical but moral; the moral partly arising out of the physical. There is a lower vitality amongst the people which makes them so subject to sickness. Doctors have often spoken to me about the depressed state of the poor. When sickness comes they have often no vitality to fight the sickness, and they lie down flat under it, and reconcile themselves to the fact that death is coming. They don't help the doctors by taking a hopeful view of their case. In my judgment, amongst the chief causes that tend to lower the vitality of the people of Dublin is the dampness of the soil. That has been brought before you several times. The damp rises by capillary force into the walls, rotting them, and that is the main cause in my judgment, of the great prevalence of diseases of respiration. I have no figures, but I think I meet a great deal more consumption and chest disease now than in the earlier times of my work in Dublin. You see this dampness in the basements of the houses occupied in tenements, and you can see the damp rising in the floors and walls. These houses should have been swept away long ago in a city like this, if there had been a natural growth in Dublin such as we see in other towns; but there is not that growth of a thriving prosperous city which would replace these dwellings by good houses. With reference to the sub-soil water I would like to place before you the result of an analysis which I got made. I procured a specimen of this water at a depth of seven feet six at the highest point at Aungier-street, which I have submitted to Dr. Adeney, of the Royal University. This water, as I state, was found at seven feet six below the surface at St. Peter's Church. For curiosity I made a little opening and I put a pump down for the purpose of testing this water alone, but we never could reduce the water below that seven foot six level. This is the analysis which I received from Dr. Adeney:—"I have determined the organic nitrogen, ammonia, and chlorine in the sample of sub-soil water which you brought me yesterday. The results are as follows, expressed as parts per 100,000 of the water:—

Organic nitrogen, ...	1·0
Nitrogen as ammonia, ...	11·0
Chlorine, ...	21·0

These quantities show that the sample contains a very large quantity of sewage matter, and further that the sub-soil in the neighbourhood is being saturated with sewage to a most alarming and serious degree, if the sample represents the average condition of the sub-soil water in the neighbourhood of your church. If it in reality does so, the unhealthy condition of the sub-soil cannot be exaggerated. I would recommend that the attention of the authorities be at once drawn to it." Fearing that the sample which I had sent was especially bad, I procured two further samples this morning, and in reference to these he says:—"The two further samples you have just sent me fully confirm the above sample, and show that a very grave state of things, so far as unhealthy conditions are concerned, must exist. No time should be lost in my opinion in making the Corporation authorities acquainted with what has been discovered. I should add, all these samples have the characteristic odour of 'fresh' sewage." The reason I brought this subject

forward was not so much the fact that the water is polluted, as the curious circumstance of its rising to such a height. It is seven feet six below the water table of Aungier-street at the point where this was procured.

1666. Right Hon. Alderman MEADE.—Where did you say you got these samples?—Just beside the church.

1667. Was that part of the old grave-yard?—Yes, it was; but that part has not been used for a great many years; but, as I have said, the importance of the question is not the pollution, because that might be accidental. The interest attaching to the circumstance of finding the water is that it is strange, as illustrating the dampness of Dublin, that water should be found lying at so high a level.

1668. The pollution of the water and the existence of the water at the high level are two very different things?—Yes, and my point is specially as to the rising of the water; not so much as to its pollution. The fact that it is polluted, of course might be accidental, but the existence of it at that height shows that it is an all-pervading thing in the sub-soil of Dublin.

1669. Dr. J. W. MOORE.—With regard to the pollution of the water, was any bacteriological examination made of it by Professor Adeney?—It was not, so far. It was done in too great haste; but the water showed decided signs of fermentation. I am told that there were a good many signs of dead bacteria in the water. One of the great difficulties in regard to house property in Dublin is the number of poor people who are trying to make a living out of interests and sub-interests in houses in the city. I think the commonsense view ought to be taken of this, and that the public health should not be allowed to permanently suffer on that account; for I don't think there should be any more toleration shown for the poor person who is making money out of an unhealthy house than is shown for the poor shopkeeper who is trying to make money out of selling bad bread or cheese, or butter. I do not think we have reached a healthy public opinion on that subject, and I think the Corporation ought to be backed up in their efforts to destroy the bad house property that is in Dublin. Take a specimen of what I refer to. When I became Rector of St. Mary's I went to take one of the old houses in Dominick-street for a residence, and the owner had not sufficient interest in it to spend a shilling to put it in order. I was not satisfied with the arrangements of the house, and I did not take it. A month later I visited that house and found a family in every single room in it. No alteration had been made in it for them. There had been no examination of the drainage—no sanitary additions. Nothing, in fact, had been done to improve the house. All the people were there together crowded in the rooms without any suitable provision for them. I believe that it is cases like this that injure the moral and physical condition of the people; for I believe that bad influences, both moral and physical, pass very rapidly in houses of this description. They have not a porch to their rooms. They have the one hall and stairs for all the inhabitants, and this state of things makes the children have such an amount of intercourse that it is almost impossible to prevent epidemics in these houses.

1670. Right Hon. Alderman MEADE.—How long ago is that?—The circumstances that I mentioned occurred five years ago. I have had very interesting experience as to the difference between tenement dwellings and the cottages of the Artisans' Dwellings Company—I think it is rather an unique experience. I went to St. Paul's Parish before Blackhall-street was depleted of its tenants, and we had houses there belonging to the Corporation on one side and the Blue Coat School on the other, and there were a very large number of poor tenants. About the same time the Artisans' Dwellings Company built Kirwan-street and Aberdeen-street. It was a most interesting study to see the effect of the different descriptions of dwellings upon the people. I established a new school in that district, and when you brought the children of the new school into comparison with the children from the other district where the same conditions were not observed as to sanitation, there was such a marked difference in the appearance that you could easily distinguish the pupils from the one school and the other, although the schools were only separated six minutes' distance from each other. There was a tremendous difference in the physical condition of the children. I was most interested and partly instrumental in the building of the Aughrim-street block, it was on my suggestion that Mr. Spencer purchased the ground there for the purpose of building these houses. It would be a great deal better in my judgment to build the houses wherever possible on fresh soil rather than spend large sums in making a ponderous reconstruction of the buildings on the old soil. About the same time the Corporation did magnificent work in sweeping away the Barrack-street nests which were there; but I think they made a cardinal mistake in building such a magnificent structure as they did—I mean the Benburb-street buildings, which are unsuitable for the people and are never fully occupied, because our people don't suit dwellings in flats. Unless there is the greatest care taken in the selection of tenants for these large blocks the habits of the people render them liable to abuse this description of buildings, and I hope that the cottages will be built everywhere instead of these large blocks. The theory of providing for the very poorest by building houses for them I find won't work in Dublin, for they will degrade the best house you can get for them. Let the decent people get into the best buildings and let the poorest take the chance of the ones that the decent people vacate, for if you bring in a low type of tenants they will degrade the new houses at once, and you will find it impossible to get the better class to live in the same place. I often visited the Benburb-street houses, and I must say I was horrified to see the wretched state to which they had fallen. The tenants were evidently not selected very carefully. They were meant to house the poorer people, and these are generally poor because they waste their money; but the sanitary arrangements of these houses were disgracefully used. Where they built double closets for the separate sexes they had to close up one out of the two because they could not get them kept clean. The same observation applies to the staircases and the floors, and I believe that physical contagion as well as moral contagion is spread by the condition to which such houses are brought; therefore, I say that wherever it is possible there ought to be cottages built and care taken in the selection of the tenants. The manner in which these cottages are appreciated is shown by the fact that you will need to have your name down for nine months before you can get into one of them; but I think I am right in saying that about one-fourth of the block buildings let in tenements are generally vacant. The meaning of the difference which is shown in these houses is that in one case the tenants are carefully selected and therefore a better class of people like to get into these cottage houses, and another reason is that the people like to be living separate, and they are better when they are living separate.

1671. I may tell you that the Corporation tenement houses are full at the present time?—Well, my reason for concluding that they were not quite full was that the last statement I saw of the number of persons inhabiting was very much below the number that it was stated they would accommodate. I was in that parish when they were opened, and I saw that 490 is the number at present occupying them, and I understood that the houses would accommodate a much larger number than that.

1672. That is the number of families—not the number of people?—I was under the impression that it was something nearer 900 people.

1673. Sir *Charles Cameron*.—There is hardly a room vacant in the Benburb-street houses?—Well, at one time I know there was a large number vacant.

1674. It must be a long time ago?—I was told that there was a fourth of the tenements vacant.

1675. Right Hon. Alderman MEADE.—Your opinion appears to be that large blocks of four or five stories high are not suitable for the Dublin people?—They are not. There are a few such buildings that are well managed, such as the Guinness buildings which are well arranged, and where the tenants are very carefully selected, and the Henrietta-street houses are also well managed.

1676. Dr. J. W. MOORE.—The Guinness buildings are in your own parish?—They are not in my parish; but they are in my neighbourhood, and they are wonderfully well-managed houses. It is all owing to the extreme care with which every applicant who seeks to become a tenant is selected.

1677. Sir *Charles Cameron*.—But the rents of these houses are high rents?—No, they are not high, but there is very careful scrutiny in the selection of the tenants, and they have the rule, in order to meet the wants of the poor people, not to allow skilled artisans into these houses; but I think that is almost an unnecessary precaution, for my experience is that the Dublin labourer lives a wholesomer life than the Dublin artisan. The labourer on the smaller wage lives a better life than the artisan, because if the artisan does get high wages at times he lives up to them, and in the winter, when he cannot get employment, he is in a state of starvation, and then he loses his residence; because he cannot pay for it.

1678. CHAIRMAN.—Are the Guinness buildings full?—Yes, they are. They are not meant for artisans. They were intended for a class below that. I would strongly urge the building of cottages for the poor on fresh sites, and if you do build on old sites, build small houses. Take the block at Aughrim-street. There is 7½ acres there. They have been covered with artisans' dwellings, and I have made a calculation, and I don't think I am very far out—you can verify this yourselves—the site of each cottage there actually cost to purchase it for ever something like £10. That is to say, the land was sold for slightly under £500 an acre, and there are a couple of hundred acres more there which could be had, I think, for very much the same figure, and there is a great deal of unbroken land on the south side of the city, so that there is lots of fresh land to be used which could be got for this purpose, and it is only being used at present for market gardens. In my judgment it would be far wiser if you can open spaces in the centre of the city, and let the people spread out, and especially now with the trams it is no great hardship to go a mile further from the centre of the town. Indeed you would be surprised at the distance people go out already who are working in the very heart of the city.

1679. Dr. J. W. MOORE—I would like you to point out the position of Aughrim-street, where you say there is so much spare ground?—(Witness indicates position on map). There is the Aberdeen-street block, and the Kirwan-street block, and the Aughrim-street block. I was in hopes that the line of houses would be continued the whole way to Arbour-hill, and the ancient Oxmantown green, and I pressed upon them that in view of that being done they might call it Oxmantown-road. There is an immense quantity of land there. Richardson's property is about 150 acres, not built upon; and as a matter of fact the War Department bought ground at £600 an acre there, and could buy any quantity of land at that. An acre would be good for 50 or 60 cottages, and I know other people who were prepared to give land for £500 an acre, so that you could get plenty of fresh sites for new cottages. The site of each cottage would be about £10 or £12 for ever, and it seems to be an uncommon pity therefore to be crowding people on the old sites, which are unsanitary.

1680. Right Hon. Alderman MEADE.—You talk of sixty cottages to an acre. Does it occur to you that that means 300 people at least to the acre?—I don't know your standard.

1681. Five to a house?—4·6 is the Dublin family, and what is your standard for the acre?

1682. Thirty cottages I would say is the maximum for the acre?—I think the new cottages are much closer than that. In the Aberdeen block you will find 186 houses on a site of 3½ acres; but you can test that for yourselves.

1683. Sir *Charles Cameron*.—I may say that there is no vacancy at all in the Benburb-street blocks?—Well, I presume they are more strictly managed now. I don't think anyone was to blame for the filthy condition in which I found these places except the people's own wilful destruction of what was provided for them; but my point is, that you should have these decent houses occupied by decent tenants, because the bad tenants will degrade any houses; and I would let the bad tenants gravitate down to the other class of houses that had been vacated by the decent class of tenants. I do not think sixty cottages to the acre would be overcrowding.

1684. Right Hon. Alderman MEADE.—But you see practical experience shows that thirty-six cottages to the acre is the maximum, allowing twenty feet frontage and twenty feet in depth?—Oh, but these houses haven't twenty feet frontage.

1685. Well, I built them, and I should know; and I think they are. The house itself occupies 800 feet, and there is at least 400 feet for the street, and thirty-six of these cottages is the maximum that the Artisans' Dwellings Company put on the acre?—I am pretty sure you will find 186 on the Aberdeen-street area of 3½ acres. You built the whole of the Aughrim-street block on seven and a half acres; and remember that there is a site for the school taken off, but that is neither here nor there. Suppose it cost £20 for each cottage. You have got still the opportunity of purchasing new sites within the boundaries of the city for ever, at a cost of £20 for each cottage. I think it is absurd to be crowding houses, and packing people on the top of each other, when you can get new sites for houses for £20 each. I wish to call attention to another point with regard to the poverty of Dublin, and I do not think that it is a thing that the ordinary Sanitary Authority can deal with; and that is the extra influx of broken-down population into Dublin. In the first place, our hospitals draw a great many who come up from the country to be treated, and they find such an amount of sympathy here they won't find in any other country. There is a marvellous kindness and sympathy shown to these people when they come to the city, and unluckily they find themselves so much at home that they stay in large numbers. Another class that adds to the poor of the city is the broken-down servant class. Servants all over Ireland, male and female, with their families, when they break down they come to us here. When I went to my present parish I found such an influx of beggars and schemers, that I found it necessary to make a record to try and find out the deserving cases; and I ran over a page of the book by way of making an analysis, and the result of the analysis is to establish that of 150 who turned up seeking relief, and who formed part of an enormous inconceivable mass of people living in Dublin on the very verge of starvation—an inconceivable number—out of that 150 cases thirty-four were tramps and professional beggars, fifty-four were intemperate and drunkards, and twenty-two were what I would class as broken-down servants (for the most part morally broken down), and about fifty I considered were decent poor for whom we in Dublin ought fairly to be accountable. I took another section of my book

and I divided it into two classes—the decent poor that I thought we had a right to have charge of, and the others thrown upon us by their own fault; and about 30 per cent. were those that we ought fairly to be chargeable with, and 70 per cent. were persons that we ought not to be responsible for. One reason why I mention this is, that there is a Bill being brought forward at present to promote the transporting of paupers to their own districts; and I was astonished to see in the South Dublin Union opposition made to the clause enabling us to send these people to other parts of Ireland from which they came. The objection was, that after spending their life in Dublin they should not be sent back to their own localities when they became broken down. Of course, if these people had really spent a *bonâ fide* working lifetime here, let them remain; but there ought to be some sort of law of settlement, and the people who come here in a broken-down state should not be left chargeable upon us in Dublin. There ought to be a power of re-transferring them to their own places, and I hope all interested in the welfare of Dublin will support that clause that the South Union authorities in their wisdom object to.

1685 Dr. J. W. Moore.—Doesn't such a clause exist in connection with English towns?—I suppose it does; but I know in any case they transfer over to us any people who become paupers, although they may have spent their whole lifetime on the other side. There ought to be some restrictions devised to put a stop to the large number of people who come here, not to enrich this city, but in a broken-down state, and people who have perhaps spent the best part of their life in some other district altogether. Everyone who has been working, as I have been, in a poor part of the city such as the district between the Broadstone and Kingsbridge, knows that a very large number of people arrive from the country in a broken-down conditition, and we do our best, of course, to bear the burden of trying to help them; but at the same time we set ourselves to try and drive them back to their own places. We send them to the Mendicity Institution, and whenever we find this class of people landing in our midst without means we put pressure on them, and if they are English or Scotch we apply to the St. Andrew's Society to assist the Scotch, or to the St. George's Society to help to send the English back to their own places. In other cases we try to pay their fares, and in this way endeavour to drive them back to their own homes. I must say that we have been wonderfully successful in that respect, and in my judgment that is the truest charity towards these people. It is not fair that Dublin should have to support them. It is like sending refugees into one of the invested towns in South Africa at present. We have plenty to do to look after our own poor.

1686. Chairman.—Do you think that if you had that law of settlement that it would be conducive to the health of the town?—I do, certainly; for these people are living within measurable distance of absolute starvation. I was talking to one of my colleagues the other day, and he said in bewilderment—"How do these people live. We see a whole family with only 2*s*. 6*d*. weekly coming in, and yet they exist?"—and one of my assistants admired the contentment of them, and I said it was a feature not to be admired at all, for they sat down under that and were content with anything, but if they roused themselves something might be done. They seem to get into a sort of moral paralysis. They don't want to rise, and if they get a day's work to do they are physically enfeebled, and the prospect of their doing a hard day's work wearies them—they have hardly courage to face it. They are so enfeebled, physically and morally, and so lacking in vigour and courage that they are afraid to face a day's work. One of the commonest class of people that we meet is the servant class, male and female. The woman of forty or fifty years of age who loses her situation through her own fault or by sickness, settles down to do a couple of days' charing in the week, and to live a life of extreme poverty and starvation upon that and whatever else she can get from charity, and I have often said to such a person—"Are you prepared to sit down for the rest of your life living on charity? for we won't allow it, and, as far as we can, we do everything to prevent it." Another question which is, I think, of great importance when considering this matter of the health is, how do the children of these people live? We have tried to get them away from them into schools, and have some control over them, and, in illustration of the difficulty we have to contend with, I will just point out that at the last census there were 4,500 children in Dublin being supported at the public expense in the various orphan schools and refuges in Dublin, so that we are really supporting a large number of children at the public expense, and yet this enormous amount of poverty remains. If any of you want to see the unhealthiness resulting from this poverty let them go to the Mendicity dinner on Christmas Day, and they will see such specimens of humanity as you would never expect to find even in a poor city. There is very little settled employment in Dublin. A large number of the people exist on work which they get for three or four months in the year, and have very little hope of being able to get work during the other eight or nine months. There is comparatively little employment in Dublin, and some of the employment is not very desirable for the people. If you were holding an inquiry in an English manufacturing town you would have to take into account the dangerous trades, and I am sorry to say one of our trades is dangerous. The men employed in the production of liquors suffer tremendously from the trade in which they are engaged, and I am sure you could ascertain from the Registrar-General the figures about them; but I happened to know them ten years ago pretty well, and I knew at that time the average age at death of the men employed in this trade in some of the Irish breweries; even under the most generous employers, and with well-equipped dispensaries, and every sort of relief possible in time of sickness, and every aid to their getting better, they died at the average age of forty. I challenge inquiry on that subject, that the average age at death of the employes in some of our leading breweries was forty, and that there died three times as many from disease of the respiratory organs, and four times as many from disease of the digestive organs, as the ordinary working man, according to the vital statistics which are to be found in the Parliamentary books.

1687. Dr. T. Thomson.—Do you attribute that to the employment?—I do.

1688. Dr. J. W. Moore.—Is it to the employment or to the allowance of liquor these men get?—Partly that. They are allowed liquor; but a considerable number of them don't take it; but they do get it in various ways.

1689. Right Hon. Alderman Meade.—The allowance I believe is two pints of porter in the day?—Well, that by itself would not be sufficient; but it induces them to drink, and I suppose they have such great regard for their own product that they stick to it out of hours as well as in hours. A man told me that he saw them fighting over the ullage of the casks and getting drunk over it; and then again, the draymen very often take a drink at every public house where they are delivering goods, and this knocks them over altogether.

1690. Dr. T. Thomson.—When you were considering that subject did you compare your figures with those of such a town as Burton, where there is also a very large brewery?—No; the figures were those of the English Trades Union as returned in the Parliamentary Book. I consider intemperance one of the main factors, and the strongest factor in the unhealthiness of our city. It is not the very large quantity that our people drink that produces the

mischief. I believe Englishmen and Scotchmen drink a great deal more, but our people drink under worse conditions. There is a curious sentimental contempt amongst our people for the ordinary requirements of nature, and if a man is going out for a long day's work he does not provide himself with food for the day. He would provide food for his horse, and then he takes a drink as a substitute for food, and, therefore, I say our people suffer far more than Englishmen, because the Englishman takes a good meal of bread and cheese as well as his drink.

1691. Dr. J. W. Moore.—Isn't there a ruinous impression amongst the people that the taking of alcohol warms a person in cold weather?—Yes.

1692. Chairman.—Does what you state about breweries apply to distilleries as well?—I suppose it would in part. My experience of the distillery man is that if he got inflammation of the lungs he went off like a thatched house on fire. Their system was so impregnated with combustible matter that they could not stand the illness, and in times of epidemics they suffer hopelessly.

1693. What remedy would you suggest to us about breweries and distilleries?—Get the people not to drink. I hope there is some ground being gained in that direction; but until there is a healthier public opinion, there won't be much improvement.

1694. Dr. J. W. Moore.—Would you suggest that the directors of these large places should give popular information and also instruction as to what to avoid?—I am greatly afraid they would not do that. The next point in connection with that is, that amongst our women there is a large amount of intemperance, and I am afraid there is a great deal of reduced health amongst them owing to the use of porter as a substitute for food. When the husbands don't come home until the evening the women content themselves with porter and bread, and very often the porter without the bread, instead of going to the trouble of preparing meals for themselves. For the time, of course, the porter seems to warm them. There is a very wide superstition, and, I think, the Guinness boom had a great deal to do with it, that Guinness's porter is food and drink—in fact "meat, drink, washing, and lodging," and therefore they take it to an extent that you could hardly conceive as a substitute for food. I was startled to find some years ago that about one-third of Guinness's stout that is manufactured was consumed in Dublin, and nearly a third of it in Ireland at large, and that only one-third of it was exported. That shows that the people consume an enormous quantity of it. The women take it, as I have said, as a substitute for food, and that is especially so with regard to nursing mothers, and there the use of it is especially destructive. I believe a great deal of the sickness of the children is due to the drink-poisoned condition of the mothers, and to the actual giving of drink to the young children themselves. They give it to infants. I have seen children of five and six drinking the porter as they carried it home from the public-house. I hope the doctors will take this subject up, for I don't think the doctors have quite stood to us as well as they ought in making known the fact that drink is no substitute for food, and until our people learn to take proper food I do not think there will be much improvement in the health of this lowest class. I had occasion recently to go by St. Patrick's Cathedral on a Saturday night, and I was astonished to see the marked advance in reference to women drinking in public-houses. It was some years since I had been there before on a Saturday night, and I was astonished to see the advance in the number of our comparatively decent women drinking openly in public-houses. They were there up to closing time, and numbers of them with infants in their arms on one of the bitterest nights I had ever been out, standing drinking openly in large numbers in the public-houses. There is less shame about them now than there was before. I think that the separation of the sale of groceries from the sale of drink is an absolute necessity if there is to be any lifting of the lower classes in this respect. As to the women and their families, one of my commonest experiences is meeting cases of women with two or three living children, and a record of eight or nine who have died. That is quite a common record. I see that Sir Charles Cameron has been showing that the actual child mortality has not been so high as it has been in other towns, but you ought to put side by side with that the figures of the late Registrar-General in which he showed that, taking the Dublin child mortality amongst the general service class, it was seven times as great as amongst the professional class. Amongst the professional it was 16 as compared with 112 in the 1,000 under five years of age in the lower class. I don't dispute Sir Charles Cameron's figures as regards the final result, but I do call attention to the fact, that in the poorest class the deaths are seven times as great—an absolutely needless havoc of these lives. I went this morning to a school in our very poorest locality where we are trying to counteract the evil drinking habits of the parents. In that school there were about ninety children last year on the roll with only one death, because they were closely looked after and fairly well cared for. Isn't that a fair token that if you could get hold of the children, and keep them from the nakedness and starvation, due to the drunken habits of the parents, we would do much to reduce the death rate amongst that class? Many of these children are from the very poorest class, and we have sometimes given them bread when they had got no breakfast before coming to school, and we don't see them naked. We try to keep clothes on them, and where that has been done carefully there was, as I say, but one single case of death in the ninety, in the midst of the prevailing epidemic of measles.

1695. Dr. T. Thomson.—Amongst what number of children?—About ninety. It is a small school I established specially for that particular district. It is at the crossing of York-street and Mercer-street—a densely populated district. Of course some of the children are of a better class. The pupils live in Cuffe-street, and Digges-street, and South King-street. It is a very congested poor locality, and the physical and moral surroundings are as bad as you will find in most parts of Dublin, but not the very worst. I think the vitality of the children of our poor is often very low from inherited alcoholism, insufficient nourishment, and want of sleep. I have never heard anyone mention that point, but it is an astounding thing how little sleep these children get. Very few of the children in that school get to bed before 11 or 12 o'clock at night, because they have only a single apartment, and the bed can only be produced when everybody is ready to go to sleep. I wish it was possible a good fire could take place in Mercer-street and sweep away the houses there. It would be the greatest benefit to my district. As to the schools, I am totally at variance with Sir Charles Cameron. He wants to get power to close during the prevalence of epidemics, and I sincerely hope no such power will be given to the Public Health authorities, for I think it would be most unwisely used. It would be exercised under the pressure of public panic, and there would be a general demand for the closing of schools, and therefore the greatest multiplication of the chance of infection. I would like to explain this matter. To begin with: a large number of the children among whom infection spreads are not to be found in schools at all. I have been chairman of one of the four districts of the City of Dublin School Attendance Committee. A sub-committee was appointed of four of us to go into some facts and figures, and one of the first things we had to ascertain was, how does the city stand as regards the attendance of the children at the schools. The Registrar-General told us that of the school ages from six to fourteen we ought to have 44,000 children in attendance. We turned our attention at once as to

how many were to be found in the schools, eliminating those under six and those over fourteen, and we arrived approximately—it was only approximately—at the fact that there was about 20,000 out of 44,000 to be found in the schools, and after allowing for a small number of those children of the upper class who are being taught in their own homes we saw that approximately we have about 50 per cent. of the children attending the schools. In order to verify that I went back to the census of 1891, and making the same allowance I found that according to the school census, there were 19,000 in the schools who gave one attendance within a given week during which the census was taken. These numbered about 19,000 school attendances when about 40,000 were within the school attendance age in the city of Dublin, so that that gives you only half of the school attendance age present in school. The spread of infection would be more encouraged, in my judgment, if Sir Charles Cameron's view was carried out, and the schools were closed. Let him look at these children when they are not in school, and he will find a great many of them gathered in groups in the yards or on the staircases of these unhealthy dwellings, and in such numbers, and in such close contact they are much more liable to infection than if they were in our well-heated, well-aired schools, and kept from very close contact, or, at all events, not so close as they would be in these tenement houses. These epidemics go very unevenly over the city. The last epidemic of measles reached us in the month of June and in the early part of July. This was during the holiday time, and the disease had burned itself out largely while the schools were closed. I find that our school holiday facilitated the spread of the infection, and it was pretty well over when the schools resumed. After some time, when other schools were suffering severely, there reached us an order to close our school, and I replied we would certainly not close our school. We were at that time having a record attendance—the largest we ever had—and on careful scrutiny into the connections of all the children, as far as we could discover, there was not one single case of measles at that time amongst the families of the children attending. That was very curious, because in other neighbourhoods not very far away we were hearing of very considerable numbers of cases. I knew a school within a mile largely affected, and it had to be closed because the attendance fell so very low, and that is a very fair test of the prevalence of sickness. Instead of adopting Sir Charles Cameron's drastic proposal of hunting these children into the streets looking for infection, I would say another course should be adopted. There are at present no rules to guide our teachers as to what they are to do in cases of infection. In my schools they refer especially to me, and in these cases, when there is no cause of fear, I use my best judgment, but we have really nothing to guide us. The National Board gives us no rules, and the Public Health Committee offered us regulations that we would not adopt. I think there ought to be co-operation between the Public Health Department and the National Board to draw up a reasonable set of rules, based on common-sense and judgment, for the guidance of the teachers. In many cases it would strengthen the hands of the teachers, because parents are very angry if a teacher on his or her own motion refuses admission to a child after sickness. My teachers are very careful, and I support them in exercising a strict control. I insist in all cases of scarlatina on a doctor's certificate that the child is safe to come back.

1696. Sir *Charles Cameron*. — The law requires that?—Do you think it is carried out?

1697. I think it is?—I don't think it is.

1698. You know more about schools than I do, and as to giving the same power in Ireland to the Sanitary Authority as exists in England and Scotland, I think there would not be much use in closing a school at the height of an epidemic; but I think there would be great use if the school is closed when the epidemic begins?—These epidemics develop so slowly. Between the beginning of the epidemic and the end of it there were months. The result would be that you would simply have to close the school for months, and when they re-assembled the disease would probably break out again. I would strongly urge we ought to have co-operation between the Health Department and the National Board, and there should be rules drawn up and printed and hung up in our schools giving direction to the teachers what to do under certain circumstances in cases of sickness.

1699. Here is a table with a curve showing the zymotic death rate, and it proves that at the closing of the schools the rate fell, and it is very marked?—It shows that the closing of the schools did not stop the epidemic, for it freshened up again in September. The schools were closed in July and August and immediately when they were resumed you had this tremendous rising wave again. I am afraid that won't be a sufficient remedy; but I have great faith in what I propose, that by co-operation between the two bodies rules should be drawn up for the guidance of the teacher, and the teacher would then know what was expected of him, and he would be backed up in resisting pressure from parents. When we insist on a certificate after measles we cannot get it, for a great deal of the measles is treated by the parent alone and the certificate is impossible to get. A doctor won't certify, I presume, if he has not attended the case. I think inspection of our schools by a qualified medical man on behalf of the Department would be a most desirable thing. A regular weekly visit in periods of epidemics and a monthly visit all the year round ought to be made of our schools by a medical man authorised by the Health Department together with an inspection of all the sanitary conditions of our school premises. I have seen in my time a great deal of improvement in the sanitary conditions of the school premises, but these premises, like the tenement houses, require to be looked after very carefully. I must say that in recent years their condition has been improved; but they require still to be very carefully looked after. I recently found one of the sewers at one of my schools blocked, and I, therefore, particularly urge a regular inspection. I have asked one of our doctors to visit my schools, and I certainly think that a visitation of that description and repeated careful inspection of the sanitary conditions of these schools would be most desirable.

1700. Chairman.—You think it would have a practical effect on the death rate?—I believe it would. It would call the attention of the teachers constantly to the necessity of being on their guard, and seeing that the sanitary regulations were being carried out. There is tremendous pressure, as you will recognise—an amount of pressure that you can hardly conceive to receive children into the schools after sickness. If the teacher refuses to re-admit a child with sickness, the possibility is that the child will be taken to another school round the corner and admitted there, and the teachers are most reluctant to refuse admission. A great deal of the teacher's salary is dependent on the average attendance. There are two allowances to them that are dependent on the average attendance; therefore, it puts great pressure on the teacher not to refuse the children, and especially when they know that to refuse one will perhaps involve the whole family of five or six being taken away. I think there ought to be moral support to the teachers in insisting on the children not being admitted out of unsanitary houses. I have looked very carefully after my schools, but other managers may not have so much time, and I think the teachers should in that way be supported.

1701. Sir *Charles Cameron*.—Don't you get notice during epidemics?—Yes.

1702. Right Hon. Alderman MEADE.—Your idea would be that the Sanitary Authority ought to consult the National Board as to a code of rules for the schools in reference to this subject?—Yes. For instance, that placard that Sir Charles Cameron had issued during the time of the epidemic, there was a statement in that I was never aware of before with regard to the punishment for sending children out of infected houses, and the teachers do not know this at all.

1703. Your idea is to get more harmony between the teachers and managers and the Public Health Department, by joining in a code of rules?—Yes; and if the Public Health Department will draw up a set of rules approved by the National Board, so as not to interfere with the teachers' remuneration, I will be very happy to put it up in my schoolroom, and I am sure the other managers will do the same. I will just run through the remedies to which I attach special importance:—Drainage of the sub-soil is one of the very first; perseverance in the clearing of areas of decayed dwellings; prohibition of basement tenements. That is what is so hard to deal with in Dublin. The houses are so low down that there is no fall for the drainage.

1704. There is no basement in the new dwellings?—I am very glad to hear that, but they are allowed in the rebuilding of old houses.

1705. They must be above the level of the main sewers in all cases?—I am afraid in many cases the main sewers are pretty high. I mentioned a case where I found one of my drains under the school blocked, and after several days we found it was blocked in the main sewer for it was a sewer practically without a fall. I would punish most severely those who deal in bad dwellings, on the ground as I have said already, that they are more criminal than those who deal in bad food, and I would urge strongly the suggestion already made, that no house should be let in single rooms without a licence from the Public Health Committee. It should be a positive condition that he should not be allowed to let it without it being declared sanitary. I would encourage the building of small cottages on fresh soil, and I am satisfied, as I have said, that there is ample ground within this city for all that need be removed from tenement houses. I would support a measure for the removal of paupers from Dublin to their own homes where they have not been sufficient number of years in Dublin to entitle them to shelter. I would also advocate measures for the promotion of temperance, especially the cutting off of these two hours on Saturday night. Many a church might be proud of half the congregation that I saw in a single public-house at and after 11 o'clock on Saturday night. I watched in vain for some of them to come out after 11 o'clock. The people drink to a most frightful extent, especially on Saturday night. I would also prevent the selling of drink to little children which familiarises them with the public-house. I believe that a large amount of the female drinking is owing to the fact that from their infancy they have been accustomed to go to the public-house. A manager of a public-house informed me that they go there so young that they are not able to carry a verbal message and they carry their order written on paper. These children come to look upon the public-house as part of their lives. I would also separate the public-house from the grocery department. I would encourage intelligent teaching of the dangers of strong drink and the necessity for reasonable food amongst our working classes, the sanitary inspection of schools, and, if necessary, a medical expert to examine the schoolrooms and out-offices and to see that proper precautions were taken as to the return of children after sickness. I don't think any school manager would object to an inspection by a qualified medical man. There is need in the school-houses for suitable cloak-rooms. The clothes of the children are huddled together, so that it is practically impossible for the clothing of the cleaner children to escape infection from the clothing of the children from worse places. There should also be regulations issued as to the excluding of children from infected houses and as to the length of time for which a child is to be absent after infectious illness.

1706. CHAIRMAN.—But there is a provision provided for such cases?—Yes; and like many another thing there is no provision for carrying it out. There is no attempt to ascertain whether the children have been long enough well. There is no inspection of our schools from a health point of view, and I don't think the rule as to how long a child should be away after measles is known. What is it, for I don't know it?

1707. Sir *Charles Cameron*.—There is no definite rule. You will punish a person who sends children to school with measles; but how long should a child be, after measles, before it can be sent back to school?

1708. It must be a month, unless there is a certificate from a medical man that the child is quite free from contagion?—I am quite hazy about your regulations, and I am as familiar as many men with school management.

1709. Right Hon. Alderman MEADE.—I am afraid you have not been asking Sir Charles Cameron's advice?—I think it is the duty of the department to inform me. He has sent me, very kindly, week by week, a list of the houses in which an infectious disease has taken place, and my practice is to run over that list, and under-line all the localities that touch my schools. It is very hard to do that with certainty. Then I pass it to one of my teachers with a request to send it round, but that takes a week.

1710. All that would be covered by your suggestion that a code of rules should be drawn up by the Public Health Department, and distributed by the National Board?—It would to a very large extent; and I suggest that these school sanitary requirements should be hung up in all the schools, and that the National Board should see that the teachers don't suffer by the closing of the schools, or by reduced numbers. They have done a good deal in that way already.

1711. Does that mean that their salaries will not run after the schools are closed?—They would not suffer so much from the closing of the schools, but they will suffer in this way. If one is kept open and the other closed, there is a danger of the healthy children running to the school that is open.

1712. And of continuing there?—Yes.

1713. Dr. R. L. SWAN.—You have expressed the opinion that the schools should not be compulsorily closed during the time of epidemics?—I mean general closing certainly should not be ordered, and I am afraid of the Public Health Department having that power, lest it should be exercised under the influence of panic. They would be subject to pressure to close schools indiscriminately, and they would be turning the children into the very way of finding infection.

1714. Right Hon. Alderman MEADE.—Who would you suggest should have the power?—I suppose it must be the Health Department, in conjunction with the National Board.

1715. Who would have the power? Would it be the Public Health Department, assisted by the National Board?—Yes; I would say once the National Board took the responsibility of closing the schools, they more or less took the responsibility of the teachers not suffering therefrom.

1716. Dr. T. THOMSON.—You know the state of matters in that respect in England and Wales?—I do not.

1717. In England and Wales Sanitary Authorities have power to close the schools when they think fit. I mean the public elementary schools. Such closure is subject to the right of appeal by the school authorities to the Education Department, but the appeal takes place subsequent to the closure?—But I would say that, like any other law, you cannot enforce unless you have public opinion backing you; but such a request as came to us some months ago carried with me no moral weight whatever, for I knew from my experience that my schools had never been so large, or so free from epidemics, and unless you can convince me that what you are doing is for the benefit of the community, I won't do it.

1718. CHAIRMAN.—But if the law was the same here as in England and Wales, wouldn't that be met at once by the appeal against the Order?—I suppose it would.

1719. Right Hon. Alderman MEADE.—They would close first, and then appeal?—Yes; but it should be exercised in conjunction with the Education Department.

1720. Dr. T. THOMSON.—But you would have the right of appeal?—I would rather have the appeal beforehand. It is not like the Education Department in England, that has an enormous district. Our Education Department is here, and they can be come at and seen at any hour, and there would not be the slightest difficulty in carrying out this arrangement. But I consider it to be a very grave defect that we have no formal intimation of what your health rules are. And you might supply what might not be absolutely rules, but counsels as to what would be desirable, and I am sure if this was so we would try to carry out the counsel loyally. But I am perfectly convinced that the closing of the schools at that time when we were asked to close would have been attended with still worse consequences, and that it would only have spread the disease.

1721. Are you aware that your views on school closure are opposed to these of sanitarians generally, who consider that there are circumstances in which it is for the good of the public health that schools should be closed, and thus prevented from spreading disease?—I quite assent to that; but not by the Public Health Committee, under the worrying of the public.

1722. But all public health authorities are subject to worry during times of epidemic, and unless you have a special lack of confidence in your authority in Dublin, I do not see how your argument applies?—We don't trust anybody here in Dublin at all.

1723. You told us your views with regard to the prevalence of certain forms of disease, and their relation with the levels of sub-soil water in Dublin. We are to be provided with information on that subject. Would you anticipate, from your experience, that the mortality would be found to be higher in localities where the sub-soil water is near the surface than elsewhere?—I think the diseases of the chest would be very prevalent where the sub-soil water rises near the surface.

1724. If it was found to be the reverse, would you be disposed to alter your view?—I would be very much surprised, for we have heard from sanitarians that one of the causes of phthisis is rotting walls. You will find the basement walls decaying and the damp rising steadily up in them. Many of these basements have been de-tenanted, but in some cases they become tenanted again, in this way: a dweller upstairs that fails to pay gets thrown out, and their furniture is carried down to the basement. I have seen a man and woman and five children—and the children almost in a naked condition—living in one of these rooms, where there was not a single pane of glass, and large heaps of rubbish as high as this table in the centre of the room, and their furniture was packed into this, and they were existing in this by permission. In other cases, persons are occupying these places, but pay no rent, and are tolerated there on condition of cleaning down the houses, so that these places are not lying idle.

Dr. CHARLES FREDERICK MOORE examined by Mr. R. L. SWAN.

1725. You hold official positions in Dublin?—I do.

1726. Which enable you to become acquainted with a great many matters connected with public health?—All the factories in Dublin, and the *personnel* of the factories, come under my observation. I am the certifying surgeon of the factories in Dublin.

1727. Such as what factories?—All factories.

1728. What do they include?—Distilleries, breweries, biscuit factories, clothing factories, tobacco factories, printing and bookbinding—in fact, everything that comes under the denomination of a factory.

1729. And railways?—Yes; the railway, manufacturing locomotives and so on—rolling stock.

1730. Your experience extends over a very large area, over the entire of the Dublin population, and some of the suburbs?—Quite so; roughly speaking, a radius of about three miles.

1731. Have you had opportunities of observing the homes and residences of these people employed in these places?—Yes; I was twenty-five years, nearly, in a dispensary district in Dublin, and I was Medical Officer of Health also, and also Physician to Cork-street Hospital for fourteen years, so that I had a good deal of opportunity of observing the position of Dublin with regard to public health.

1732. With regard to the dwellings of these persons with whom you now have to do—operatives in factories—have you had an opportunity of seeing them?—Yes, I have, occasionally; for instance, if a complaint is made to me by an operative or occupier of a factory, and he asks me to look at the surroundings of that place, I go and see to it, and I open communication, if possible, with the authorities, and try to get the condition ameliorated.

1733. You communicate with the Public Health Department?—Well, as a rule, I often see Sir Charles Cameron, and have a talk with him. I am not in official communication with him, but if there is anything very gross, I report to my inspector, and he reports to the Medical Officer of Health of the city.

1734. Is it your duty to see that these recommendations are carried out, or does it come within your office to see that that is done?—I am not exactly sanitary officer, nor health officer of the factories. It was endeavoured by our association, which musters over 2,000 of our profession in Great Britain and Ireland, to get the regulation of the sanitary arrangements into the hands of the surgeon, but that was over-ruled, and it was left in the hands of the urban authority of the locality.

1735. You have some evidence to give with regard to the nature of the dwellings of the artisans and the poor generally?—Yes; I might mention, in accordance with the census and the returns of the Registrar-General, that there are two great classes that come under my notice. Some are the very poor—the smallest labourers or their families; and, roughly speaking, the mortality varies from about 15 in the artisans' dwellings in Dublin, to 50 at bad

times in the worst parts of the city, and that 50 takes in all the lower classes—the lower strata of society—such as workhouse inhabitants, and those who are in the very lowest class of labourers.

1736. Dr. T. THOMSON.—Is that 15 per 1,000 per annum?—Yes, that is in the artisans' dwellings. Sometimes it goes below 15.

1737. Right Hon. Alderman MEADE.—I think it was as low as 12?—Yes; perhaps I am wrong. With regard to the dwellings, a good deal has been said about the block tenement houses, and I mention those especially of Messrs Guinness, for I know very well that the late Sir Benjamin Guinness favoured me on more than one occasion with an interview about the state of the labourers, and the question of providing tenements for them. He was rather in favour of the separate or cottage system. There are admirable buildings erected in blocks in several places under the Guinness Trust. There are some at Rialto, and at New Bride-street, and St. Thomas's-court, and, at the same time, a very large number of the artisans' dwellings, as you have heard, are very admirable self-contained cottages, and they are very largely tenanted, and much appreciated. The two classes of dwellings, when strictly managed, answer very well the objects in view, but I would not draw any hard and fast rule as to them; and as to the situation of the tenement cottages, as well as the block houses, they are all concreted in the foundation, and I look upon that and the dry coursing walls and concreting, and the selecting of a proper site with proper drainage, as going a long way to secure health for the inhabitants. In fact, I can distinguish in the people that come before me—in the last year I examined 2,009 young persons under 16 years of age, about 14 to 15 is the average, and a few were under 14, and besides that, I examined about 600 over 16, at the request of the employers—and I can form a tolerable idea of the people who come before me by looking at them, and examining them as to what part of the city they come from. Some parts are very different indeed in the production of the physique of the people. I also noticed the same thing about the men who come under my notice in accident cases. You have heard a good deal about intemperance, and I have sometimes had a patient under my care, and in one instance that comes to my recollection, I had a coal heaver, and I asked him how much drink a day did he consume, and he said, "Well, my average is from twelve to fourteen pints." That was the case of a coal heaver, and that is an extreme case, and there is no doubt they do drink a quantity, and I agree that the great fault of our people is that they don't eat as well as drink. I have had a good deal of experience of Englishmen, and of English sailors, for I was fifteen years on the other side of the water. Englishmen, as a rule, eat something as well as drink, and I quite agree with Dr. Mahaffey that some people here don't look upon the eating as so very important, and perhaps that is why the Irish soldier will go through a good deal of campaigning on a small quantity of food.

1738. Mr. R. L. SWAN.—With regard to the accumulation of offensive rubbish, what have you to say?—Within a few days I was asked to go and examine premises close to an existing vast depot, Marrowbone-lane. I was asked to go to the south side of that, and I found a vast heap, and I have known that depot to be a fearful cause of disease during the time I was in the Cork-street Hospital, and I was told that working men, even in cold weather, were obliged to leave their work within a short radius of that place, in consequence of the smell. I think that that depot ought to be removed entirely, and that the ground ought to be freely treated with quicklime or some other disinfectant. I might mention a circumstance that came under my notice some years ago, when the small-pox epidemic was here—I saw bedding from some small-pox houses thrown out on the top of the heap, and being blown about by the wind.

1739. But that would not occur at this time?—No; but, still, every day there are cases of people complaining of sickness and having to leave their work in the vicinity of this depot.

1740. Is there any other nuisance of that description of which you complain?—Yes; there is scarcely a dairy yard that has been properly cleaned. I think they are cleaning them better now, and perhaps, in order not to take up time, I might hand in a little book I wrote for the Academy of Medicine, and, although it applies to the state of things several years ago, I went into the localities lately, and I found they were still very offensive.

1741. You refer to dairy yards?—Yes, and to slaughter yards.

1742. In what respect do the slaughter-houses become offensive?—I have here a copy of the very excellent regulations of the Corporation, that Sir Charles Cameron favoured me with some time ago. They were drawn up in the mayoralty of the late Sir Benjamin Guinness, and, if they were strictly carried out, we would have a much better state of things.

1743. You consider the presence of the slaughter-yards in Dublin a danger to the public health?—I distinctly do. Some years ago, when the Midland Railway opened a terminus on the North Lotts, they offered the Corporation a tract of ground to construct an abattoir there, and it was unfortunate that the late Mr. Jameson proposed to the Corporation to give them a site, since used by the Corporation, to construct an abattoir on the North Circular-road. I consider the granting of that site as an unfortunate matter, because, if they had taken the offer of the Midland Railway Company, the abattoir would have been near the shipping, and it would have allowed of the easy removal of the offensive matters that must accumulate. The washings of the yards must run down the sewers, and that I look upon as a great objection to the present abattoir of the Corporation.

1744. Don't you think the bye-laws in reference to slaughter-houses are tolerably strict?—Yes, if carried out.

1745. And are you aware that they are not properly carried out?—I have every reason to believe they are not at all carried out efficiently. I will not say what has occurred in the last few weeks, but I look upon the slaughter-houses as badly constructed. I don't think they are properly constructed and cemented in accordance with the regulations, and some of them are very, very defective.

1746. Are you aware how many slaughter-houses there are in Dublin?—There are about fifty or sixty.

1747. And you know that the Corporation have been endeavouring to buy them out, and have bought out some of them?—Yes.

1748. Have there been many precautions instituted in reference to unhealthiness of the slaughter-yards?—I cannot say; perhaps Sir Charles Cameron can tell that.

1749. Right Hon. Alderman MEADE.—You have no objection to slaughter-yards as slaughter-yards within the city, if they are properly constructed?—I would object to them. I have had correspondence with the London medical officers of health, both the City and Westminster, and I know their views coincide with mine, that they are very objectionable.

1750. Are they unsanitary if properly constructed?—I distinctly think so. They should be outside the city, if possible.

1751. CHAIRMAN.—Supposing the regulations made for them were strictly carried out, would you still say they were unsanitary?—I would say it is better to have them outside the city—any place near the water side.

1752. But supposing they were conducted according to the best possible way, would it affect the death rate to have them within the city?—I think still they would be objectionable. I was walking past one of them in New Market-street, and I happened to meet a constable, and I did not require to go into the yard to find it out—my nose told me without seeing it where it was, and the neighbourhood was highly objectionable. I said to the policeman, "This is rather unsavoury," and he said I should go round in the early hours of the morning as the police do, and it would knock you down.

1753. Mr. R. L. Swan.—It would not be from the Mill-street knackers' yard the smell came?—Yes, it comes from that in part. The police have frequently complained to me of the state of the yard.

1754. That is the yard at the back of Mill-street?—Yes.

1755. You consider that decidedly objectionable?—Yes; the owner does what he can to mitigate it, but the odour is most objectionable.

1756. Dr. T. Thomson.—You say that no slaughter-house, however well managed, should be inside the city?—I do. I would rather have them outside.

1757. Mr. R. L. Swan.—You have something to say about the bad food consumed by the working classes in Dublin?—I think the return of the amount of condemned food stuffs shows the vast amount of bad food there is in this city. There is a vast quantity, I understand, of this sort of food rejected by the Corporation officers.

1758. What kind of food?—Meat of all sorts; and I have seen very bad vegetables and fish.

1759. And milk also?—I think it is very sceptical to think that milk could be good coming out of some of the dairy yards in Dublin, that are not kept in accordance with the bye-laws.

1760. Is there close inspection regarding the quality of vegetables?—I cannot answer for that; but I happened to turn up a letter amongst some I had received complaining of the unpleasantness of the premises of a dealer in vegetables. Sometimes he put the vegetables into the cellar, and they became very objectionable, and I have had some very bad cases of illness amongst the owners of this place. They seemed to me to be poisoned.

1761. On the whole your opinion as to the badness of the food is derived from the evidence afforded you by the activity of the public health officers?—Not altogether at all. I may mention that there was a person wanted to buy a house on the south side of the city not far from the Coombe. This house was a butcher's shop. It was a lady wanted to invest in the house, and she asked a gentleman to go and look at it, and he went to the shop and asked to see the premises. The butcher said he could not go downstairs, and he said "I will, and if this lady wishes to buy the house I must see it all." He went down and he found there were no sanitary arrangements at all, and that there was to the depth of over his ankle in the cellar of stuff of the most offensive character, and I cannot fancy that the meat over that place would be at all wholesome, and I think it would account for a good deal of the illness of the people in the neighbourhood.

1762. Right Hon. Alderman Meade.—Did the gentleman who went and found that state of things take any means of communicating with the Public Health Department in the interest of the citizens?—I don't know. I am sure he spoke to the proprietor of the shop.

1763. And he was the person interested in keeping the place as it was?—Well he would not recommend anything to be done in the way of purchasing it. With regard to the dairy yards I had an old auction bill in which 200 tons of manure were offered for sale in a yard where it matured. This occurred several years ago, but within the last four days I have seen four loads of most offensive matter taken out of a dairy yard. It was since this Committee began to sit, and I think perhaps the action of the Committee had some effect on this.

1764. Mr. R. L. Swan.—Have you any evidence that disease of any specific nature has been produced by badness of food provided for the poorer classes in Dublin?—Well when I was dispensary medical officer I had a great deal of sickness to deal with, and I had a great deal of cholera, and I found there was generally a day in the week when cholera was rampant and that was Thursday, and the way I accounted for it was that the working man had a better meal on the Sunday than on any other day, and that a quantity of vegetable matter was consumed with the Sunday dinner, and as sure as that took place there was always an attack on Thursday of cholera or cholerine, and I attribute it to the mixture of porter and vegetable matter consumed on the Sunday.

1765. Right Hon. Alderman Meade.—That was the porter and vegetables consumed on the Sunday caused this, allowing for the period of incubation?—Yes; this was over twenty years ago—in 1866.

1766. That is thirty-four years ago?—Yes; I only gave an answer as the question was asked.

1767. Mr. R. L. Swan.—You wish to mention as to the insufficiency of support given to the Dublin hospitals. What would you suggest in reference to that?—I was interested in measles, for I had some cases of measles coming to the factories, and some persons were asking was it fit to let these young persons in when all the rest of the family were down with measles, and I found a great difficulty in getting accommodation in Cork-street or Harkwicke-street hospitals for the cases.

1768. You are referring now to hospitals for infectious diseases solely?—Yes; I asked the reason, and I heard there was a want of funds; that the funds the authorities used to supply were not forthcoming to meet the emergency, and that there were plenty of beds, but there were no funds to keep them open.

1769. Right Hon. Alderman Meade.—When was that?—Within the last six months—during the measles epidemic.

1770. Mr. R. L. Swan.—Have you made any observation with regard to the exposure of children in the streets?—Yes; since the war fever began I hear little children after 11 o'clock and between 10 and 11 standing in the worst weathers we have had, crying up and down the street where I live, "Stop Press," and so on, and I see them without shoes or stockings or proper clothing, and very small feeble childen, and I think it very bad.

1771. You consider that the exposure of these children contributes to the increased death-rate amongst them?—Yes, decidedly.

1772. Have you ever observed in Dublin large strings of open vehicles on which numbers of women are seated with children in their arms proceeding to Glasnevin?—Yes.

1773. What do you think of that habit of bringing children in inclement weather in open vehicles—is it a good practice?—I think it is very dangerous, especially in the low state of vitality amongst the children of the lower classes.

1774. What observation have you made with regard to the street traffic in Dublin?—There used to be a law that after 10 o'clock in the morning no very long timber or other matter over a certain length was to be carried through the street, but I don't see that carried out now. I don't know whether the law has been altered, but I understand the street traffic has been put under the control of the Metropolitan Police, and if so, perhaps there is no means of preventing that; but there is a good deal of danger from it, and I say so having a good deal of driving through the streets, and I think we are often in danger from this class of traffic.

1775. Dr. T. Thomson.—Does that increase the death rate?—Well, it has led to some fatal accidents. There was one the other day where there was a

woman injured. She is still alive, but she is not expected to live; and I must also say that the dairymen are very reckless in driving through the streets. They don't observe the rule as to right and left, and this is especially the case on Sundays. I recently saw an instance of that kind where an accident was narrowly avoided, and I spoke to the policeman, but he was engaged with a drunken man, and the dairyman drove off. These dairymen are very reckless, and I have had to deal with the case of a man who had fallen from his own cart in a drunken state, and he was run over by it. I think it is a pity there is not more care taken to compel them to drive on their own sides of the street, and to have regard to the public safety.

1776. CHAIRMAN.—Do you know anything more about the statistics of street accidents in Dublin?—I don't know that I do.

1777. Right Hon. Alderman MEADE.—I thought you were going to say something about the slippery state of the streets?—Yes, I think it is very dangerous.

1778. But you have not tried whether the death rate from that cause is higher in Dublin than any other place?—I think the mortality was 170 in London last year from that cause. I do not know what the number is in Dublin, but there are a good many accidents in Dublin.

1779. Alderman DOWD.—Are you aware whether it is the police authority or the sanitary authority has power in reference to exposure of children that you have mentioned?—I do not know indeed. I think there is a regulation that no child should be allowed to sell anything in the streets after 10 o'clock at night; and there was another point I wanted to dwell upon, namely, the sending of children to public-houses, and I was glad to hear Mr. Mahaffey allude to that practice of sending young children to public-houses as objectionable, and I think the sale of drink ought to be limited to adults,

1780. I believe there is an agitation on that point, and that legislation is likely to arise out of it?—I hope so.

1781. Dr. J. W. MOORE.—In reference to the question of street traffic and the public health, I suppose you are aware that in times of snow very extensive deposits of salt are thrown over the streets?—Quite so.

1782. Do you approve of that?—I think it is most dangerous, and especially to poor little children who are undoubtedly badly clad; they suffer, and it is also dangerous for horses and for dogs.

1783. Explain how you think they suffer?—The mixture caused by the salt and snow is very objectionable and extremely cold.

1784. There is a very considerable chill produced by it?—Yes.

1785. I wanted to have your opinion as a sanitarian on that subject. Do you consider it as a healthy way of getting rid of an accumulation of snow and ice in the winter?—No; I think it is dangerous. It is dangerous in producing intense cold. There is danger of bursting pipes besides, and it is most injurious to the public health in causing great cold and damp. Another matter about which I wish to speak is in reference to the sub-soil water. I happen to know that in Sandymount the sub-soil water rises to within three or four or five inches of the surface in parts. Where I live in Merrion-street, it is twelve feet from the main surface. We have a well in the back of the house. We originally had three in the house and garden, and they are disused now; but I suggested to a very eminent engineer would it not be better for the Corporation to pump the sub-soil water, as was done in Trinity College, and I believe is still, but he said that the condition of the drains in the street was so bad you would suck the drainage out of the pipes into the soil, and corrupt the soil still more. He spoke of the old street drains.

1786. Does that refer to some years back?—It was a few years ago since I asked that question, and I hope the new drains will be better.

1787. Right Hon. Alderman MEADE.—I think they are all right?—Well, I hope they will be better, and I think the sub-soil water has a good deal to say to the dampness and ill health.

1788. CHAIRMAN.—Are you aware of the provisions of the Prevention of Cruelty to Children Act, 1894?—I have looked into that occasionally, but I am not very familiar with them.

1789. There is a provision that if any person allows a boy under 14, or a girl under 16, to be in any place for the sale of intoxicating liquor, or to be offering anything for sale between 9 p.m., and 6 a.m., they should be liable on summary conviction to a fine not exceeding £25, or imprisonment. Wouldn't that if enforced meet your objection as to children going to public-houses and selling newspapers at night?—Quite so.

1789A. Right Hon. Alderman MEADE.—I see in the bye-laws sanctioned by the Local Government Board on this question as to the use of salt for clearing away snow, it is provided that every person who shall throw salt upon such snow shall forthwith remove from said pathway the whole of the deposit resulting from the mixture of the salt and snow. That is one of our new bye-laws?—I am very glad to hear that, and I hope it will be strictly enforced; but I do not think it is so necessary now as the Tramway Company don't use it in the streets to the same extent; but I observe that the water authorities do the same thing, and that they put salt on the taps in the street when they want to use the hydrants, instead of waiting, and I think they put in salt and run the risk of bursting the pipe.

1789B. But you would understand that if a householder has his house deluged with bursting pipes the authorities will probably do what they can to relieve him without delay?—Yes.

1790. Dr. J. W. MOORE.—This bye-law will not meet the case of the tram tracks at all, I see.

1791. Right Hon. Alderman MEADE.—They have their powers under Act of Parliament, and we find considerable difficulty in interfering with them.

1792. CHAIRMAN.—I should have added when reading that section from the Prevention of Cruelty to Children Act that there is a further provision that any local authority who think it desirable or necessary may by bye-laws extend or restrict the hours mentioned, but I don't believe there has been any bye-law made on the subject in Dublin.

1793. Sir *Charles Cameron*.—No.

1794. CHAIRMAN.—So that the hours now stand as in the Act, 9 p.m. to 6 a.m.

Mr. JOSEPH NOLAN, examined by Dr. T. THOMSON.

1795. You are a member of the Geological Survey of Ireland?—I am.

1796. Do you possess special information regarding the nature of the soil on which Dublin stands?—Yes—just as any member of the Survey might know—nothing beyond that.

1797. In the first place, can you tell us the exact nature of the geological formation underlying Dublin?—Yes.

1798. What geological formation does Dublin stand on?—Lime-stone of the middle division, generally known as calp—earthy and rather dark Lime-stone—over that there comes Boulder Clay—the Boulder Clay is an impervious deposit, and over that comes sands and gravels; some of which form the old raised beach which widens a good deal to the sea at Dublin, and is covered also with the alluvium of the River Liffey I have here a one-inch map which will show this formation, and I have also a six-inch map.

1799. You say the Carboniferous Limestone is overlaid with Boulder Clay?—Yes.

1800. Do you mean to apply that to the whole area of the city of Dublin?—No. The Boulder Clay is the next formation that succeeds, but it is not found everywhere—it has been denuded off. In Dublin there is also sand and gravel of the same period as the Boulder Clay, but these are much older than the sand and gravel that form the alluvium.

1801. Have you a map that will show us what the localisation of the Boulder Clay within the city of Dublin is?—No, unfortunately we have not. The maps were chiefly intended to show the solid geological formation, and little note was taken of the superficial deposits. We have not yet got maps showing the varieties of the superficial or drift deposits, and at present we can only depend on such information as we have got from sinking wells and things of that sort.

1802. From such information have you been able to map out even in a general way the localisation of the Boulder Clay in Dublin?—Well, no, except as distinguished from the flat I have spoken of as shown on that map, but otherwise the superficial deposits are represented by dots—it may be boulder clay.

1803. This map does not indicate it in any way?—The dots do.

1804. But it does not indicate any of the Drift?—No—not its character.

1805. We want to know what is the position of the Drift that overlies the Limestone in Dublin, and what is the nature of the Drift?—We have no map that shows that.

1806. Can you give no information apart from the map?—I think I can.

1807. CHAIRMAN.—Is there a description of the geology attached to this map?—Yes.

1808. Would that serve us?—Yes, but it won't localise the places.

1809. Dr. T. THOMSON.—Then you are not able to tell us the precise position of the Boulder Clay?—Except in that general way.

1810. In what general way?—That the Boulder Clay generally extends over the area indicated by dots.

1811. As I understand the area marked yellow is Alluvial?—It is.

1812.—Is there Boulder Clay all over the blue area?—The blue indicates where Limestone is the rock; but the Drift, including Boulder Clay, Sands, and Gravels, is spread generally over the area.

1813. Dr. J. W. MOORE.—The Limestone comes to the surface in the bed of the Liffey?—Yes.

1814. Nearly opposite the Four Courts?—Yes.

1815. Dr. T. THOMSON.—Apparently all we can ascertain as regards Boulder Clay is that outside the alluvial area there is Boulder Clay?—Yes, over the city, and in some parts there is sand and gravel, but we have not separated these.

1816. Boulder Clay exists over the greater part of the site of the city, with the exception of that part where there is the alluvial bed of the river?—Yes.

1817. But I take it there are spots here and there where there is no Boulder Clay?—Yes, but they are very few.

1819. Besides the Boulder Clay, there is sand and gravel?—Yes.

1820. Does that sand and gravel overlie the Boulder Clay?—Yes.

1821. Does it overlie it everywhere, or does the Boulder Clay come to the surface here and there?—Yes, but it is not uniform—it has been denuded off.

1822. What has been denuded off?—The sand and gravel, which originally had a wider extent.

1823. So that there are parts of the city where the Boulder Clay comes to the surface and where there is no overlying gravel?—Yes.

1824. But you cannot tell us the precise position of these places where there is Boulder Clay coming to the surface?—I wish you to distinctly understand that that was never part of our duty; we have been endeavouring to get the rock survey made as soon as possible.

1825. Dr. J. W. MOORE.—Isn't it the case that the greater part of the soil of Dublin is Boulder Clay?—Yes.

1826. The larger portion is Boulder Clay?—Yes. Everyone knows that dark clay with round pieces of limestone in it—that is the Boulder Clay.

1827. Dr. T. THOMSON.—You mean that in the greater part of the area of Dublin the Boulder Clay comes to the surface with no overlying gravel?—Yes.

1828. Do you think as much as four-fifths of the city would be in that condition?—I could not say as to the numbers.

1829. Dr. J. W. MOORE.—There is a map prepared by Sir Charles Cameron showing the Boulder Clay, and sand and gravel.

1830. Dr. T. THOMSON.—We are dealing now with the area outside the alluvial area, and as regards that area that we are considering, do you think the majority of it is covered by Boulder Clay without overlying gravel?—Yes, the portion coloured blue.

1831. The major part?—Yes, I believe the major part to be Boulder Clay without overlying gravel.

1832. That is as much information as you are able to give us on this point. As regards the alluvial area—what is the nature of the alluvial deposit?—It is sandy clay and gravel.

1833. In what proportion?—I could not say in what proportion.

1834. The two things are quite different from a public health point of view, and I want to know where there is clay and where there is sand in the alluvial area?—No. I cannot tell that; I don't think there is pure clay and pure sand in any particular portion—these are mixed up as they would necessarily be.

1835. In this instance you have no precise knowledge?—No.

1836. Generally speaking, have you any opinion as to the nature of the alluvial deposit here—whether it is for the most part clay or sandy?—I think it is mostly sand and gravel. There is clay also.

1837. Have you any idea of the depth of the alluvial deposit?—I think it is deep under the river and in the neighbourhood, but I cannot say the depth.

1838. Thinning off towards the margin of the area?—Towards the north and south of the river it thins off, and extends as shown on the map.

1839. Have you in the Survey Office particulars that give any information as regard special areas in the city—particulars derived from works of construction, or the sinking of wells, or anything of that kind?—No, but there were two sections we got—one on the north side of the city, at Thwaites's, the mineral water manufacturers, and the other is at the south side, at Hovendon & Orr's, in Stephen's-green. At Thwaites's there was a boring made, and sand and gravel were found for a depth of 15 feet—under that came Boulder Clay for 40 feet, and the rock was reached at 55 feet. There was a rush of surface water at this point, showing that there is a quantity of water imprisoned against the Boulder Clay, and where it is released it rises up like an Artesian well. The boring was continued at 50 feet through the rock, and water was found. At Hovendon and Orr's, at Stephen's green, the rock was found at 23 feet above the level of the sea, under 25 feet of sand and gravel—so that there is a case where we have the sand and gravel overlying without Boulder Clay. Surface water was also found to rush up with some violence. The level of the ground was 48 feet. These are remarkable cases, for they show

the presence of a large quantity of water impounded in this sand and gravel, and they point to the necessity of draining these waters in some way or other.

1840. Have you any other data in your Office showing the nature of the sub-soil of Dublin?—No; these are the only two I found. Probably there are others, if I had time to search for them. The general conclusion is that there is a great fall towards the Liffey, for a distance of two or three miles on each side, from 100 feet to 0, of the Limestone formation and Boulder Clay. Over this there is the sand and gravel full of water, and it would be important if this was freed, and the water that is confined there taken away. We think that if pumping operations were carried out in the neighbourhood of the river it would accomplish this; but there would also be such operations necessary throughout the city in various places, but in order to know where these should be employed some experimental borings, which would be very cheap, should be made. That is the chief point to which I wish to direct the attention of the Committee.

1841. Will you make some further research in your Office?—I will look and see if there is any further record.

1842. We shall be glad of any other information showing the precise position of the Drift?—I am afraid we will not be able to get sufficient information, but we may get one or two other records.

1843. Dr. J. W. Moore.—How long are you in the Geological Survey Office?—Thirty-three years.

1844. Do you recollect the epidemic of cholera in 1866?—Yes; I do.

1845. Were any queries addressed to your department at that time by Dr. Mapother?—That was just before I joined the Survey; but I know there have been questions addressed to our department by the late Dr. Grimshaw.

1846. Do you recollect being asked as to the presence of deposits of alluvial sand and gravel outside the area of the Liffey itself—that is in connection with contributory streams running into the Liffey?—No; I don't recollect that.

1847. You are aware there are a number of contributory streams north and south of the Liffey?—Yes.

1848. And the presumption is that each of these has its own gravel bed?—Yes.

1849. In 1866 the incidence of cholera was found very greatly in excess in these gravel districts—you don't recollect that?—No, it was before my time.

1850. And, as Mr. Nolan probably does not know diarrhœal disease and enteric fever have also both shown a very considerable excessive presence in the neighbourhood of those subsidiary streams. In this very report of Sir Charles Cameron he points out that the death rate from enteric fever was very considerably higher on the gravel beds than on the Boulder Clay?—Yes. I heard that in connection with the alluvial deposit. Professor Hull was Director of the Survey, and he told me that Dr. Grimshaw had told him that that was the case.

Mr. Wm. P. Delaney, examined by the Chairman.

1851. You are prepared to give evidence on behalf of the Victuallers' Association?—Yes. I wish to read a short statement relative to the slaughter-houses. There are at present within the municipal area sixty-five slaughter-houses. These are kept constantly inspected by a very efficient Corporation officer, specially appointed in 1893 for that purpose. The houses and premises are licensed under the Public Health Act of 1898, which expressly sets out what are noxious and offensive trades, and does not include in the list that of carrying on a slaughter-house. An attempt was made in England recently to include slaughter-houses as necessarily noxious and offensive, but the judges refused to hold that they were. The case I refer to is that of Cleaver *v.* Bacon, and will be found in the *Times'* law reports. The Act is very stringent as to the conduct of slaughter-houses, and it gives ample protection to the public. Section 130 says, that where a slaughter-house is certified to any Urban Authority by their medical officers of health, or any two legally qualified medical practitioners, or even by ten inhabitants, to be a nuisance or injurious, the occupier and user can be brought before a court of summary jurisdiction, and fined from £5 to £200. Apart from the Act itself, the Corporation have put into force a number of very important bye-laws for the management and control of the slaughter-houses. These bye-laws provide for the licensing, registering, and inspection; for preventing cruelty in the killing of cattle; for the keeping of the concerns in a sanitary condition; for the removal of offal at least every twenty-four hours. They require a sufficient water supply to be kept in connection therewith, and they control the conveyance of carcases through the streets of the city. The Sanitary Authority, which licenses and registers the houses, provides that they must be properly ventilated, and that the drainage must be kept at all times in proper order and efficient action. The floor of every slaughtering chamber must be laid with 1½-inch thick of good asphalt over 6½ inches of concrete, or with 7 inches of concrete containing 80 per cent. of cement. The walls must be finished and faced to a height of at least 4 feet above the floor with Portland cement or glazed bricks. This prevents the absorption of any liquid. There is a similar regulation as to the flooring of lairs and other portions of the premises accessible to animals. We are bound to have our premises at least once a month thoroughly washed with hot limewash. After every occasion of slaughtering or dressing within six hours, the premises have to be thoroughly cleansed. We are forbidden to allow blood to flow into the sewers, or to have a w.c. in our premises. The stringency of these bye-laws we do not object to, in fact they were drawn up by the sanitary authority at the suggestion of our association. The passage in Sir Charles Cameron's report referring to our business we think unfair, first because we had a letter from him some years ago stating definitely that the Public Health Committee did *not* attribute to slaughter-houses the excessively high death rate which prevailed in Dublin some years ago. That was in 1881, when the slaughter-houses were more numerous, and the conduct of some of them not too exemplary. That they are properly kept at present is apparent from the Public Health Report, page 221, for Dublin the year ending 1898, the most recent statistics, which shows that out of 3,259 inspections there was only one prosecution, and that was for slaughtering on unlicensed premises. Our own opinions, founded on experience, that slaughter-houses are not injurious to health, is supported by many eminent authorities, and I would respectfully direct your attention to the evidence given before the Parliamentary Commission held in London in 1873, to inquire into noxious trades and the public health generally. Among the witnesses whose evidence helped the Commission were Mr. Thomas W. Keates, Consulting Chemist to the Metropolitan Board of Works, and Mr. James Simon, Fellow of the Royal Society, both of whom proved that slaughter-houses properly cared, were not injurious to the public health. Our own experience is that our employés are as healthy and long-lived as their neighbours in other trades. During epidemics in the city of Dublin both the journeymen butchers and those residing on the premises, the master butchers, have been singularly free from these epidemics, and this can be testified by living witnesses. In litigation some years ago between the Corporation and Mr. Ward, it was decided that

the Corporation had power to erect an abattoir outside the municipal boundary. The abattoir at the north side is inconvenient to the traders in general. We ourselves are under the impression that there is less danger to the public health by having the cattle killed in several separate slaughter-houses as at present than in a common shambles for all. There is less danger of disease spreading under the present system. We would like to focus attention to the fact that in districts where there is no slaughter-house, like Irishtown and Ringend the death rate is abnormally high. We believe the vast amount of frozen meat sold in the city is not nutritious by reason of the fact that, being killed thousands of miles distant and often kept in refrigerators for a considerable time at port of debarkation, it must necessarily in its nutritive qualities be inferior to the flesh of Irish cattle sold freshly, and should be sold with a distinguishing mark so that the poor should know the native article from what is brought from foreign countries. Some of these sheep come from countries where epidemics prevail, and we are in possession of facts to show that some bacteria might get into the carcases, and that the process of freezing does not eliminate it. We think, therefore, there should be some restriction on the indiscriminate sale of these carcases unmarked. Dealing with the effect of slaughter-houses on the health of those living near them, we say, and I may give it as my own experience that we have not met with a case of typhoid or other infectious disease amongst any of these employés of the slaughter-houses. The Victuallers' Association, in order to facilitate the public health, have appointed a committee of inspection. I was one of the delegates on the north side, and there are others appointed for the south side, and it is our duty to go round the slaughter-houses and to advise the owners to have their refuse matter removed as quickly as possible. I may mention that, in many cases, our men, in order to get the refuse matter away pay as much as 1*s.* a load for having the manure taken quickly off the premises. We always discountenance any accumulation of manure or filth. Our employés have instructions that they are to whitewash all the places immediately after killing, and all our slaughter-houses I visited complied with the requirements of the Public Health Committee to have the floors asphalted and the walls secured, so that no filtration of filth could go through. I may mention one particular case—that of our President, Mr. P. J. Geoghegan, who has a slaughter-house at the rere of his premises in Leeson-street. One woman had lived beside this house for forty years and she died at the very old age of eighty. Another female, who has been living for twenty-eight years beside the place is now seventy years of age and is still living and healthy. Other instances could be given of extreme longevity in our business, and to show that we suffer very little from epidemic forms of disease.

1852. How is the refuse taken away; by whom and where to?—It is taken away by County Dublin farmers in many cases.

1853. It is taken away out of the city in all cases?—I would say so—in almost all cases.

1854. Do you refer to offal or manure?—Manure. When we begin killing on the Thursday a man will call in my place at 1 o'clock for the offal—that is the entrails. The killing begins at 10 o'clock, and at 1 o'clock the men from two firms will call and remove all the entrails. The manure, of course, will remain there until the evening—it must remain until the killing is over, and then will be removed the next morning.

1855. Right Hon. Alderman Meade.—The manure will be removed the next morning?—Yes, and the entrails go away the same day.

1856. What about the blood?—It is taken away in the manure, or in any case it is taken away by a man called Keeffe, who is a manufacturer.

1857. What does he manufacture it into?—I think glue is one of the products, or for manure.

1858. Dr. R. L. Swan.—Where do the entrails go to?—They go to gut manufacturers.

1859. Isn't there some refuse offal that is, generally speaking, used as manure—for instance at the present time on the road to Knocklyon, on the farm of a man called Donnelly, I think, there is an extremely offensive material, which is evidently from a slaughter yard, thrown alongside the road, and it has been a great nuisance for some time past—have you any experience analogous to that in the slaughter-houses?—That can be used for pig feeding, and there is practically no waste.

1860. What becomes of that—you have accounted for the entrails and blood—what portion of the animal is this?—That is what is called the second stomach—a thing like a football.

1861. I know it; what is that used for?—It is not manufactured into anything, it is used for feeding pigs.

1862. And is that the material that is thrown out? It can be cleaned and hung up in a very inoffensive state; but, of course, if it is thrown on a manure heap it will become very offensive, like any other thing of the sort.

1863. Is there any recognised means of disposing of this material, which must be a considerable amount—for instance in your own case what do you do with it, because it is very offensive if it is not dealt with in some way?—I never allow it to accumulate in my place at all.

1864. What do you do with it?—I generally have the manure taken out of it and it is taken away for pigs, or if we cannot dispose of it that way, the only way is to cut it up into small pieces, and have it thrown into the manure.

1865. And that is removed next day?—Yes.

1866. Before it has time to become offensive?—Yes.

1867. Right Hon. Alderman Meade.—Have you much difficulty in disposing of it, or do you dispose of the great portion of it?—I pay for getting it taken away.

1868. Have you much difficulty in getting it taken away?—No; there are a good many men in our business who have farms in the county Dublin—Mr. Grimes, for instance, and Mr. Geoghegan, and if I could not get it taken away they would have no hesitation in sending me in a cart, and in that way I never feel the slightest difficulty.

1869. Dr. T. Thomson.—When do you consider it time to get them to take charge of it?—If I don't get them to remove it within a reasonable time——

1870. What time would that be?—Generally the next day or the day afterwards.

1871. When you have waited two days you begin to think of Mr. Grimes?—No, my anxiety would be always to have it removed on the first day; but there may arise conditions to interfere with that, for instance there may be frost, but I merely mention that to show we cannot be stuck with the refuse—it is almost impossible.

1872. Dr. R. L. Swan.—What are the substantial objections to the use of the Corporation abattoir?—The present one is inconvenient.

1873. As regards its situation?—Yes, the present abattoir, but generally speaking there are a good many objections.

1874. Could you enumerate them?—If you have a slaughter-house at the rere of your premises, and it is well conducted and not offensive I think that it also ensures that the public will get a cheaper meat supply, because the expenses are less, but that would be a minor consideration.

1875. Has that any appreciable effect on the price of meat to the consumers?—No, I don't think so.

1876. Then that objection falls to the ground; don't you think that the Corporation in going to

the great expense of erecting an abattoir must have been guided by considerations of public health?—Yes. I suppose their considerations were right, but I think it has not been proved that our slaughter-houses were kept in an unsanitary condition or were injurious to public health—dealing with the bulk of them.

1877. Are there as many slaughter-houses now as there were some years ago?—No, I think not; sixty-three is the number now, I think.

1878. When were the others removed?—I think the clearing of this park up here removed some of them by Act of Parliament. I think the Corporation brought one in Ormond Market.

1879. Right Hon. Alderman MEADE.—There are only fifty-three at present, and I suppose if you get your own price you have no objection to have the whole of them bought out?—It would take a considerable sum, I think.

1880. Wasn't that your principal contention in 1890 when a gentleman from your association wanted such a price that we could not give it?—I was not connected with the Association at that time, Alderman Meade.

1881. Dr. T. THOMSON.—Do you think there is an advantage to the public in having a properly conducted inspection of meat by skilled officials?—I alluded to frozen meat.

1882. I am alluding to all meat—butcher meat as well as frozen meat, but as you are connected with butcher meat, I will speak of butcher meat?—I think it goes without gainsaying.

1883. Do you think the business of inspection is likely to be as easily conducted or as properly conducted in one or two public abattoirs as in fifty private slaughter-houses?—I think it can be equally well inspected.

1884. And do you think the same number of inspectors can inspect fifty slaughter-houses as efficiently as two abattoirs?—I have no late experience of the abattoir.

1885. Do you think the same number of inspectors will equally efficiently inspect fifty or sixty slaughter-houses about the city as they could inspect two?—I hardly think they could.

1886. I think it is obvious that they could not; and to that extent therefore the public abattoir would be an advantage—there would be public economy?—I was going to mention that I have gone to the abattoir and have seen carcases of meat hanging there that would not be allowed into any other Dublin slaughter-house—most repulsive-looking carcases. They came from the country. They were the carcases of smothered cattle and pigs that had been smothered in the city. They were hanging up side by side with good Dublin butchers' meat, and this thing was going on for a considerable time — in fact what called my attention to it was when we were getting ready for the Winter Show, and were erecting slaughter-houses on the premises of the Royal Dublin Society. I brought an engineer to the abattoir to get plans, and really the man said it was disgraceful to see such carcases hanging side by side with prime Irish Dublin butchers' meat.

1887. What inference do you draw from that?—That we could conduct our business better in private slaughter-houses than the Corporation can do in the abattoir.

1888. Alderman DOWD. — When was that visit paid?—I think it is about three years ago—when we took the premises from the Royal Dublin Society.

1889. CHAIRMAN.—It must be further back than three years ago?—There was no separate chamber for these diseased carcases—they were put side by side with the good meat.

1890. Right Hon. Alderman MEADE.—Were they diseased?—Unquestionably. While we were there a pig came in as black as the ace of spades—it had been smothered somewhere in Dublin.

1891. That does not say much for the way the abattoir is conducted?—It is an absolute fact.

1892. Dr. T. THOMSON.—But it is the advantage or disadvantage of public abattoirs properly conducted as compared with private slaughter-houses that I asked you about. You are comparing a public slaughter-house that you allege to be badly conducted with private ones that you allege to be well conducted, and that does not affect the general issue?—I would look for perfection in the abattoir as they had given us so much criticism.

Dr. JOHN BARTON examined by Dr. R. L. SWAN.

1893. You are a Fellow of the Royal College of Surgeons in Ireland?—Yes, sir.

1894. And you have been an Examiner in the College?—Yes.

1895. You are Medical Officer of No. 1 South City Dispensary?—Yes, sir.

1896. What part of the city does that include?—From about Francis-street down to the South Circular-road, and down to the river, and from that on to the Prison at Kilmainham.

1897. Now, with regard to the inhabitants, what class as a rule live in that district?—Well, in Thomas-street and James's-street they are chiefly fairly good shopkeepers, and in the rest of the district they are very largely artisans and labourers.

1898. Have you any of the very lowest class?—Indeed there are a good many.

1899. Living where?—In the courts and alleys.

1900. In what class of houses?—The houses are small, and the rooms are small.

1901. They are generally two-story houses in these courts and alleys in your district?—Yes, sir.

1902. And, I suppose, sometimes three stories?—Yes.

1903. Houses that were at one time suitable for a better class of inhabitants?—Yes, sir.

1904. What is the sanitary condition of these houses now, as a rule?—The sanitary condition of them is fairly good. The sanitary condition of the district, I may say, is immensely improved since I came to it. I have been there eighteen years this month, and all the sanitary condition of the district has been immensely improved.

1905. Through what means?—Largely through the fact that the worst of the houses were thrown down. There was a lane at the Royal Hospital, which had some very bad-class houses, and that has been thrown down altogether. There were some very bad houses in Basin-lane, in James's-street, and they were also thrown down, and some very fine two-story houses built instead. In Bow-lane the Corporation removed the whole area, and built what I think they call artisans' dwellings; and then in Kilmainham there were some very bad cottages, and they have all been thrown down, and a fine row of two-story houses built instead. There are, of course, a good number of old and bad houses remaining, but still a large number of those there when I first came to the district have been removed altogether.

1906. Is the work of the sanitary inspector well done as far as you can form an opinion?—Well, I have very little to do with the sanitary inspectors—they have to report direct to the Public Health Committee here, and they only come to me when they consider a house is very bad, and they think it ought to be closed, and then they wish me to inspect the place and write a report on it.

1907. Have you often had occasion to act on the initiative and make the report yourself?—Yes, of course I do; if I see a house dilapidated I fill up a form and send it down here.

1908. Is that acted on?—I cannot say, for I rarely hear any more about the report I send in, and I may not be in the house again. Some of these things I reported on have not been changed, but then I suppose the Corporation officers thought that my view of the matter was not the correct one.

1909. Such as what?—There were some houses I suggested should be closed, and they have not been; but, of course, I only go in to visit the people, and I see the hall, and I go into the yard, and if I see it bad, I simply write a general report that I have been through such a house, and that it is very dirty and dilapidated, and that it ought to be cleaned and repaired.

1910. What is the general condition of the sanitary accommodation in these two-story houses inhabited by the worst class, in these courts you refer to?—The sanitary accommodation is certainly bad.

1911. Describe what it usually is?—I think in some places it is defective in quantity—I don't think the number of closets is at all sufficient; I think the number of them should be increased.

1912. What is the general number in a house?—Sometimes there would be two or three houses with only a common place of resort, where there should be two, or perhaps three, closets.

1913. How do they obtain access from the different houses to this accommodation?—This accommodation is generally some little distance away.

1914. In a yard?—Sometimes, in a yard.

1915. That is a common yard?—Yes.

1916. Is the maintenance of these closets efficiently performed—are they kept clean?—It is fairly good, but I think the Corporation send round and have them washed out every day.

1917. What is the condition of the staircases in these courts?—They are bad, and very dirty.

1918. Are you of opinion that the habits of this class of people has a great deal to say to the state of health?—The general dirt in which they live; yes, of course, it has.

1919. You find there is a great absence of knowledge as to the necessity of ventilation amongst the poorer class?—Indeed there is.

1920. You find the air very vitiated in their rooms?—Yes.

1921. And you cannot persuade them it is injurious?—No, sir.

1922. What about the notification of infectious diseases in your district?—I am bound to notify every case I see, but, of course, as to the cases that are seen by other medical men, I don't know anything about them.

1923–4. Have you found the hospital accommodation insufficient?—For infectious cases, up to three months or four months ago, when a quarrel came on between the Cork-street people and the Board of Guardians, it was not defective; you were always able to write an order and send it to Cork-street, and the people were removed, and that was a very satisfactory arrangement until this unfortunate quarrel arose. When the new Local Government Act came into force the Cork-street people and the Guardians all began to fight, and we were not able to get patients admitted at all.

1925. Dr. T. Thomson.—What is the condition of the yard paving of the poorer property in your district?—Some of the yards are not paved, some of them are the ordinary earth, and some of them are paved with round cobble stones, and, of course, a few of them are concreted, but very few of them are.

1926. I suppose you take the view that an unpaved yard or a yard paved with cobbles is not a satisfactory state of things?—Indeed it is not.

1927. You think these yards ought to be properly paved?—If they were concreted it would be better.

1928. Would that conduce to the cleanliness of the inmates of the houses?—Yes, very greatly.

1929. As regards house refuse in these houses in your poorer districts, have you any observations to make?—The refuse is fairly well removed, because most of these tenement houses are provided with these iron buckets, and the Corporation cart comes round every day, I think, and removes them. I think that is fairly well looked after, but I think there are a great many matters thrown into them that they were never intended for, and they are fearfully offensive when being emptied into the carts.

1930. But in the main you are satisfied with the removal of the refuse in your district?—I think that is done as well as you could expect it to be done.

1931. Is there any overcrowding in the houses in your district?—I think that, sometimes, in some of these small rooms, there is a larger number than you would wish to see in them, but I don't think it is very excessive, except when a large family gets into a small room.

1932. Have you, in your district, any alleys which are not under the control of the Corporation?—Yes, sir, there are some; and they are the worst I have to deal with.

1933. What are the objectionable features about them?—What you spoke about a little while ago—the yards are not properly paved.

1934. The alleys are not properly paved?—Yes, sir.

1935. And are they kept properly clean?—Well, they are not.

1936. What would you suggest by way of remedy?—That they should be under the control of the Corporation—they are the only controlling body that could do anything with them.

1937. Have you any slaughter-houses in your district?—There are a few in James's-street—that is all. Personally, I have only been in one; there was a complaint by a neighbour that the slaughter-house was offensive, and the Corporation officer came down and ordered me to inspect the place. I inspected it, and, certainly, when I inspected it, it was as clean as any place could be. He is a very big man in business, and his place was certainly kept as clean as it could possibly be kept—that was at the time I saw it, and I never inspected it but the once.

1938. That was the only instance in which you inspected a slaughter-house?—I think that is the only butcher's shop in the district.

1939. Have you any dairy yards in your district?—I don't know of any.

1940. Is one of the Corporation depots to which refuse is removed, situated in your district?—No, sir, not in my district, but in the district of my colleague, who dropped dead the other day. It is in the Marrowbone-lane district, and there is another on the banks of the canal where refuse is shot, but these two depots are in the other sub-district.

1941. You have nothing to say to them?—I know they are there, but I have nothing to say to them.

1942. Right Hon. Alderman Meade.—As to the removal of refuse, I suppose you consider that if the pails, instead of being emptied at the house, were put into the dust cart and taken away to the depot and cleansed there of the foul matter put into them, it would be an improvement?—A very great improvement indeed.

The Committee then adjourned.

EIGHTH DAY—THURSDAY, FEBRUARY 22ND, 1900.

THE COMMITTEE RESUMED THE INQUIRY AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Dr. GEORGE BURRIDGE WHITE examined.

1943. Dr. MOORE.—You are a Graduate in Arts and Medicine of the University of Dublin?—I am.

1944. And a Diplomate in Public Health or State Medicine?—Yes.

1945. You have given considerable attention to the question of sanitation?—I have.

1946. And for many years?—Yes, for some years.

1947. You also have a large practice on the south side?—Yes, I have been in practice for twenty years.

1948. You are anxious to give evidence first on the defects in the present method of dealing with the house-bin removal of refuse?—Yes, that is a subject which has interested me for some time.

1949. We shall be glad to hear what you have to say?—Yes. What pressed the matter on my notice was that I was so often offended when passing through the streets by the removal of those dust-bins into open carts, namely, from the odour developed, and also from the blowing of the dust about into the faces, and, presumably, into the lungs, of the passers-by, and also into shops where foodstuffs were exposed in open vessels; and it struck me as being a mode of dealing with it which was capable of improvement. I think, of course, it is a great advantage to have the immediate or quick removal of rubbish of this kind, and I look on the measure itself as one of great improvement. I look upon the removal by the method of dust-bins as a great improvement and advantage; but I think the method itself could be improved so as to make it dustless practically, and to expedite it and save time, with that view I made a rough drawing before I came down to give you an idea of it. It might, perhaps, be an idea in the right direction. And the other thing that I would suggest, and which has forced itself on my attention with regard to the dust-bins, is about their contents. I have often observed that the contents of the dust-bins have been anything but what they were intended or ought to be. I will give you an example. Last Friday I was in George's-court on some business——

1950. Right Hon. Alderman MEADE.—Where is George's-court?—It is off George's-street.

1951. Dr. MOORE.—South Great George's-street?—Yes; just above Dockrell's, on the opposite side.

1952. Close to Messrs. Pim's?—Well, it is in close proximity to it—about 200 yards above Pim's, near Stephen-street—parallel to Stephen's-street. A very densely populated court it is, and in a densely populated neighbourhood—and the contents of that bin were, besides ashes, decomposing vegetables, pieces of meat, and a large quantity of size, and also a considerable quantity of human excreta. It was rather damp.

1953. At what hour of the day was that?—Between 12 and 1 as far as I remember. I think from half-past 12 to 1 o'clock, or thereabouts. I have often observed before that the contents were defiled in a similar manner; in fact one can never be sure of what the contents may not contain. Possibly they might contain tubercular spits, or the seeds of typhoid or other infectious diseases; and therefore it is an undesirable thing to have dust from such receptacles blowing out into the streets.

1954. It is not the usual practice for these dust-bins to be left full, as you describe this one in George's-court, till 12 or 1 in the day?—No. I have not observed it as late as that.

1955. They are usually emptied early in the morning?—Yes; but I give that example, not as an exceptional condition as regards removal, but merely as one which I have observed lately of the contamination or defilement of the contents.

1956. Now, what is the method which you propose to substitute?—The method that I propose to substitute—I have made a little diagram of it here. It is a method that can be adapted to the existing carts; and I hand it to the Committee for inspection. I think it is a time when suggestions for improvements are demanded rather than finding fault with existing conditions. It is a box or bin with a sliding door.

1957. Briefly describe it.—It is furnished with a sliding door, and it is filled in the ordinary way. At the other end of the bin there are two rings, for the purpose of lifting it in the way I will describe presently. That bin is provided with two flanges, which slide into a slot, which you will see just figured on the top of the other bin, on which it is designed to fit. The other bin I would call a tank, and that is capable of being fitted or laid into the existing carts. It is also furnished with a sliding door, also fitting into a grooved slot. The bin, lettered "A," is filled in the ordinary way, and by means of a small winch, which would be placed at the side of the cart, it is easily lifted by one man into its position on the top of the tank, with its refuse inside. It is laid in position and shoved with its flanges fitting into the grooved tank and into position; the sliding door of the tank is then withdrawn, and then the contents fall into the tank. It is then removed, and when it is carted away to a suitable goal for its reception, the refuse is removed in a similar way, by opening the dust-tight door of the tank. It is simply an improvement on the present existing method; and I think it would not only be an improvement in that direction, but would save time also, as I think that one man could manipulate this, he having the necessary machinery to raise this weight without the assistance of another. It would be practically dustless, of course—the rubbish would fall from one closed receptacle into the other closed receptacle.

1958. So far with regard to your improved dust-bin. Now, have you personal knowledge of the origin of any disease in Dublin from the condition of the dust-bins, or the system of removal of house refuse?—Well, I have not traced any case specifically, but I think it is a very undesirable thing to have it.

1959. Would you mention any diseases that you think might possibly be spread through the agency of these incomplete dust-bins and unsatisfactory removal?—Well, I think it quite possible that tuberculosis

might be spread, and also—more probably—typhoid, or at least, if not this, some forms of gastro-intestinal troubles, such as diarrhœa.

1960. Would it be possible for scarlatina to be spread?—Oh, very.

1961. Would it be possible for pneumonia to be spread?—It would be quite possible.

1962. What is your experience of pneumonia as a contributory cause of the high death rate?—I think it is one of the contributories at least.

1963. And an important one?—An important one.

1963A. You are anxious to tell us something about the proximity of manure heaps and water-closets to milk supplies from your personal observations?—Yes. Nearly all I intended to say about that has been already said, and the only thing I was wishing to say was that by some original experiments on the subject I satisfied myself and others that bacteria rise in the vapour which emanates from substances which contain these microbes, and are vapour-carried as well as air-carried. What I mean is that formerly it was understood that these microbes were carried in a dry state. I satisfactorily established that they were also contained in vapour which rises from the source of contamination, and I easily was enabled to infect milk by excluding all other modes of transit, and only leaving the vapour transit possible. And, therefore, in connection with these manure heaps, I think that, as they are a source of contamination, it is a dangerous thing to have manure heaps, especially when made up of materials such as I have described, in proximity to dairies, or in areas where there are dairies located.

1964. Is it your personal experience that such a state of things does exist in Dublin?—I think it does. In a place that I know of—in Marrowbone-lane, there is or has been—I have not seen it within the past few months—a large collection of such material. And you know from your knowledge of Dublin that there are a number of dairy-yards located about there—in Brabazon-street and Pimlico and those places—and, besides that, it is a densely populated part.

1965. Do you consider that this vapour conveyance of pathogenic bacteria would be in existence in connection with the ventilators in the streets—the sewer ventilators?—Yes, I do.

1966. The temperature of these sewers is sometimes very high?—It is, no doubt.

1967. Quantities of warm water are discharged into them?—Yes.

1968. And, as the ventilators ventilate the sewers, is it possible that bacteria would be diffused by that agency also?—It is quite possible; and in connection with that, last year, the Commission may remember, that we had rather a phenomenal state of things in the city of Dublin—namely, we had practically an open sewerage, and large evaporating surfaces of sewage material, which were thrown up in banks for the purposes of main drainage; and we had a rather warm and damp after part to the year up to Christmas, and I really do think that must have had an exceptional effect on the health of the inhabitants.

1969. And on the death rate?—And on the death rate.

1970. Is there any other point that you wish to bring before our notice?—These were the only two points that I had anything in particular to say about, and they bear upon each other.

Dr. Langford Symes examined.

1971. Dr. J. W. Moore.—You are a Fellow of the Royal College of Physicians of Ireland?—I am, sir.

1972. You are connected with one of our children's hospitals?—I am, sir.

1973. As physician?—Yes.

1974. Visiting physician?—Yes.

1975. You have paid considerable attention to the diseases of children?—I have for several years.

1976. And also to the literature on the subject?—Yes,

1977. You have written yourself on the subject?—I have.

1978. You are anxious to tell us something about the mortality of children in Ireland, and especially in Dublin?—Yes, sir; at the request of two members of the Committee I would like to say what I know on the subject. I will confine my remarks to that portion of the death rate which I particularly investigated with the late Dr. Grimshaw—namely, that of children under five years of age. These are some figures, and if you distribute them to the members of the Committee they will understand what I allude to. The returns are for the ten years from 1886 to 1896, from the annual reports of the Registrar-General, based on an analysis of 174,614 children's deaths under five years. In Table 1, you will see 28,517 were in Dublin, 26,110 in Belfast, 6,355 in Cork, and 2,696 in Limerick. You will observe that in Dublin out of every 1,000 children born, 171·2 died in their first year. This has improved, as I see, by the charts on the wall. What I speak of is the ten years ending 1896. By these figures it appears that the Dublin record is the highest in Ireland, but several of the English towns have far exceeded us in this matter; so Dublin is by no means the worst; in fact we compare satisfactorily with the English cities. In Liverpool, for instance, the figure was 180, and Manchester 177, and many others of them, I understand, are worse. Also, I draw attention to the fact that Dublin has improved in this matter; for, according to the paper that I have here by Dr. Grimshaw, which he kindly gave me, for the ten years ending 1888, it was as high as 184, whereas for the ten years ending 1896, it was only 171·2; and the charts on the wall will show that we are going down, and we are now only at 170·4. So that, while we may be high, Dublin is improving in the matter of infantile mortality. Turning now to children under five years, you will see that in Dublin out of every 1,000 total deaths children under five years contribute 306·2, or very nearly one-third of the total death rate. That is a large proportion. It means that one out of every three funerals in Dublin is that of a child under five. But Belfast is far worse than Dublin. The Belfast returns show that more than half the total deaths are of children under five.

1978. Right Hon. Alderman Meade.—Of the total deaths?—Out of every 1,000 deaths in Belfast 519·8 were of children under five years of age. That is, more than one out of every two funerals in Belfast, are of children under five. So, though we are high in Dublin we are by means the worst.

1979. That was for 1896?—The ten years ending 1896. The conditions of living in Belfast are, of course, different. Secondly, coming to the diseases which produced this death rate, the causes of the mortality you will see in Tables 3, 4, and 5. Table 5 shows the registered diseases and actual causes of these deaths for children under one year and for children under five years, and the most fatal—those from one to eleven—are the same for both ages. The Registrar-General's report does not specify these diseases, specially for our towns; but we know that these deaths occur mostly in our cities, and it may be taken as a proportionate distribution of the diseases that occur in towns. They show the causes of infantile mortality in their order of importance in Table 5. These figures show:—Atrophy; 32,062; convulsions, 25,261; bronchitis, 24,773, whooping-cough, 11,456; diarrhœa and dysentery, 8,383; tabes mesenterica, 7,564.

1980. Dr. J. W. MOORE.—That is tuberculosis?—Tuberculosis of the mesenteric glands. Then measles, 7,557; pneumonia, 5,868; croup, 5,509; tubercular meningitis, 5,069. Examining these diseases, one important fact is shown, that they are medical diseases and not surgical. So the subject of infantile mortality affects us physicians and not the surgeons. They evidently die from medical diseases, and I am of opinion that, in this respect, all our children's hospitals should have large medical wards, all of them under physicians, for the reception of these diseases.

1981. CHAIRMAN.—Are the numbers that are given as the deaths under five years exclusive of the ones under one year?—No; it includes them all. The second includes the first. The second are the totals under five years. Now, coming to the cause of some of these diseases, they are extremely involved, and I will select one with which I am thoroughly conversant. Diarrhœa epidemic is, I think, generally considered an index of the sanitary condition of towns. It is due to two causes:—first, unwholesome, improper, or excessive feeding—bad feeding; and, secondly, to infected milk. The children of the poor eat the most unwholesome things, and a great deal of dirt along with them. Among the upper classes the food may be unsuitable, but among the lower classes it is very often unwholesome and poisonous in addition. It is very remarkable that in times of great distress—such as the Lancashire Cotton Strike, and the Siege of Paris, the infantile mortality is largely reduced, and the adult increased, the explanation being that the scarcity of food compels the mothers to nurse the children themselves, and artificial feeding—the great cause of these deaths—is abolished altogether. Another cause arises from the ground surface. Every summer and autumn we lose thousands of children from diarrhœa; and it has been proved by Dr. Russell, by a series of investigations which he made in Glasgow, that it is not due, as was then thought, to the water, for he found the death rate from diarrhœa among children under five is exactly what it was thirty years ago, whereas for five years and over it is less by more than half, owing to the improved water supply. Therefore, improved water supply does not save our infants; but it does the older ones. It is in July, August, and September, when the air is very hot, from the heat of the summer, that the disease occurs, and it has been proved that it is due to bacterial fermentation in the surface of the ground which infects the milk, and these children are almost entirely fed on milk. Dr. Ballard, in reporting to the Local Government Board, in 1897, found that summer diarrhœa closely follows the indications of the 4-feet earth thermometer ——

1982. That is a thermometer four feet from the surface?—Yes. And it only begins when the temperature is over 58° F.; and in the food the micro-organisms develop as in the soil; and when the milk takes the infection—milk being the principal food of the children—they die from it. Hence, it is exceedingly probable, as he concludes, that the diarrhœa is due to germs in the surface of our ground in the superficial layers of the earth. All these diarrhœal diseases could be prevented by attention to the following three matters—the difficulty is in the organising of them:—first, feeding—the instruction on and regulation of children's feeding; secondly, purification of the ground and streets, and thirdly, purification of the milk. Milk laboratories have been established with that object in other places. In 1891 the first one was opened in Boston, and since then they have been opened in nearly all American cities, and in London and St. Helen's. In St. Helen's, last August, the Corporation opened an infants' milk depot for the supplying of children with milk, and a milk laboratory; and the experiment is being watched with interest. The milk is mixed with cream, sterilized lime water, sugar and distilled water, and it is placed in air-tight bottles. It is sterilized, and it is declared —and, indeed, it is a certain fact that it is perfectly free from germs; and it is distributed to the people of St. Helen's, and they have thus a supply perfectly free from germs. Instruction on feeding is probably outside sanitary affairs, but it counts for a great deal, and it is a measure which, I think, should be taken—in order to get the poor people instructed in the matter some way or other. With regard to the purification of milk, some such proposal as the following is suggested: that our cows should be grass-fed by pasture only; all stall-fed cows—if existing—should get green fresh food, and no fermented foods; they should have a pure water supply, and be kept very clean; the dairies should be carefully cleaned and washed; they should be examined, and healthy animals only allowed to be milked condemned animals should be at once removed. A Government licence should in all cases be obtained to sell milk, and cow-houses should be constructed so that they can be easily washed down with hose and water, and disinfected. Consumptive people should not be admitted to dairies; and the milk cans should be of regulation size and shape, so as to be cleansed with ease. If the milk is thus seen to in summer, this summer diarrhœa will entirely disappear.

1983. CHAIRMAN.—You are aware that there is a large amount of brewers' grains used in the feeding of dairy cattle?—Personally, I have no knowledge.

1984. Well, assuming that it is, do you disapprove of that?—I say it is worse than grass. I think grass is much better.

1984A. Mr. R. L. SWAN.—You mentioned fermented food. You mean food under fermentation?—Yes.

1985. Do you think that brewers' grains would be likely to produce that?—It would be quite likely to produce it.

1986. Right Hon. Alderman MEADE.—How would you feed the cows in winter?—I would give them hay, grass, and oats, or beet.

I am afraid you would not get much milk.

1987–8. Dr. J. W. MOORE.—With regard to the death rate from diarrhœal diseases, it was pointed out the other day by Sir Charles Cameron that that group of diseases was less fatal to infants in Dublin than in other large towns of the United Kingdom. Do you consider that that redounds to the credit of Dublin, or is it probably due to climatic conditions?—I think it may be both, because certainly climate is the prime cause, but dirt is also necessary, and in cities where the heat is greater than here they will naturally have a higher mortality from diarrhœal diseases—London particularly so. I was studying in London in 1896, when we had a very hot summer, such as last summer was, and the death rate in London from this disease was appalling. Another thing that we are fortunate in here in that respect is that the people are so poor that they cannot afford to feed the children artificially, and they nurse them till they are a couple of years old. That saves them from these diseases. They are fed with mother's milk, which does not poison them, whereas the other milk might not be pure in hot weather.

1989. Do you approve of that hyperlactation, or long-continued nursing at the breast?—No; certainly not for more than twelve months. I think, however, it would be better than taking poisonous milk. Then in measles and croup there is an enormous mortality among infants. Croup is really diphtheria, and it is more common than is generally known. It was proved by Sir Richard Thorne-Thorne that the cause of diphtheria is vegetable decomposition and damp. It is a germ disease, and is often due to the sub-soil water. And, therefore, the attention of engineers should be drawn to this matter, so they might investigate the sub-soil water as the cause of the diphtheria. Two more of the causes are tabes mesenterica and tubercular meningitis. The evidence given at the Tuberculosis Commission, which, I

think, is sitting now, would be very valuable as far as these go. Two more diseases—the first two and the main causes of the death rate among children—are atrophy and convulsions, which terms are undefined and insufficient, and at the present time, ill-understood. With regard to them, I will only remark that they point to the great necessity in Dublin of a well-organized children's hospital, where these peculiar diseases would be studied, and taught to students and nurses in the same way as they are on the Continent, in Edinburgh, in London, and other centres. These are the diseases from which children are dying, and they should be admitted to our children's hospitals as much as we possibly can, and instruction should be given on them both to nurses and students.

1990. With regard to the head "Convulsions," is it not quite possible that the convulsions were either the initial convulsions of a zymotic disease, or the terminal convulsions of a zymotic disease, or one of its complications?—Yes; but it might not have any relation to a zymotic disease.

1991. Did you see much of the recent epidemic of measles?—I saw a good deal of it in the locality of Leeson-park. I am physician to the Homes for Children, and we had forty cases there. I reported them to the Sanitary Authority, but I was told that measles was not notifiable.

1992. That was the Rathmines district?—Yes.

1993. You are aware that in a district only a few hundred yards away from that measles is notifiable?—Notifiable in the city.

1994. And also in the Pembroke township?—Yes.

1995. Do you think that that state of things is conducive to the working of the Notification of Infectious Diseases Act?—No; I think it complicates it immensely.

1996. How did you deal with the epidemic of measles?—I communicated with Cork-street Hospital, and they took four or five cases in; but the remainder were refused for some reason or other. We sent again; but they said they could not take them except under some peculiar regulations which the Trustees of my institution would not agree to. I was informed that these conditions were that children were to become paupers, or at least were to be entered through the Union into the hospital, and the Trustees refused to let them go. We had forty cases to deal with. The Meath Hospital took some, and Baggot-street Hospital also kindly took some.

1997. With regard to the treatment of measles, can you imagine a widespread epidemic of measles existing without the hospital accommodation running short in a populous city like Dublin? Is not the hospital accommodation bound to run short in a widespread epidemic of measles?—Very likely.

1998. Would it be a wise thing of the sanitary authorities to provide infectious hospital accommodation for a disease like measles?—Well, I must say I believe it would be, if it was possible.

1999. We found, the other day, that there were 690 deaths from measles, in Dublin, during the last six months of the last year. Have you any idea of what the average death rate from measles is?—No; I could not state it accurately, therefore I prefer not to give any figures.

2000. Well, in round numbers?—Do you mean the percentage of those affected who died.

2001. Yes?—I think a great deal in measles depends on the nursing, and I think that among the poor who are affected by it an enormous proportion die. But I think that in an hospital where the measles is taken care of the mortality from measles ought not to be high.

2002. If the poor population of Dublin were better housed and looked after, and taught the principles of sanitation, would it not be quite possible to have a measles epidemic dealt with in the homes of the poor?—It would be a great deal better than it is at present. But, summing up the subject of these children's deaths and their causes, the rational indication which seems to follow, is that the hospitals for our sick children should be improved, or amalgamated, and largely devoted to medical work under physicians; that those diseases should be taught both to students and nurses, and scientific instruction should be given. We see that the diseases are chiefly medical, and our surgical children's hospitals are not responsible for, and are no relief to the death rate at all, because the surgeons' children's hospital, although it does an enormous amount of good work, of which I am myself a witness in my own hospital, yet the cases are not the bad ones; and we are rather in want of a large medical hospital or large medical wards in all our children's hospitals. The surgical wards of these hospitals cannot be reproached for these deaths.

2004. There are three children's hospitals, at least, in Dublin?—Yes.

2005. Would you describe them all as surgical children's hospitals?—No; but I think in any children's hospital the majority of the work should be physicians'—as these statistics prove. I have no wish at all to depreciate the surgical work that is done; it is most admirable, and we could not get on without it, but I think there is a grave deficiency in our medical work.

2005A. Right Hon. Alderman MEADE.—What is the accommodation or number of beds in the three children's hospitals?—I cannot tell you. I think, also, that as to the food of these children and infants, some instruction should be given, and, as you say, to try and educate these people further—which, of course, is, perhaps, outside the Sanitary Authority; but I think it would be beneficial. I would like to call attention to some causes of children's deaths, which are really not within our reach, or a cause of sanitary blame in our city. This is a paper by Dr. Grimshaw, that he gave me. I refer, firstly, to the large proportion of the very poor in Dublin; secondly, to the inferior house accommodation of the artisan and labouring classes; thirdly, to the habits of the people, leading to negligence and drunkenness; and, fourthly, negligence with regard to the care of children generally, and sick children in particular. These are, as I say, matters which are, I think, outside our sanitary authorities, and I think our sanitary authorities are not to blame in this matter. They are social conditions in the lower grades of the people, which immensely influence the children's death rate.

2006. Dr. J. W. MOORE.—Have you cognizance of the intemperance amongst the poor?—I have copied the figures from Dr. Grimshaw. He contrasts the drunkenness and the criminal statistics of fourteen of the largest towns in the United Kingdom. In Table 10 you will see what I am referring to; and it will be seen that Dublin heads the list. They vary from Bradford, with a drink rate of 1·5 per 1,000 population, to Dublin, with 35·5; and the Bradford death rate is 19·2, and ours is 26·2. These, I should say, are the actual prosecutions in the police courts for drunkenness.

2007. Is it your experience, from observation or otherwise, that whiskey is largely given to children going into zymotic diseases, with the object of bringing the rash out?—Yes, it is very common. Poverty is also drawn attention to—it is very great, and it is very important. According to Dr. Grimshaw's figures, the professional and independent classes have a death rate among the children under five of 18·2 per 1,000 living at this age period; the next class, 59·8; the artisan class, 72; and the inmates of workhouses and general servants' class, 116·9—showing that the death rate of children under five is more than six times as great among the poor than amongst the rich. Poverty is an enormous cause of it. Another cause is the carelessness, and this is shown by the death rate of children

who are not certified at all. Of the total deaths at all ages, he shows in that report that 12·3 per cent. were uncertified, but for children under one year, 36·6, had no medical attendance at all, showing great carelessness.

2008. Right Hon. Alderman MEADE.—Whose paper is this?—A paper by Dr. Grimshaw.

2009. Covering what period?—The drunkenness is for 1886.

2010. One year?—Yes. The poverty is for the five years ending 1888. The house accommodation that he alludes to is from 1881 census, and in 1889 the certificates alluded to.

2011. Mr. R. L. SWAN.—Have you formed any opinion as to the advisability of closing schools during the prevalence of any epidemic of a zymotic disease, or made any difference between these diseases with respect to that advisability?—I think that it is a very difficult question, because the thing is isolation; and if there is infection in a school—I may state that the children that I attend at the Home for Destitute Children go to school, and this measles epidemic showed me the advantages and disadvantages of this—I think they should be kept from the public, as far as possible, and, if they go home, they might spread infection at home, and, if they go to school, their neighbours will get it. I would say, put all the children in the same house, and don't let them mix in public at all.

2012. We are talking of day schools?—I am speaking of a day school. They went to a day school in Leeson-park, and I prohibited it, and kept them in their own house.

2013. Then you think it better not to have the school business proceeding during such an epidemic?—I kept infected children away from it.

2014. Would you prevent the attendance of a tuberculous child from school at any stage of the disease?—Where it is distinct and can be detected I think so, if it could be carried out. Tuberculosis is a communicable disease, we know, now, and it is very likely to be communicated in the school.

2015. Would you be in favour of notifying the existence of tubercular diseases in a child to some authority that would take cognizance of the fact?—I would; but I think the system under which it is to be notified should be modified from that under which we deal with scarlatina, and other diseases of that kind. Our present regulations do not provide for it. No doubt the Tuberculosis Commission will deal with that matter. I think the medical officers of health should know where they are, and not to allow them to mix with other people, if possible.

2016. Right Hon. Alderman MEADE.—You had to deal with forty cases of measles, I think?—Yes; in a home.

2017. And the result of your own treatment of the forty cases was very favourable?—All recovered. Two that were sent to the hospital died; but they may have been worse cases—not due to the hospital.

2018. Therefore, measles, from the beginning, is not a very deadly disease?—I do not think so—if properly cared for; but among the poor, when neglected, and treated at home, I think it is an immensely fatal disease.

2019. Amongst the poor, is it not the case that in the early stages it is thought to be a simple cold?—Yes.

2020. And it is after the rash breaks out that they look upon it as infectious?—Yes.

2021. And the difficulty of treating it is very much increased?—It is.

2022. Dr. T. THOMSON.—You are in favour of hospital accommodation for measles, I gather?—Well, as Dr. Moore has drawn attention to it, it would be an enormous thing to do; but I certainly would not approve—as a sanitarian or as a physician—of letting it run riot.

2022A. Do you recognise that a measles epidemic, owing to its rapidity of development, and the enormous number of cases to be dealt with, may be such that to provide hospital accommodation sufficient for an epidemic at its height would be a very serious matter?—I have no doubt it would, but at the same time the death rate is so high from measles, that it demands some attention. I do not say we are deficient in that, but it certainly is a thing that we cannot neglect, as a prevalent cause of death—whether by instruction—and I think that would cost nothing—or otherwise.

2023. Looking at those figures that you put in regarding drunkenness in Dublin city, I see that your conclusion that in Dublin there is an unusually large proportion of drunkenness, is based solely on the criminal statistics of Dublin and other cities?—Yes; of course, that is not my work, but I produce it because the late Registrar-General was very intimate with the subject, and I thought it right to call attention to it. It is entirely based on criminal statistics.

2024. No doubt you are aware that there is considerable room for mistaken deduction from statistics of that sort, because in some towns the police may be much more stringent than in others. You recognise that?—Yes.

Dr. NINIAN FALKINER, called and examined by Dr. J. W. MOORE.

2025-6. You are a Graduate in Arts and Medicine of the University of Dublin, and a Diplomate in State Medicine or Public Health?—Yes.

2027. You are also one of the Medical Officers of No. 4 South City District?—Yes.

2028. The population of it has been before us, I think?—The population is about 35,000.

2029. And what is the density?—It is very hard to say, because it includes the principal squares of Dublin and Trinity College, so that it would be hard to say what the density is. It is very dense, however, in some parts—in the bad slums.

2030. You were asked by Sir Charles Cameron to report on the causes of the high death rate last autumn?—Yes.

2031. At the time you were asked for a report influenza was not epidemic to any extent?—No.

2031A. It was afterwards that it became epidemic?—Yes, it commenced about the end of the year; measles commenced about the end of August, and ran on to December.

2032. Your opinion, under date December 7th, 1899, was that the epidemic of measles then present in the city had a great deal to say to the high death rate?—Yes.

2033. For what reasons—the type was severe?—The type was severe, and the weather, also, was getting severe.

2034. The type was severe?—Yes.

2035. You are of opinion that the measles cases were very susceptible to secondary infections?—Yes.

2036. The cases were in young children?—Yes; all nearly under four years of age, just marking the recurrence of the last epidemic.

2036A. Had you reason to believe that the death rate from measles so increased it? I want to see if you agree with Mr. Matheson's view that people take a fatalistic view of the disease?—Oh, yes, I think so.

2037. There is a widespread opinion that a child must have measles?—Yes, that is so.

2038. And that they cannot grow up to manhood or womanhood without having measles?—Yes, that is the view taken.

2039. Does not that opinion also prevail as regards more serious diseases like scarlatina?—I think so.

2040. Your experience in the dispensary was that you were not called in to see cases at the beginning?—In a good number of cases, but not in all; and in a great number of cases I was not called in at all. I have a list of the number I attended, and they were all serious cases, and with serious complications. I was not called to half the number of cases of measles that I attended, nor one-fourth, nor one-tenth. It is when the children get bad with pulmonary affections that they send for the doctor.

2040A. With what object is it that parents sometimes send for the physician in such circumstances?—I don't want to make any very general statement in the following remark, but I think in some cases, but by no means in the majority, they send in order that the doctor may certify.

2041. In order to have a medical certificate of the cause of death?—Yes; but that is not a frequent cause, but it does happen occasionally.

2042. Why is it that dispensary patients are so anxious to get medical certificates of the cause of death?—Because it means they are to bury the children. They have no money, and they object very much to burial by the poor law authorities, and all the family are often in a burial society—they pay a penny or a halfpenny a week, and they get a few pounds to bury when the child dies.

2043. Your experience is that there are a great many young children in Dublin insured, in fact?—Nearly all in those burial societies, nearly all.

2044. Well, now, what was it brought about death in the case of many of these children, aided by surrounding circumstances?—Pneumonia—broncho pneumonia.

2045. With complications?—I saw three cases of cancrumoris and meningitis. I think those were the causes of death—pneumonia in the majority, cancrumoris in at least three cases, and several cases of meningitis. The meningitis cases did not all die; some recovered under treatment, so that it was not tubercular.

2046. Were the surroundings of many of the fatal cases unsatisfactory?—Very bad; in nearly all the fatal cases the surroundings were bad.

2047. Was there a great want of means for keeping the children warm?—Yes.

2048. Is it very necessary to keep them warm in measles?—Yes; the more ordinary treatment was to order a large sheet of cotton wool and liniment, and have the children wrapped up, and give them a mixture.

2049. Was there a failure of proper nourishment?—In a great many cases.

2050. With regard to the treatment of cases in their own homes, had you a difficulty in getting cases into hospital that you recommended?—There was a complete break down at the time; there was no hope whatever of getting children into hospital at the time; it was impossible; there was no place for them; I tried and failed.

2051–5. Had you reason to believe that the available beds were all occupied?—I know nothing about that, and have no means of knowing.

2056. Are the people very considerably overcrowded?—I don't know; I have a long list of tenement houses that I think ought to be closed, in my district, but I don't think there is very much overcrowding amongst the poor in my district.

2057. You reported to Sir Charles Cameron that you found four children ill in the same bed?—Yes; I found four children ill in the same bed on more than one occasion. On one occasion, they all recovered; they were living in a small room at the top of the house. In another case three died; they all had pneumonia. In another case, three children died in the same house; the woman was a widow, and was badly off, and there was a tubercular taint in the family; I had attended the father, who died of tuberculosis. Those three are very prominently in my mind.

2057A.—Everyone knows your conscientiousness, Dr. Falkiner, as a dispensary doctor; were you of opinion, during the recent epidemic, that you should have had assistance in your dispensary district—medical assistance?—I had better tell you what occurred. When the weather was getting severe, and the epidemic increasing, on the 16th October I made a note in the return which I make to my Dispensary Committee. The note was—"The epidemic of measles is increasing, its type is severe, and the weather is getting severe also; I would recommend, as there is no hospital accommodation"—that is the time we were suffering from that want—"I would recommend that district nurses specially appointed for fever cases should be appointed, and that some ready means should be obtained for getting the ordinary necessities of life for these children, who were dying like flies from what was really a terrible plague in the city." My Dispensary Committee wrote a most civil reply ——

2058. Did you make that communication to the Dispensary Committee?—Yes, and they made a civil reply, and sent forward my note to the Board of Guardians. It was discussed there, and the Board of Guardians repudiated their responsibility as the sanitary authorities, and said the Corporation were the sanitary authorities; and the thing ended there.

2059. Did you know of the change of authority under the Local Government Act?—Well, I did not know; I was not aware of it exactly; I did not know they lost it.

2060. Has not that change proved a misfortune within the last year?—It is not fair to be too critical. Things are in a state of transition, and it is hardly fair to be too critical about the change in the system of legislation. That is the difficulty we were labouring under last year. Allow me to say, with reference to the Public Health Department of the Corporation, that it is always, up to this breakdown, most admirable in its reception of any appeals I have made to it in going through my poor law practice.

2061. At all events, you asked for nursing?—As there was no hospital accommodation, I asked for the next best thing to it—that two nurses should be appointed.

2062. You are aware that we have in Dublin two excellent institutions?—I am; and I hope to say something more about it.

2063. I should like it mentioned that we have in Dublin two excellent nursing institutions, the object of which is to supply district nurses for work amongst the poor—I allude to Queen Victoria's Jubilee Institute Fund, embracing St. Patrick's Home and St. Lawrence's Home. You are aware that these nurses are not allowed to attend infectious cases?—I employ these nurses largely, and this accounts, if you will allow me to tell you, for the low death rate in my district by the devotion of their work; but it would be absolutely wrong for me to send these nurses, who attend ordinary medical and surgical cases, to fever cases, and people who are at present benefiting by their services would refuse, and very properly refuse, to have them. It would be a crime to send these nurses to infectious cases.

2064. Do you consider, as a Diplomate in State Medicine, that it would have been of great assistance to dispensary medical officers, when hospital accommodation broke down, if a band of trained fever nurses had been supplied, and sent into the districts?—I think that not only a band of trained nurses should be sent, but also extra doctors. It was a cruel thing to the people themselves, to put

the amount of responsibility and work on the dispensary doctors of Dublin, which they had at that time.

2065. Did you find it impossible to see the cases within a reasonable time?—I always saw my cases; and I have seen some measles cases and pneumonia cases sixteen times.

2066. You recommended to Sir Charles Cameron that a shed should be built to accommodate 600, and which would be in a fever locality?—Yes.

2067. Is there such a locality?—There is, I believe; and that shed has been built.

2068. Where?—In the grounds of Cork-street Hospital.

2069. But there was no money to open it?—No; it was a pity a little hitch occurred.

2070. Do you call it a little hitch?—Well, it resulted in very serious consequences; but it is over now, and cannot be helped. It should not be allowed to occur again.

2071. I gather from the list of causes that you suggest that your opinion is that the tenement houses of Dublin are in a very unsatisfactory and dirty state?—I have made a few notes about the tenement houses. Although, as I said, my district includes a number of the squares of Dublin, it also includes most fearful slums.

2072. CHAIRMAN.—Have you charge of the entire district of No. 4 South?—No; I have the western portion of it. My colleague's tenement houses are not quite so bad as mine. Townsend-street is a main artery of my district, and the houses in it are in an unsatisfactory condition; and, for your help, I have got a list of the houses which I consider in an insanitary condition, and I have also got the number of families, the number of rooms, and the number of persons.

2073. Dr. J. W. MOORE.—Have you sent that list to the Public Health Committee?—I have not.

2074. Or have you been in communication with the Public Health Committee?—Not exactly about this list; I have it only for the last two or three days.

2075. When you find an insanitary tenement house, what steps do you take?—I report it to Sir Charles Cameron directly.

2076. That is not the universal practice?—It is the rule.

Dr. J. W. MOORE.—We had evidence to the contrary the other day.

Right Hon. Alderman MEADE.—It ought to be the rule, and I believe it is the rule.

Dr. J. W. MOORE.—It ought to be the rule.

Witness.—Thinking this list might be of use, I have made it out, and I want to suggest an idea that has come into my mind. Sir Charles Cameron, some time ago——

2077–80. Right Hon. Alderman MEADE.—Are you going to refer to specific houses?

Witness.—No.

Right Hon. Alderman MEADE.—I was going to tell you that you are not protected, in reference to your evidence, if you injure any one.

Witness.—I am not going to do anything of the kind. Sir Charles Cameron, some time ago, told me that he had a scheme—he is only anxious that there should be a scheme to improve the housing of the poor people of Dublin—he told me he had a scheme where half a million of money might be spent in doing away with the worst class of tenement houses, and building proper accommodation for the poor people at present living in them. It is quite obvious you cannot turn 500 people out in my district, without providing some accommodation for them. It is the great difficulty that I and Sir Charles Cameron are lying under, that if we close these houses the people would have to go to probably worse ones.

2081–83. CHAIRMAN.—500 persons, or 500 families?—500 persons—I am talking of my district. These are houses that ought to be closed, or very much improved. I would suggest that, say, five houses in each dispensary district should be, on consultation between Sir Charles Cameron and the medical officer in charge of the district, closed every year; but that before they are closed accommodation should be made somewhere by building proper accommodation for the tenants at a low rate, and then, as soon as the buildings, to give occupation to, say, 200 or 300 of the population, are ready, the houses should be closed. That would be commencing to do a little.

2084. Right Hon. Alderman MEADE.—How many dispensary districts are there?—Eight, altogether; four on the north side and four on the south side. Supposing 100 of the worst houses were closed every year, a good deal would be done in that way. There are a great number of sites at present occupied by closed houses—why should not these be obtained, and the ruins pulled down, and proper tenements built? I don't see that this suggestion is Utopian. I think it is practicable, and I take the liberty of making it. As regards tenement houses, I must say, besides tenement houses, I would divide the owners of tenement property into classes. There are the owners of tenement property, who are very nearly as poor as the people whom they act as landlords to. These poor people are constantly about the houses, and, although the house is tottering and, in my opinion, unfit to inhabit, they are doing their best, and spending time and attention on it. Then, on the other hand, there are the houses which are in the hands of agents, who take more or less trouble about the business; and there are some important or wealthy owners of property in my district who repeatedly refuse to obey the law. Although approached over and over again by the sanitary authorities, they come into court and get disobedience notices served, and they won't do anything. I would be glad that those gentlemen would make up their minds to obey the very courteous methods Sir Charles Cameron always takes, and have the places put into order. Another point about tenement houses is that I consider that the law which is in existence, and which is not carried out, should be carried out, namely, that the tenement house property should be whitewashed twice a year. That is not carried out because, I believe, the Corporation won't take the responsibility, and the owners won't do it. If systematic and antiseptic whitewashing was carried out in the tenement houses of Dublin, the death rate would diminish. Whitewash in itself is antiseptic, and whitewash containing sulphate of iron and chloride of lime is antiseptic. I made suggestions of this kind, but there is a difficulty about it, and they have not been carried out to my satisfaction. Another point I might mention in connection with the tenement houses is the dust-bin system, and I think the dust-bin system is a capital one, but, unfortunately, they are left outside the hall doors of houses for a long time, exposed to the inclemency of the weather. In Fitzwilliam-square, every morning, I see the contents being blown about, and I see unfortunate people, who live by picking up rags, working away and throwing the refuse about the streets. It should be compulsory on owners of houses to sprinkle the dust-bins with some antiseptic solution. It is well known that the bacteria which are so fatal to the human race, are, kept in liquid condition, inocuous if they are protected from being blown about. They really, except in drinking milk and water, are not very dangerous. If the dust bins were kept moistened with an antiseptic solution, a source of danger would be avoided. I think that is all I have to say on the subject of tenement houses.

2085. Dr. J. W. MOORE.—The provision of the law to which you refer as regards whitewashing or lime-washing, is the 93rd section of the Public Health (Ireland) Act of 1878. It says—"The

keeper of a common lodging house shall, to the satisfaction of the Sanitary Authority, lime-wash the walls and ceilings thereof in the first week of each of the months of April and October in every year, and shall, if he fails to do so, be liable to a penalty not exceeding forty shillings, and, in the event of such failure, the work may be executed by the Sanitary Authority, and the cost recovered in a summary manner." That is the provision to which you refer?—Yes; that is not carried out to my satisfaction.

Sir *Charles Cameron*.—That is for common lodging houses; it does not refer to tenement houses.

Right Hon. Alderman MEADE.—That is in reference to common lodging houses.

2086-7. Dr. J. W. MOORE.—Were you under the impression that it did apply to tenement houses?—I was; but I have been misinformed. I would suggest that the Corporation should make a bye-law to that effect.

2088. CHAIRMAN.—There are two classes of lodging houses referred to—one, common lodging houses, and the other, houses let for lodgings other than common lodging houses. A tenement house comes under the last category?—Yes.

2089. For which bye-laws are being framed now?—Yes.

2090. Right Hon Alderman MEADE.—There is no provision in the Act for tenement houses?—That is the reason it has not been carried out; but it would be a very good law to make.

2091. CHAIRMAN.—There is no provision in the law, but the Sanitary Authority are entitled to make bye-laws for cleansing and lime-washing, and for the paving of courts and yards?—I would suggest to the Public Health Committee to make that bye-law.

Sir *Charles Cameron*.—In the new bye-laws we provide for everything relating to the cleansing, periodical and otherwise, of the house.

2092. CHAIRMAN.—These bye-laws have not been confirmed yet?

Sir *Charles Cameron*.—No.

2093. Dr. J. W. MOORE.—With regard to tenement houses, you think that the owners of these houses should be compelled to employ charwomen to wash the stairs twice a week?—Yes.

2094. The staircases are sometimes very defective?—Yes; and the people in the lower part of the house have all the trouble from the people belonging to the other part going upstairs.

2095. Would you admit that to wash the staircases may lead to a positive nuisance; they consist so largely of rotting wood, and the soap and water may remain in the wood for a long time?—I don't think there would be danger from soap and water.

2096. In the early stages of an epidemic would you rely on isolation and disinfection?—Yes.

2097. And, if the epidemic continued to spread, on the closing of schools—that is a point I want your opinion on as a sanitary expert—the closing of schools you say here, and it leads me to think that you are referring to day schools, that there should be a special inspector to warn parents in whose houses there might be infection not to send children to the schools from such infected houses?—That refers to day schools.

2098. Would you recommend the closing of boarding schools?—No.

2099. Might not the closing of boarding schools lead to the dissemination of danger?—Yes; they would in fact be very good hospitals. By closing them there would be a danger of spreading disease through the country, and the danger of travelling if they are affected. I listened to Dr. Langford Symes' evidence, and the cause of his great success was that he had them in school as if they were in an hospital, and he had them under his own admirable care.

2100. Now, as to closing day schools?—It is a very serious question.

2101. You would advocate the closing of schools during an epidemic of measles?—Yes.

2102. Right Hon. Alderman MEADE.—During an epidemic of small-pox or scarlet fever would you close the schools?—Scarlatina or small-pox are not so dangerous, to my mind, as measles. I don't think I would close the schools in small-pox or scarlatina epidemics, but I think it is of great importance in the case of measles.

2102A. Dr. J. W. MOORE.—Is not it a great deal easier to check the spread of small-pox in the earlier stages than measles?—I don't think it is; but, as I have already said, I think the fatalistic view comes in in the case of measles.

2103. That is that nothing is done to check the spread of it?—Just so; nothing is done in the case of measles by the parents of the children.

2104. And measles is so readily infectious—you and I agree upon that?—Yes.

2105. Mr. R. L. SWAN.—Is it not the duty of the Board of Guardians to provide medical officers to attend the sick poor?—Yes.

2106. Don't they do it?—Yes.

2107. And medicines and comforts?—Yes.

2107A. Is it not their duty to provide nurses for the sick poor?—They have to provide midwives; but I don't think the Act of Parliament says anything about district nurses. There is a good deal of red-tapeism in the matter of dealing with the sick poor, and I don't think it is right that there should be.

2108. Is it not the law that the Sanitary Authority should provide nurses for the sick?—I don't think it is.

2108A. Are you aware that such bodies have been asked to provide nurses for the sick, and that they have said they had not the power?—I think there is no power. I might add that the comparatively low death rate in my district is largely due to the great skill and attention of the Queen nurses; and I think the law should provide a district nurse, paid by the Guardians, in every district in Ireland. In cases of epidemic an additional nurse ought to be appointed by the Sanitary Authority.

2109. Thank you; that is what I wanted to get at.

2110. Dr. J.W. MOORE.—Sir Charles Cameron mentioned some sections of the Act of 1878 which were not put in force, dealing with these cases; now, I have an idea that the sections are permanently in force?—Yes, they are in existence still. The Sanitary Authority would have the power to appoint medical men and anything else under the Order of the Local Government Board.

2111. The 149th section provides that the Local Government Board may, from time to time, alter and revoke the regulations for all or any of the following purposes—(1) for the speedy interment of the dead; (2) for house-to-house visitation; (3) for the provision of medical aid and hospital accommodation; and (4) for the promotion of cleansing and disinfecting, and otherwise guarding against the spread of the disease." Now, medical aid includes nursing, to my mind?—It ought to include it.

2112. Sir *Charles Cameron*.—I believe that was only intended to be done in cases of outbreak of cholera. It has not been done in my time even in cases of small-pox.

2113. Dr. J. W. MOORE.—Cholera is not endemic.

2114. Dr. T. THOMSON.—I believe you have some statistics with regard to the population of the tenement houses in your district?—Yes.

2115. Will you give us the number of houses of this kind in your district?—I can do so.

2115A. These are the houses you would wish to have closed?—Yes.

2115B. Give us the number of houses, the number of rooms, and the population of the houses?—There are 171 families.

2116. In how many houses?—In 288 rooms.

2117. How many persons in all?—642 persons.

2117A. Right Hon. Alderman MEADE.—How many houses?—Thirty-four.

2118. Thirty-four houses—how many persons did you say?—642.

2118A. Dr. T. THOMSON.—Will you give us that table in regular form?—I find now there are thirty-six houses, not thirty-four, 171 families, 288 rooms, and 642 persons. I will check these figures again and send them to the Committee.

2119. Subject to correction in small details, these figures are correct?—Yes.

2120. CHAIRMAN.—You will get a printed proof of your evidence, and you can make any needed corrections.

2121. Dr. T. THOMSON.—According to your figures each family has more than one room on the average?—Yes. I don't think they are overcrowded in my district.

2122. You don't complain of the rooms in the tenement houses being overcrowded?—No, not in my district.

2123. Generally speaking, you do not regard these houses as being kept in an exceptionally bad sanitary condition?—They are not.

2124. Do you regard the sanitary accommodation as adequate?—No. I do not consider that one water-closet for six families is adequate.

2125. Is that the average in your district?—It is.

2126. Would you suggest that the sanitary accommodation should be increased?—I would.

2127. With regard to the paving of the yards in your district, what do you say?—I cannot say much about it. Some of the yards are paved and some are not.

2128. In wet weather the unpaved yards become dirty?—Yes, they become incubators of disease.

2129. Does that discourage cleanliness in the houses?—Very much.

2130. Would you suggest that these yards should be paved?—Yes.

2131. Have you in your district many lanes or alleys not under the control of the Corporation?—There are not many. There is one in particular that is a great trouble at present.

2131A. What is yourobjection to it?—It is simply an ashpit.

2132. Dr. J. W. MOORE.—Isn't there one next your own house in Lower Leeson-street?—I think the Corporation takes charge of that. It is a *cul de sac*.

2133. Dr. T. THOMSON.—What do you suggest about that place?—I suggest that it be whitewashed and put in charge of the Corporation. The President of the College of Surgeons is interested in it, and he has promised to bear his share of the expense.

2134. Mr. R. L. SWAN.—I can bear out Dr. Falkiner's statement. It is shocking and disgraceful, and cannot be kept right.

2135. Right Hon. Alderman MEADE.—The lane that you speak of as being particularly bad is that between Townsend-street and Brunswick-street?—Yes.

2136. Dr. T. THOMSON.—Your mortality figures had reference to the epidemic of 1899, and principally concerned measles and influenza?—Yes.

2137. That was a temporary thing?—Yes; apart from that, the death-rate from the condition of things in Dublin is higher than you would care it to be. I am Registrar of the district, and I have registered 165 deaths since the first of this year.

2138. What is the population of your district?—35,000.

2139. Right Hon. Alderman MEADE.—That is of the whole district?—Yes.

2140. And these were the deaths in the whole district?—Yes.

2141. Dr. T. THOMSON.—How many deaths in your own immediate district?—I have made over 1,600 entries in my medical book, but I have only signed eighteen death certificates. That does not include cases sent to the Union Hospital. It is only the old and infirm and neglected people who go to the Union Hospital from my district, as there is no room for others. I don't consider that there has been at all a high death rate in my district. I give the district nurses full credit, and I believe they have had a great deal to say in keeping down the death rate. There are lots of people who must die if not looked after.

2142. I don't want the death rate for a short period—what is the death rate in your district for the last ten years or so?—I think it is lower than generally in Dublin. It is down near the river—which I think is in its favour—and I think the statistics will show that it is one of the healthiest districts in Dublin. It has many open spaces.

2143. Dr. J. W. MOORE.—The figures are available and can be got?—I think they are in the Registrar-General's Office.

2144. Dr. T. THOMSON.—If the whitewashing were carried out in the summer it would reduce zymotic disease very much?—Yes.

2145. And if the yards were paved it would reduce it still more?—Yes.

2145A. And you think that if the sanitary accommodation were improved, it would help still further in that direction?—I believe it would improve the public health of my district enormously.

2146. Alderman DOWD.—What is the height of the tenement houses you spoke of—how many stories?—Most of them are big houses of three or five stories each.

2147. Do you think it would be well to have water up to the top of these houses?—Yes; it would be of great benefit.

2148. From a sanitary point of view?—Yes

2148A. And you would have the means of carrying away the waste water as well?—I would; as it would enable them to live in comfort in their rooms. These poor women cannot have a servant, and it is a great hardship on them to have to carry water up and down several stairs.

2149. Where there are five or six families in a house how many water-closets would you suggest?—If it were possible I would have a water-closet on each landing; but that might be too much to expect. But there ought to be at least two water-closets; one for males and one for females.

2150. Right Hon. Alderman MEADE.—Would you put these in the yards or inside the houses?—Outside if possible.

2151. You would have two for each tenement house?—Yes; for each four-storey tenement house. I would like to say one word more—it is on an important subject—that is, the question of tuberculosis. I have adopted (as Sir Charles Cameron will tell you) a plan of writing a special report to him in all cases of pulmonary tuberculosis that I come across in public practice. Not only do I do that—call the attention of the Public Health Committee to it, but when deaths occur I have succeeded in getting the rooms disinfected. The reason I mention this is, I believe the Corporation have the power to make a bye-law to that effect, and I would strongly and respectfully recommend the Corporation to make a bye-law asking the public doctors to give notification of these cases; and also to have the rooms disinfected when the patients die. I would not go for anything more stringent at present. That is the first step to be taken. These unfortunate creatures lie dying for months sometimes, and the sanitary inspector should be obliged to visit all the cases notified by the doctors and give proper instructions, and then some lady inspector would go and see that proper precautions were taken with regard to ventilation and the destruction of sputum. I read a paper on the subject ten years ago, and I saw that Dr. M'Vabe, in opening a discussion at Glasgow recently, dealt with the suggestions and recommendations in that paper. There is a great tendency in legislation to put increased duties on dispensary doctors without extra remuneration; and if the legislation I refer to is introduced, I hope my colleagues will be properly remunerated as I

do not want to suggest that the duties of the doctors should be enlarged without increased remuneration.

2152. CHAIRMAN.—You are aware that, under a section of the Notification of Infectious Diseases Act, "the Sanitary Authority may, by resolution, apply to have included any infectious disease other than those diseases specifically mentioned in the preceding clauses"?—Yes.

2153. Would you propose that a resolution should be passed to include tuberculosis?—Yes. There is a great deal of difference of opinion among medical men about the notification of such diseases; and, although the majority of the profession are against notifications of tuberculosis, I am in favour of it, because I think the only chance of doing any good is to know what you are dealing with, and we cannot close our eyes to the number of tuberculous cases we have. I think the Public Health authorities should know how many cases of pulmonary tuberculosis there are, and that they should be empowered to take precautions to protect the people who are brought into contact with such a dangerous infectious disease.

2154. Alderman DOWD.—You are aware that we have also sanitary inspectors at present?—Yes.

2155. Would it be their duty to do this that you suggest?—I think it would take a special inspector the whole day to go round. I think it would take one inspector for this business alone.

2156. Right Hon. Alderman MEADE.—Do you say these patients ought to be removed out of their rooms, or that the healthy people should be separated from them?—It is impossible to do that; but precautions can be taken to protect the health of the people living with them.

Mr. DANIEL M'GRANE examined.

2157. CHAIRMAN.—You are the Superintendent of the Cleansing Department of the Corporation?—Yes.

2158. Several witnesses have alluded in their evidence to the system of scavenging in the town; and would you, Mr. M'Grane, give the Committee some particulars of the staff in daily work in your department, and then what further information you have about the method of working?—The number of men employed is 590, disposed as follows:—Scavenging streets and lanes by day, 350; domestic scavenging and sweeping by night, 96; cleansing tenement yards and urinals, 72; depots, stables, forage lofts, workshops, &c., 72—total, 590. The average number of horses employed is 150.

2159. What are they employed at?—Fifty at street cleansing; 20 at the emptying of private bins; 40 at tenement bins; 20 at ashpits; 10 at street-sweeping machines; 3 under private cars, and the average number of sick is about 7. With regard to the amount of scavenging work done, though I have not the complete statistics in connection with it, I can go upon 1898:—From the paved streets, lanes, and markets, 57,524 loads were taken; from macadamised streets and roads, 35,560 loads; from ashpits, 34,864 loads; and from dust bins, 43,923 loads.

2160. Right Hon. Alderman MEADE.—Why do you make a difference between ashpits and dust-bins?—The old ashpits are cleared at night and the dust-bins are cleared in the morning.

2161. I didn't think you had so many ashpits left?—We have a good many still, but the number is coming down every year.

2162. Dr. J. W. MOORE.—From these figures, one would infer that about three-fifths of the refuse is still deposited in the ashpits of Dublin?—You mean the dust-bins and ashpits together.

2163. Right Hon. Alderman MEADE.—It is about three-eighths.

2164. Dr. J. W. MOORE.—Very well.

2164A. CHAIRMAN.—Does the watering of the streets come under your department?—It does, sir.

2165. What work is done in that way?—We put 107,352 loads of water on the streets during the year 1899.

2165A. Give us some particulars of the work of cleansing?—The principal streets of the city are swept six nights in the week, and the stuff carted to the various depots in the early morning. The greater portion of the lanes in chage of the Corporation are cleansed daily, in the afternoon. In addition, a number of men are employed in the daytime collecting refuse from the principal thoroughfares into hand-carts; they collect paper, post cards, and such like.

2166. Now, with regard to the dust-bins?—There are about 10,000 dust-bins at present in use for private and business houses. These bins are placed on the kerbstone by the owners every morning, at an appointed hour and are emptied by the cleansing staff at various times, but all are supposed to be lifted before 10 o'clock in the morning. It was stated here to-day that in one instance they were not removed before 12 o'clock. Does that often occur?—That could not have been in a principal thoroughfare.

2167. Right Hon. Alderman MEADE.—In Georges'-street court?—That is a court, but a very good court all the bins are within ten or twelve yards; but in most of them the bins have to be carried eighty yards or more.

2168. Alderman DOWD.—The cart cannot go into the court?—No. This is one of the best courts in Dublin. But in thousands of cases the men have to go into the houses for the bins, and have very long distances to carry the bins to empty the contents into the carts.

2168A. CHAIRMAN.—What about the tenement dust-bins. These are emptied three times a week, and our men have to go into the yards and carry the bins to the carts in the streets. This is a very tedious and costly process, as in very many cases the men have to go, as I have said, eighty yards for a bin, empty it into the cart, and carry it back the same distance. There are 6,000 of such bins in use. We have some very bad cases to deal with in connection with these dust-bins. There is one in Francis-street, where the men have to go up three flights of stairs, along a narrow passage, get the bin, bring it down the stairs, and out to the cart, and a bin like this must be full of filth of every description. When the dust-bin system was introduced it was not the intention of the Public Health Committee that the bins should be used as a receptacle for all kinds of slops and filth; but, unfortunately, in nearly every case, these bins are used for such purposes, thereby causing a very great nuisance both in the yards and in their conveyance to the carts in the street. If, as intended, they contained only dry ashes and other refuse that could not be put into the water-closet, there would be no objectionable smell to the passers-by. When I asked why such stuff was put in the bins I was told it would give the Corporation men something to do. I then got this book made up to show the work we had to do, and the loss of time for men and horses caused owing to the distance these bins had to be carried and brought back again.

2169. Then, any objectionable smell that may attach to these dust-bins is caused by the wrong use of them?—Yes. If you throw water on ordinary ashes it will cause a smell, but none will arise from dry ashes. Of course, it is not very pleasant to see a bin at any time on the street during business hours if it could be avoided.

2170 Is there much dust blown about in the process of emptying the bins into the cart?—There must be. We have tried every means to prevent it. We got iron lids, but they broke them up.

2171. Now, as to the cleansing of the tenement yards?—The number cleansed at present is 5,006.

The cleansing consists of the sweepings of tenement yards and the washing of closets. The staff take a note of any sanitary defect, which is conveyed by the Inspector to the Office, No. 15 Wood-quay. During the year 1899, 1,723 such cases were forwarded by me to the Superintendent Medical Officer of Health—Sir Charles Cameron. I am strongly of opinion that all the tenement yards in the city should be concreted in order to enable them to be properly washed.

2172. CHAIRMAN.—When you reported those cases to the Public Health Department, did they deal with them?—Oh, they did; but in a great many cases the Public Health Department have to notify the landlord.

2173. You don't do it?—I have nothing to do but send the docket to them.

2174. You have a destructor?—We have.

2175. What work is done by it?—We burn principally in the destructor the materials from O'Connell street, Grafton street, and all the big thoroughfares where there is most stuff, and it includes paper, cinders, hat boxes, and every class of refuse from the different big shops in Dublin. The destructor burns on an average 180 loads a week, and that is as much as we can do in the twenty-four hours. Our men work on seven days in the week in order to keep that up; for if we left off one day, we would lose a great deal the next day before we could get her heat up, and we would not do the necessary amount of work.

2176. What is the size of the destructor?—It has four big cells, and they burn close on 10,000 loads in the year. That eases us, as we have no place into which to put the stuff except the destructor and the barge.

2177. As to the barge, what refuse goes into it?—All classes. All the mud from the centre of the city that we cannot get to the outside depots—which would be a journey of a couple of miles—goes into her. A great portion of the tenement dust-bins also goes into her, and a very small quantity of the night ash-pit stuff—dry ashes—and any amount of stuff that is not useful for manure.

2178. What amount of work is done by the barge?—She ran 239 trips in 1898, and conveyed to sea 82,770 loads of unsaleable refuse. The total expenditure in connexion with the disposal of the 82,770 loads has been £2,036 12*s.* 9*d.*, including wages, insurance, docking of the vessel twice for painting and general repairs, steam crane and jetty; and adding an annual charge for Sinking Fund and dividend on stock, £148 15*s.* 4*d.*, the cost of removal amounts to 6¼*d.* per load, which is beyond all doubt the cheapest method of disposing of such a large quantity of useless or unsaleable refuse, notwithstanding that the cost of towage amounted to £1,196.

2178A. What becomes of the saleable refuse?—A great quantity of it we send away by rail. We load the wagons in the early morning off the streets, and from the ashpits, where the stuff is suitable for manure. It is put into wagons at the various stations, and goes away out of the town—to the farms.

2179. Does any of it go by canal?—Well, not very much. We used to send a good deal by carts—not so much now as we did ten years ago.

2180. I understand that you advocate the providing of another barge?—I do.

2181. To load at the same place?—Yes; if we can get a station there. Of course, if they were separated it would involve very great expense. If the Corporation get a second barge, and the two are kept at the one place, it would save a great deal of expense.

2182. If you had two barges would the one tug work the two?—Certainly. We anticipated getting a steam barge to tow our present barge, as she has not steam, after she would be filled; but after consideration we thought that the two of them going down the river, the steam barge towing the other, would be very unwieldy. If anything occurred—if she knocked into a vessel—it might cost us a great deal.

2183. With regard to ashpits?—The ashpits are reported by the owners of them to our office by post-card or letter, or sometimes verbally, or by telephone. They are entered in a book. The men that go out have a book containing the ashpits that are reported, and they pick out the oldest of these, cleanse them, and mark them off in our books next morning, and we check them.

2184. Where do the contents go?—Some of them—a very small quantity—to the barge; others go to the manure depots in Marrowbone-lane and Stanley-street, and some to Hanover-quay.

2185. What are the contents of the ashpits generally found to be?—Nearly all ashes, with vegetable matter, of course—a small quantity of vegetable matter—the *debris* of the household.

2186. Dr. J. W. MOORE.—Mr. M'Grane, the cartage here is very considerable; would you briefly describe how it is disposed of—how much of this cartage goes to the manure depots, how much to the barge, and how much is carried away by rail?—Last year we disposed of, I think, nearly 10,000 tons by rail. That was manure that went to the farms.

2187. How is it kept separate from the rest; is it the produce of stables?—Yes; of stable lanes.

2188. And dairy yards?—No; no dairy yards. The produce of the thoroughfares of the city, of the bye-lanes, and of some of the ashpits. They are all mixed up together and thrown into the wagons.

2189. What proportion is carried out to sea?—On an average about 300 tons a day. That would be 1,800 tons out of an average of nearly 4,000.

2190. Is the stuff that is carried out to sea exactly the same as that which is stored in the Corporation depots?—It is not. It is not so good for manure.

2191. Is what is stored in the Corporation depots valuable for the purpose of manure?—It is.

2192. Therefore it is offensive to a certain extent?—Of course it is. It has to be got rid of.

2193. From what height does the water fall on the roadway from the watering carts as a rule?—Well, I should say from the new four-wheeled carts that we have the fall would be two feet or two and a half.

2194. That, of course, spreads?—Spreads very wide.

2195. Doesn't it create rather a nuisance from dust?—Well, the old class of cart does, but I don't think the new ones can be very much improved on. The old two-wheeled cart was up very high, and was very annoying sometimes, and in a narrow street the water would go on the pathway. The modern cart is very much lower, and in addition the strainer is in two parts, either of which can be shut off, or both can be used together; so that if it is a narrow street and the man sees you coming up he can shut off the side next you and not wet you.

2196. You spoke of tenement yards—how many are there?—I calculate there must be about 7,000. We cleanse over 5,000. There is a great number of them. There are tenement yards that we haven't got in charge—that haven't been handed over to us.

2196A. You said the principal streets in the city are swept six nights in the week?—Yes.

2197. You don't mean that every individual street is swept daily?—I mean all the central streets, like Dame-street and Westmoreland-street.

2198. Are swept daily?—It is done at night.

2199. Is Dame-street swept six times a week?—It is certainly on every night but Saturday night; and a hand-cart goes round during the day through the lanes of this whole division where we are at present. It is a very populous district. It runs from Wine-tavern-street to O'Connell Bridge and Westmoreland street, by the College, round to Kildare-street, up the north and west side of the square to Cuffe-street, from that to St. Patrick's Cathedral and back by Nicholas-street and Patrick-street. Every line and inch of that is swept daily, six days in the week; and

the greater portions of streets in which there are chapels or churches are swept on Sunday mornings as well.

2200. What interval elapses between the sweeping of the streets and the removal of the swept-up refuse?—Well, the night machines go out to the principal thoroughfares at 11 o'clock, and all the stuff is removed from those streets before 9 o'clock in the morning.

2201. There has been a great improvement in that respect in recent years?—I think there has.

2202. Because I remember seeing frozen masses—adamantine masses—remaining for days?—Frost is a very hard thing to fight against. We were blockaded ere last night, and yesterday morning we could do nothing but lift the dust-bins. We went round every tenement yard and got all our dust-bins lifted.

2203. As regards the night scavenging of the streets have complaints reached your department of anybody being disturbed by it?—The noise of the carts—it has not in many cases. It is annoying to hear those carts but what can you do?

2204. However, the men get instructions not to make more noise than is necessary?—Yes, and where there is a sick person in a house we change our route, avoid going into the street, and go round another way. We have done that on several occasions.

2205. Your department meets cases of that kind—cases of sickness?—Certainly—if we are written to without doubt we stop it, because of course the carts make a great noise, and if there is a sick person in a house it is very annoying.

2206. You have mentioned the contents of ashpits as consisting largely of cinders?—Yes.

2207. That's not my recollection. The ashpits of Dublin were most intolereable nuisances, all the night soil in the tenement houses being stored up in them?—Yes, there were privies attached. Is that not now the case?—It is not. There are such cases in Dublin still, there is no doubt, but they are very few.

2208. But the ashpits as ashpits have been greatly improved?—Wonderfully improved; in nine cases out of ten they are covered.

2209. One more question I wish to ask you; is it your opinion that it is a good place for the barge *Eblana* to be moored close to the Custom House at Tara-street railway station?—Well of course the appearance of the refuse going in there is not very nice, but we must put her somewhere. We might put her at some point at another part of the wall.

2210. Isn't that the centre of the town; could she not be put a mile down the wall where the population is comparatively sparse? It means £6,000 or £8,000 a year.

2211. I don't care what it means—I believe there is a sewer at the bow of the *Eblana* that runs out at Butt-bridge.

2212. You have heard of an institution called the Local Government Board of Ireland?—I have.

2213. Have you heard of an institution called the Parliament Houses of Westminster. Do you think for a moment it would be tolerated that the refuse of the metropolitan district of the city of London would be allowed to run into the Thames from the terrace of the House of Commons?—The cases are strictly analogous, that is all I have to say.

2214. CHAIRMAN.—Just one question. I should like to know if you consider that you have a sufficient staff, and whether it is constituted in the best way for the work?—We have not a sufficient staff to carry out the ideas of the Public Health Committee at the present time. I think there is no doubt that all the dust-bins of the tenement houses ought to be lifted daily. They should not remain over for two days.

2215. Dr. T. THOMSON.—Have you had any experience of these dust-bins being very full?—The great cause of their being very full is people putting into them things that they should not. They throw buckets of suds and slops of the house into the dust-bin. They won't use the water-closet for them; they wont use the grating in the yard for the slops of the house; and, of course, that fills them up, and creates a tremendous weight. They weigh enormously. They have often three or four tons in a float load; and not only that, but the water oozes out at the back of the cart along the street. If they were dry I would not care at all. By their new bye-laws the Corporation should compel the tenants of these houses not to throw all their slops into the dust-bins, but only to use the bin for what it is intended for. The dust-bin of the present time, instead of doing away, to my mind, with the old privy, brings the privy up to the very door of the house. If you compelled them to stop this throwing of filth into the dust-bins, it would not cost anything like the money it does at present to take them away. In fact I estimated twenty extra horses for the removal of these per day. If we could stop this throwing of stuff into the bins, I think we could do with our present staff. I am not sure; but I would go pretty near it.

2216. Mr. R. L. SWAN.—With regard to the ashpits a great many of them are still in Dublin?—A great number.

2217. Because the evidence went to show that they were, to a great extent, abolished?—Oh, there is a great number—thousands.

2218. Is it possible that those ashpits might remain in a very unsanitary condition for several days without your knowledge?—Certainly; unless in the case of the ashpits of the tenement yards. I am not supposed to know that an ashpit is to be cleansed at all unless I am notified by the private individual.

2219. Are there a great number of these ash pits in the houses of private individuals?—Oh, any amount of them.

2220. Wasn't the dust-bin instituted as a means of getting rid of those ashpits?—Yes; it is a great improvement on the ashpit.

2221. Are there many ashpits at present in the lower portion of the house itself—in the cellar?—I don't know; there may be.

2222. I have seen the remains of old places meant for that purpose?—I can give you instances in this way, that often when a house is unoccupied or a new tenant is coming in we get a notification that the ashpit or the cellar is in a filthy condition, and that they want it cleaned out. That is the first intimation I get of these cases, and they are not very many I must say.

2223. Is it a common custom in the erection, as far as you know, of new houses to construct ashpits at all?—I don't know of any new houses.

2224. Do you disapprove of the existence of ashpits?—I do, really.

2225. You think the dust-bin system properly carried out would be very superior to them?—I am certain of it. Everything goes away that day; and supposing vegetable matter is put into the dust-bin it is gone before it has time to decay, whereas formerly, when put into the ashpit, it remained and decayed away to such an extent that I am sure we would have two loads removed from a house in the city by the dust-bin for every one where an ashpit is used.

2225A. At present ashpits may exist in large numbers in a neglected condition in private houses over which the Sanitary Authority has no control?—That's a fact. We know nothing about them till we are notified at the office by letter or post-card that the tenant wants his ashpit cleansed as soon as possible—that it is overflowing. So we clean it as soon as we possibly can in rotation. The very figures of the amount of stuff that we remove shows that it goes back—34,000 loads I think it was this year.

2226. Is it your experience that the contents of these ashpits are very often very offensive?—Very offensive.

2227. And you would say prejudicial to the health of the persons living in the immediate vicinity?—Yes, if they are a very bad class of ashpit, not covered, so that the rain gets into them. Sometimes they are in a very dirty condition, so much so that our men have to carry the contents out in big wooden buckets on their backs, all wet and filthy, and the stuff saturates their clothes, and it is no advantage to them to have to go home with their clothes in such a state to their poor tenement houses. In 1897 there were 41,000 loads removed from ashpits; in 1898 there were 37,000; there are only 34,000 now, so that they are coming down, and the dust-bin system is increasing in proportion. Mr. O'Sullivan has drawn my attention to some prosecutions of people for throwing refuse—both slops and house soil—into the dust-bins. We have three cases in which we caught the individuals, and these are in the hands of the Law Agent at the present time. Under the new bye-law, I think we will be able to stop it: if the magistrates take a strong view of the matter, and fine them heavily, I have not the slightest doubt that the people will give it up.

2228. Dr. J. W. MOORE.—Is the bye-law in force at present?—It is not.

2229. Right Hon. Alderman MEADE. — Mr. O'Sullivan is conversant with the bye-law.

Witness (reads).—"Only dry house refuse will be received from such dust-bins, and any person putting liquid slops into them, or allowing the contents to be moistened by rain or otherwise"—that is, they must put a cover on the dust-bin in the yard—"or allowing them when not in use to be exposed to the weather, so as to cause a nuisance, shall be guilty of an offence, and subject to a penalty of £1 for every such offence."

2230. Mr. R. L. SWAN.—Doesn't the Corporation provide dust-bins fitted with covers?—They are only supplied to the private houses. They would not be of any use in tenement yards. They would break the covers on the first day. The tenement yard bins are much stronger, 42 or 43 lbs. weight, and when filled with liquid slops come to be 12 or 13 stone weight—and are not very nice things for a couple of men to be carrying up a narrow stairs.

2231. Dr. T. THOMSON.—You gave us certain figures; one set of figures has to do with the amount of refuse brought in by the Cleansing Department, and these figures, as I understand, are for 1899—is that so?—Yes.

2232. You have also given us certain figures regarding the refuse disposed of by the Cleansing Department; and these figures, I gather, refer to 1898, the previous year—so much by rail, so much by the *Eblana*, and so much by the destructor?—Yes.

2233. Adding these figures, the refuse you disposed of in 1898 comes to 102,196 loads; whereas, the refuse you brought in in 1899 comes to 176,271 loads—that is to say, 74,000 more loads came in in 1899 than went out in 1898. Can you give some explanation of that?—A very big amount of it is in Marrowbone-lane depot, lying there still. In fact, it is so full that after next week we shall not be able to put another load into it; that is portion of it. In these depots the stuff you bring in depreciates very much—it rots away.

2234. Is that the whole explanation. Is there no difference between the size of the load that comes in and the size of the load that goes out?—Well, the farmers draw very big loads of that stuff. Their loads come to about 30 cwt. in a great many instances. Very few weigh that, with the exception of those big dust-bin carts. The small carts would not weigh anything like that.

2235. That would help to account for the discrepancy?—It would; and along with that, there are a great many outside depots. Did you take that into consideration?

2236 Dr. T. THOMSON.—I have no record of them.

Witness.—Then they are all the mud depots round the city, where we are filling up whole fields. That would not come under any of those classes.

2238. Dr. T. THOMSON.—So that there is a fourth method of disposal?—These quantities are the quantities of the four different classes. Those figures don't show you those little depots. But everything is entered in one large book, and I can show you every one of them.

2239. I don't think we need go into it in detail. It is sufficient to know that in addition to the three methods of disposal mentioned there is a fourth, of which we have no record?—Yes. In some of those depots we put in the stuff free. For others we pay a big rent.

2240. It appears that you have an accumulation of refuse going on in your depots in the City?—Yes.

2241. Is that going on to a material extent?—It is only within the last two years that we have been hampered much in these depots. I don't know why the farmers are not drawing it. Whether it is that the land is not paying or what, they are not drawing it. Not in my term of fourteen years have we had half as much stuff at Marrowbone-lane as at the present time.

2242. Do these depots give rise to any nuisance?—I have heard complaints from Stanley-street, but from Marrowbone-lane, never. A very extraordinary thing is that there are two men in Stanley-street under that roof since the first day that shed was put up seventeen years ago, and there are no two more healthy men than they are.

2243. Your remedy for this accumulation in the depots is an increase of the amount dealt with by the barges?—I think so; I don't see any other way of getting out of it.

2244. You are not in favour of the destructor?—The destructor in some instances would save a considerable amount of cartage. Though the cost of one would appear to be more than that of a barge, it would save the cartage. If you had a destructor at Marrowbone-lane you could deal with all the stuff in that locality, and I think a good destructor would be cheaper in the end than carrying the stuff from that place to the barge. But where you have a barge in a convenient place it is different.

2245. If a destructor is properly managed it does not necessarily create a nuisance?—Except the smell from the refuse when it comes in. But they are in every big town so far as I know.

2246. Would it create as much nuisance as depots and barges?—I can't see where the barge comes in at all and all the complaints that are about her. The stuff is put into her every day and she goes to sea that day, and I cannot see any better way.

2247. Right Hon. Alderman MEADE.—The barge is your favourite?—Yes, and the favourite of the superintendents in all the big towns in England. That is my experience.

2248. Dr. T. THOMSON.—You have stated in your evidence that your department practically cleanses all tenement yards?—Yes.

2249. Is every tenement yard cleansed daily?—Every tenement yard under our control is; but there are many not under our control.

2250. I am not quite clear that I understand?—We cleanse 5,006.

2251. CHAIRMAN.—What is a tenement under your control?—It is reported to us that this tenement yard is a tenement yard, and we are asked to cleanse it.

2252. Dr. T. THOMSON.—Who reports that to you?—Whoever is the owner of the property.

2253. Then if he reports to you that such and such a yard is a tenement yard would you cleanse it daily?—Certainly.

2254. And if he does not report?—That is his own business.

2254A. You don't cleanse them at all?—No, sir.

2255. We have heard a great deal about certain lanes and alleys not under the control of the Corporation. These are not cleansed by your

Department?—Very lately, within the last month, they are. Previous to that we used to cleanse them periodically when they got into a bad state, and when we would have time to deal with the stuff. But we were not compelled to that. But when this new order came into force, on the 13th of January, I started that very night, and got some hired horses, as we were in a very bad state with our own horses, unfortunately. We have fifty of them laid up at present with pink-eye.

2256. Right Hon. Alderman MEADE.—Hadn't the Public Health Department to get the sanction of the Local Government Board before we were allowed to take up the cleansing of these lanes and courts not in charge of the Corporation?—I am not quite sure on that point. But I know that it came before the Council in 1892 or 1893.

Mr. *John G. O'Sullivan.*—The Local Government Board, on the 13th of January, authorised the Public Health Committee to do this work.

Alderman DOWD.—The Public Health Committee first applied for leave to do it.

2257. Dr. T. THOMSON (to Mr. M'Grane).—You are doing that now?—Yes.

2258. Are you able to do it with the same staff as before?—No. I made out an estimate that it would take eleven horses and thirty-three men to do all these anes.

2259. Right Hon. Alderman MEADE.—You got authority from the Public Health Committee to employ them?—Yes; and I have been employing them. We are greatly hampered owing to our horses being sick. We find that we cannot get the same class of horses on hire at all. They do as little work as they can. I have a return for the week ending February the 10th—the first week we were greatly hampered—and this was the first week that we could make an effort to do these lanes; and there were 258 loads of stuff taken off all these lanes. Every lane is on that list. (List handed in.)

2260. These lanes that you are now cleansing are being cleansed—how often?—From six to three times a week and two some of them.

2261. Right Hon. Alderman MEADE.—I presume you would do it daily if you had the means?—We would cleanse them daily, but we have not a full staff yet to do that. Any of these lanes that are only done once or twice you may take it for granted that there was very little in them. But there are bad ones where the stable manure is thrown out. It is from the back of the good houses that this stable manure has to be taken away.

2261A. CHAIRMAN.—The men and horses required to clean these lanes are not included in your list?—Not at all. That is the ordinary cleansing staff.

2262. Dr. T. THOMSON.—For 1899?—Yes.

2263. This was not until 1900?—Yes. That is our original staff officers and all are included in that.

2264. CHAIRMAN.—There is only one question that I wanted to ask you and that is for my own information. Are the householders charged with the price of those dust-bins?—They are.

2265. Once and for all?—Oh, yes. We have a contractor who supplies these dust-bins at a certain price; the householders ask for them and we supply them.

2265A. And there is no further charge?—No further charge. A dust-bin may last ten or twelve years. Whenever it is broken up the householder will have to pay for a new one. This year unfortunately we gave the contract to some of our Dublin firms, as Alderman Dowd knows, and they treated us very badly and kept us out of the dust-bins. One gentleman might say to us, "I applied for a dust-bin six weeks ago and I have not got it yet." The failure to supply the dust-bins in proper time was a great hardship on us as far as the tenement yards were concerned, because they threw this stuff in a heap in the yard, and we had to scrape this up and carry it out. And, of course, if you went in and saw that accumulation you would naturally say that it was our neglect, and that that stuff ought to have been taken away. But we really could not take it away.

2266. Alderman DOWD.—That occurred through the contractor not supplying you?—Yes.

2267. If you had given the contract earlier that would not have occurred?—He ought to have been able to supply us.

2268. Right Hon. Alderman MEADE.—That might have occurred with an English contractor.

Mr. *M'Grane.*—Of course. Iron went up and everything.

JOHN G. O'SULLIVAN, C.E., examined.

2269. CHAIRMAN.—You are a Member of the Institution of Civil Engineers, Ireland?—Yes.

2270. And also a Member of the Sanitary Institute, London?—Yes.

2271. And an Associate Member of the Royal Institute of Public Health?—Yes.

2272. You have been employed in the Corporation?—Ten years in the Corporation service.

2273. In what department?—Four years under Mr. Harty and six years under Sir Charles Cameron.

2274. Kindly state the nature of your duties?—My duties are (1) to examine or supervise the examination of all existing house drains, sanitary arrangements and fittings of premises represented as being in a defective condition; (2) to direct what steps shall be taken to remedy defects discovered; (3) to meet, when necessary, the persons noticed for sanitary improvements, or their representatives, to afford all information of a technical character regarding the works required to be carried out; (4) to examine or supervise the examination of the works of construction required by notices served by the department before an approval is given; (5) to supervise and direct the works in connection with the construction of cross drains; (6) to attend in Police and Recorder's Courts and give evidence in cases where the parties refused to comply with the requirements of the notice served by the Sanitary Department, regarding the works therein set forth and the necessity therefor.

2275. How does the examination of drains come to come into it?—First by the ordinary inspection of tenement houses, common lodging houses, and other houses, the owners of which seek a rebate of taxes under section 75 of the Dublin Corporation Act, 1890. One of the conditions under which a rebate of taxes is given is that the house drains shall be in proper order and shall be properly trapped. In order to obtain a rebate of taxes the drains must be certified to be in proper condition, properly trapped, jointed and ventilated.

2275A. How do you come to inspect the drains of other houses?—When a complaint is lodged with the Corporation under section 51 of the Public Health (Ireland) Act, 1878, we inspect private houses, that is houses other than tenement houses or common lodging houses.

2275B. What is the nature of that complaint?—The occupiers of the house allege that they have reason to believe that the drains are in a bad condition, and in such a state as to be a danger to health, and they require the Corporation to make an examination as the Sanitary Authority. If, as a result of the examination, it is found that there is nothing wrong those people are charged with the expense of making the examination. But if there is anything wrong the owner is charged, and the Corporation serves notice requiring him to make good whatever defects are discovered.

2276. And if he does not do it?—He is taken before a magistrate and an order obtained against him. Eventually he has to comply.

2277. Are there many complaints under that section?—There are a great number sent in. Some of them are sent in from motives other than a desire to safeguard the public health.

2278. If the owner does not obey the magistrate's order do you do the work?—No, under no circumstances have the Corporation carried out works in private houses.

2279. Have you no power to do it?—We have.

2280. Have you any instance of an owner refusing to obey the magistrate's order?—There are a great many instances in which they do not comply with the magistrate's order.

2281. And do you take any further steps?—We do; we bring them again before the magistrates for disobeying the orders of the Court, and they are then fined.

2282. Dr. T. Thomson.—And what happens after that?—They comply then as a rule. That means that they may drag out the proceedings for about two months or ten weeks.

2283. Chairman.—What tests do you apply to the house drains?—To the existing drains we apply the water test and the smoke test; the water test to the drains underneath the ground, and the smoke test to the fittings over the ground.

2284. When reconstructions are required what is done?—Notice is served by the sanitary sub-officer requiring a reconstruction of the drains and the sanitary arrangements, and he sets out in a notice, copies of which I have here, the details of the work which is to be carried out (hands in copies of the notice). In the case of a drain which has to be reconstructed it requires him to construct a proper house drain, properly jointed and laid on a bed of concrete. The drain must be intercepted from the main sewer and properly ventilated.

2285. I suppose the same thing applies as before—that if the magistrate's order is not obeyed you only summon him again?—Yes. In connection with these notices requiring reconstruction there is a slip attached to each notice in red, stating that before the ground is covered in, they must give notice to the Sanitary Department, so that the test may be applied. We apply the water test to the drain before it is covered in, and in the case of the work over ground, the fixing of the water-closet, and the ventilation shaft, we apply the smoke test. If they do not comply with that order, we get a magistrate's order compelling them to open the ground again.

2286-7. With regard to the ventilation how do you look to that?—Each reconstructed house drain has a ventilator at the top end of the drain. This ventilator, if there is a water-closet in the house, is the soil pipe which is brought up full bore above the level of the main building; and if the water-closet is in the yard the ventilator is taken to the highest wall or building adjoining, but always as near as possible to the head of the drain.

2288. Are there many applications from owners and occupiers to have their drains examined?—A very large number; but many of them do not comply with the terms of section 51, and they have to be refused. If they do not comply with the requirements of section 51 the Sanitary Department are not empowered to step in. They must allege a defect or a nuisance to health.

2289. Do you mean that if an owner asks to have his drains examined without any other complaint being made, you don't inspect them?—No, we don't; because if we went in and discovered that the drain was wrong, and that it was necessary that the Sanitary Department should serve notice, subsequently, when we would have to appear before the magistrate, the first thing the magistrate would ask for would be the complaint in writing, in accordance with section 51. If we don't produce that there would be no conviction.

2290. The only application that could be made by an occupier is, as it were, to prosecute himself?—That is so.

2291. Right Hon. Alderman Meade.—The chance of being prosecuted at his own request.

2292. Chairman (to Mr. O'Sullivan).—How many drains were reconstructed lately?—On an average from 1893 to 1899, 508 house drains were reconstructed.

2293. And repaired?—2,919.

2294. Were those all done under section 51?—Oh, no. They were done as a result of the inspection of tenement houses and lodging houses, and of people seeking a rebate under section 75, and under section 51.

2295. How many magistrates' orders were obtained?—For the same period we had an average of 354.

2296. In connection with the house-connecting drains or cross drains, what have you to do with regard to them?—The Corporation construct those at the expense of the houseowner.

2297. How far?—From the main sewer to the division line between private property and public property. I have just prepared a little sketch here. This plan gives four classes of houses, none of which have coal vaults or cellars in front. Some have open areas and a garden in front, and there is a class of house that has no garden in front whatever, and in that case the front wall of the house is the division line between public and private property. I have shown the cross drains as constructed, and the division line between public and private property.

2298. Then you test those drains in the same way?—Yes; all those drains are tested with smoke.

2299. The cross drains?—Yes, every cross drain; and there is a record kept of them in the department.

2300. You wish to express an opinion about ventilation or a fresh air inlet?—Yes.

2301. What is the bye-law?—The bye-law is that there ought to be two trapped openings—a low level inlet and a high level outlet. We have found by experience that what should be the inlet is the outlet. I have, within the last twenty-four hours, condemned a fresh air inlet of a drain constructed within the past two years. We found that it was the outlet, and that a very bad smell emanated from it every time the water-closet was flushed.

2301A. Would you in all cases disapprove of a fresh air inlet?—No. I think in every case in which a fresh air inlet is insisted upon, it ought to be carried up to the eave or parapet of the main building. It ought to be carried up as high as the outlet. It ought not be allowed to terminate at the ground level in the area, or front garden outside the hall door.

2302. What are cross drains made of?—They are constructed of extra-glazed socketted pipes, six inches in diameter, laid on a bed of concrete, and jointed with gaskin and cement.

2303. In all cases?—In every case, laid on a concrete bed.

2304. Right Hon. Alderman Meade.—That is by the Corporation regulations?—Yes. The other day attention was drawn to the fact that these drains were not water tested. The reason is that it would mean that these drains should be kept open for a longer period and it would mean, in addition, that there should be an up-turned bend in order that the water might be brought above the level of the top of the faucet. It would have to be a temporary arrangement. A water-tight joint would have to be made, which when being removed would occasion great risk of injuring the faucet of that pipe.

2305. Chairman.—You have got a return showing the number of licences issued?—Those are licences issued for the construction of cross drains. Persons requiring cross drain connections take out a licence from the Corporation: they must lodge £5, £8, or £10, as the case may be, and bind themselves to pay an additional amount, if such should be necessary. The Corporation refund any amount not expended.

2306. Is that licence issued under your own local Act?—Yes.

2307. How many of those cross drains have been put in?—Since 1891, an average of 425 a year.

2308. That is in the whole city?—Yes, both north and south.

2309. What would be the cost of them?—The average cost would be about £1,667 16*s.* 6*d.* a year.

2310. Dr. T. THOMSON.—Can you tell me, Mr. O'Sullivan, whether this rebate of taxation which is allowed is much made use of?—It is very largely made use of.

2311. In these cases where such rebate is granted, are all the conditions laid down strictly enforced?—Yes, strictly enforced.

2312. Have you any tenement houses to which this rebate is applied?—The large tenement houses are not allowed for rebate.

2313. On what grounds do you refuse it to the large tenement houses?—Well, the valuation of tenement houses is too high. That to a very large extent precludes them. It applies only to houses of a valuation of £8 and under.

2314. What proportion of houses avail themselves of this rebate?—I cannot say with accuracy. I know the applications represent about 5,000.

2315. About one-tenth?—More than one-tenth. I could get the figures for you to-morrow. As a matter of fact, I am having that return prepared.

2316. Have you personal knowledge of the condition of the house drains and the cross drains in Dublin?—I have.

2317. At this moment what is your opinion as to the quality of the house drainage in Dublin. I do not mean the cross drainage. I am talking solely of the house-drains at present?—I think the majority of the houses in Dublin, if examined, would stand an ordinary test. There are many places which have been re-constructed within a quite recent period, within ten years, that would not stand the water test. But I think the majority of the houses are in a fair condition—the drains are in a fair condition.

2318. In the majority of the houses in Dublin you think the drains are not defective?—No; I don't believe they are defective.

2319. "Majority of the houses" is rather a vague expression. The majority are not defective; but a very large number might be defective, and that would be quite consistent with a large number being satisfactory?—That deals with private houses, and the Corporation of Dublin do not inspect private houses. It is only when cross drains are being constructed that the Corporation have the power or the opportunity of examining house drains; and it is only from that experience that I can say that I believe that a great many houses would stand an ordinary test.

2320. It is not so much whether a great many would stand an ordinary test as whether there are a great many that would not stand an ordinary test. What I want to get is the proportion roughly of defective house drains?—I could not say that.

2321. CHAIRMAN.—Have you had cases in which complaints were made under section 51 where you have found the drains in order?—In about 50 per cent. of such complaints it was necessary to require total re-construction.

2322. Dr. T. THOMSON.—As regards the condition of the cross drains, what do you say about that?—In Dublin there were a large number of built cross drains, and these are very largely disappearing. I should think there are not very many built drains in Dublin at the present time. There are a large number of pipe-drains, constructed many years ago, when built drains were superseded by the pipe drains. These are not in a water-tight condition at the present time. Formerly they were not jointed with gaskin and cement.

2323. Right Hon. Alderman MEADE.—Formerly they used not be?—No. Up to nine years ago they used to be jointed with puddled clay. These drains if tested now, would not stand either the smoke or the water test.

2324. Alderman DOWD.—Suppose you do the work and the landlords pay, who will collect the money?—It would practically mean that there should be a new department for that purpose.

2325. Have proceedings, in reference to which summonses have been taken out, been prolonged?—They have. I know of cases in which they have been prolonged three months and longer.

2326. Through what means?—First, there is the notice to serve, and you have to give fourteen days or three weeks if reconstruction is necessary. Then, if the work is not done, you have to take the person before the magistrate. The magistrate will give him three weeks. If he disobeys that you take him back in another week, and that means running on to three months.

2327. Have you had a number of such cases?—We have a great number of cases where they take full advantage of the law.

2328. Cannot private individuals put in house drains without sending to the Corporation to get in a new cross drain from the main sewer into the house. Cannot a private individual reconstruct his own system without getting in a new cross drain?—Oh, certainly.

2329. So that old cross drains may remain there for many years without the Corporation having anything to do with them?—Yes. Before the Corporaton, however, allows a street to be repaved, they have the main sewer and the cross drains examined, and in this way a large number of built cross drains have been removed.

2330. CHAIRMAN.—Is that done at the expense of the house owners?—Yes.

2331. Right Hon. Alderman MEADE.—In streets such as Fitzwilliam-street and Fitzwilliam-square, is it not possible that there are a number of old cross drains and the old system of sewerage?—It is possible.

2332. The Corporation has no means of dealing with houses of that class?—None, except where complaint is made.

2333. And that would apply more to that class of houses in Dublin than to the poorer classes?—Yes. Ordinary tenement houses, and the houses of the working classes must be inspected, and houses also the owners of which require a rebate under the Act of 1890. That means that all these places are properly drained.

2334. CHAIRMAN.—Is there an examination made generally of ashpits and cesspools where there is no complaint?—Oh, there is such an examination made in the ordinary tenement houses and cottages, but not in private houses such as Fitzwilliam-street.

2335. Right Hon. Alderman MEADE.—In private houses you have no right to go in and look in the ashpits?—No, unless complained of as a nuisance.

2336. Some of us were rather surprised at the number of ashpits. Have you any reason to give why there are so many private ones?—No. They are largely decreasing.

2337. CHAIRMAN.—The 50th section requires that every Sanitary Authority shall provide that all drains, water-closets, sinks, lavatories, gully traps, earth closets, privies, ashpits and cesspools within their district be constructed, trapped, covered, ventilated, and kept so as not to be a nuisance or injurious to health." How can they provide that if they have no power of inspection?—It is only under section 51 that we enter a private house.

2338. Section 50 says—"Every Sanitary Authority shall provide that all drains, water-closets, sinks, lavatories, gully traps, earth closets, privies, ashpits, and cesspools within their district be constructed, trapped, covered, ventilated and kept so as not to be a nuisance or injurious to health." How can they do that if they have no power of entering. You have not considered that?—No, I have been instructed that we have no power.

2339. Alderman DOWD.—You think the Sanitary Authority ought to have that power?—I should think they ought. I am informed that in Liverpool under a local Act they have power to test twice each year—a water test of the drains in the city each year.

2340. Right Hon. Alderman MEADE.—In any and every house?—Yes. That would be a capital means of checking the condition of the drains.

2341. Alderman DOWD.—At least once a year?—At least once a year would be a good thing here.

The Committee then adjourned until the following afternoon.

NINTH DAY.—FRIDAY, FEBRUARY 23RD, 1900.

THE COMMITTEE RESUMED AT 4 O'CLOCK, P.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Dr. D. EDGAR FLINN, F.R.C.S., examined.

2342. Dr. R. L. SWAN.—(i). You are a Fellow and Diplomate, and late Examiner in Public Health in the Royal College of Surgeons?—Yes.

2342A. (ii). You are also Medical Inspector to the Local Government Board?—Yes.

2342B. And (iii) you were formerly Medical Officer of Health for the Brownhills and Cannock combined urban and rural districts, East Staffordshire?—Yes.

2343. Kindly proceed with the evidence you propose to give, and I will interrupt you when anything occurs requiring elucidation?—What I propose to do with regard to the evidence I am about to give you, is in the first place, to draw attention to the death rate in Dublin city on both north and south sides for the past five years, and subsequently to give you the outdoor and indoor relief in both the Dublin unions for a period of ten years, which I think would be very advisable.

2343A. We had the death rate given in evidence already?—Yes, I am aware of that; but I don't think you had it differentiated between the north and south portions of the city. In 1895 the north city death rate for the year ending 31st December was 29·5, and in the south city it was 30·6. In 1896 the death rate for the north city was 27·2; south city, 27·5; 1897, north city, 30·9; south city, 32·3; 1898, north city, 29·1; south city, 28·0; 1899, north city, 34·5; south city, 32·7. The death rate per 1,000 from zymotic disease in the same years were as follows:—1895, north city, 2·1; south city, 2·3; 1896, north city, 2·5; south city, 2·9; 1897, north city, 4·3; south city, 6·1; 1898, north city, 2·8; south city, 2·6; 1899, north city, 5·5; south city, 5·2. I merely give you these figures because, as I said before, it draws—you cannot call it a distinction, as there has not been very much difference between the death rates from all causes in the two portions of the city, from either general causes or zymotic disease.

2343B. Right Hon. Alderman MEADE.—In some years it was higher on one side, and in other years it was higher on the other side?—Yes; there was practically no difference between them, and it is as well that it should come out that neither side of the city was more unhealthy than the other. The only years where there was an excessive zymotic death rate for the last five years were, in 1897 and 1899.

2344. In speaking of the city of Dublin, you mean the smaller area?—Certainly; I am not speaking of the registration area.

2345. What is the population of the north side?—As near as one can say, on the north side it is about 116,000, and on the south side it is something about 129,000.

2346. So that they are nearly equal?—That was in 1891. When we talk of the Dublin registration area it would be well to let the Committee know that it takes in Kingstown, Blackrock, and Rathmines and Donnybrook, etc.

2347. Dr. J. W. MOORE.—When you speak of the north and south sides of the city, do you allude to the North Dublin Union and the South Dublin Union?—No; the figures refer to the dispensary districts.

2347M. Dr. R. L. SWAN.—They are exclusive of the North and South Dublin workhouses?—Yes; they don't take in the deaths in either of these institutions.

2348. Nor the hospital deaths?—No; they are exclusive of deaths in public institutions of persons admitted from the districts—that is people, for instance, whose residence would be in Meath.

2349. Right Hon. Alderman MEADE.—I thought they excluded the unions altogether?—So they do.

2347A. CHAIRMAN.—They exclude Dublin people who are in the workhouse?—Yes.

2350. Dr. R. L. SWAN.—Do these deaths exclude hospital deaths; are they not registered by the registrars of the districts in which the hospital is?—Yes: the table I am giving you is for the city proper, excluding all the deaths in public institutions; and as regards Kingstown and these other districts abutting on the city, you are aware that they send in a great many cases of fever to the city hospitals. Probably, the Committee would like to be made aware of the amount of outdoor and indoor relief, as indicating the condition of the people as regards poverty. I have a return for the South and North Dublin Unions, from September, 1889, to September, 1899, showing the general average cost, the avarage of the daily number relieved, and the number of deaths in each year. The tables show no very abnormal increase in any one year.

NORTH DUBLIN UNION.

COST of INDOOR and OUTDOOR RELIEF in this Union from September 1889 to September, 1899, and showing the General Average Cost, the Average Daily Number Relieved, and the Number of Deaths in each year:—

YEAR.	Indoor Relief. Cost for Year.	Average Weekly Cost.	Outdoor Relief. Yearly Cost.	No. of Deaths in each Year.	Average Number of Persons Relieved daily in Workhouse.
	£ s. d.	s. d.	£		
1889, Sept.,	25,877 4 8	3 8¼	1,465	653	2,680
1890, „	23,206 0 0	3 4½	835	685	2,631
1891, „	23,770 0 0	3 6¼	702	684	2,548
1892, „	23,563 0 0	3 6¼	755	789	2,530
1893, „	22,623 0 0	3 3¼	768	639	2,559
1894, „	21,812 0 0	3 2¼	748	661	2,667
1895, „	21,193 0 0	3 2⅛	914	698	2,499
1896, „	22,940 0 0	3 5¼	1,102	554	2,525
1897, „	24,305 0 0	3 6¼	1,202	688	2,677
1898, „	27,289 0 0	3 9½	1,314	682	2,764
1899, „	27,329 0 0	3 8	1,260	778	2,910

SOUTH DUBLIN UNION.

Table of Expenditure in Relief during last 10 years :—

Half-year ending	Indoor Relief.		Outdoor Relief.		Number of Deaths yearly.
	Half-yearly.	Yearly.	Half-yearly.	Yearly.	
	£	£	£	£	
March, 1890, .	14,184		1,717		
Sept., „ .	13,358	27,542	1,777	3,494	784
March, 1891, .	14,168		1,920		
Sept., „ .	13,436	27,604	2,094	4,014	750
March, 1892, .	14,862		2,151		
Sept., „ .	13,331	28,193	2,110	4,261	848
March, 1893, .	13,523		1,941		
Sept., „ .	12,261	25,734	1,896	3,837	723
March, 1894, .	13,636		1,846		
Sept., „ .	12,906	26,544	1,773	3,619	656
March, 1895, .	14,572		2,081		
Sept., „ .	12,751	27,323	1,669	3,750	816
March, 1896, .	14,498		1,974		
Sept., „ .	14,210	28,708	1,691	3,665	680
March, 1897, .	15,173		2,377		
Sept., „ .	15,134	30,357	1,786	4,163	687
March, 1898, .	17,051		2,575		
Sept., „ .	16,312	33,363	2,297	4,872	819
March, 1899, .	16,813		2,757		
Sept., „ .	16,463	33,276	2,188	4,945	836
					7,598

The deaths show an average of 759·80.

Number in Workhouse each year during last 10 years :—

1890,	...	...	3,197
1891,	...	...	3,131
1892,	...	...	2,979
1893,	...	...	2,960
1894,	...	...	3,086
1895,	...	...	3,224
1896,	...	...	3,229
1897,	...	...	3,372
1898,	...	...	3,535
1899,	...	...	3,587
	(Total,		32,300 Average, 3,230

2351. What inference do you deduce from the greater or less amount of indoor relief?—Of course the indoor relief, as you may see by these lists, varies considerably. In some years it is nearly £2,000 more than others; a great deal will depend on the season and the condition of the working classes, and whether they are out of employment or not. Of course the numbers admitted to workhouses will increase or decrease according to these circumstances.

2352. Right Hon. Alderman MEADE.—For instance, long-continued frost or snow?—Quite so; that is sure to increase the indoor relief list.

2353 Dr. R. L. SWAN.—Regarding the outdoor relief lists, do the same causes operate?—To a very great extent. Of course, as you may see, the outdoor relief in the South Dublin Union is considerably more than in the North—one could account for that by the fact that the population in the South Union is greater—for instance, it ranges from about £1,700 to over £2,000 in the half-year, while in the North Dublin Union the outdoor relief varied from £700 to £1,400 for the whole year, while for the year ending September last the indoor relief in the South Dublin Union amounted to £33,276, and the outdoor to £4,945, against £27,329, and £1,260 in the North Dublin Union for the same period.

2354. Right Hon. Alderman MEADE.—What is the difference in the population in the two unions?—The population in the South Dublin Union is between 3,000 and 4,000, while in the North Dublin Union it is between 2,000 and 3,000.

2355. I presume the outdoor relief is for the entire union in each case—not for the city only?—The total indoor and outdoor relief is for the whole of the district in both unions.

2356. Including districts outside the city?—Yes.

2357. What do you propose to deduce from these tables?—What I wish to convey to the Committee, and probably what they would wish to know, is that for the last ten years there was not at any period any very abnormal destitution or increase of poverty.

2358. What does outdoor relief mean?—Outdoor relief means relief in kind.

2359. Instead of bringing the people into the workhouse they get donations?—Quite so.

2360. Are they supplied with food?—Yes; they get orders in the North Dublin Union, and the outdoor relief is distributed at the Union.

2361. Dr. T. THOMSON.—As to the tables you have put in for the two unions, will you explain precisely what the last column means—"Average number of persons relieved daily in the workhouses." Is the reference to indoor or to outdoor relief, or to both?—That means indoor people.

2362. There is another column headed "Average weekly cost." What does that mean?—That means the average cost of each inmate.

2362A. The average weekly cost refers to the indoor relief?—Yes.

2363. Dr. R. L. SWAN.—You said that the outdoor relief is given in kind. Do you mean in the form of food?—Yes, it is generally given in the form of kind—meal, bread, butter, and tea.

2364. And valued accordingly?—Yes; quite so.

2365. Dr. T. THOMSON.—Does the column, "Average weekly cost," take into account the establishment charges, or does it refer only to the actual money expended on individuals?—It does not include establishment charges

2366. Your tables don't show the number of persons who received outdoor relief—they only show the cost?—Yes, that is so.

2367. You possess no comparative statistics of other places?—No; nor of any other union. I simply dealt with the two unions.

2368. Dr. R. L. SWAN.—These statistics seem to show that there has been, so far as destitution is concerned no great cause in any special year for increased death rate?—No not to any very great extent.

2369. Destitution being supposed to be a factor in increasing the death-rate?—The destitution according to the statistics of the relief given in both unions was practically the same every year—there has not been much of an increase. With regard to the question of the causes of the high death rate as you may see by the returns already in evidence, and as stated by Sir Charles Cameron, the two principal causes of the exceptionally high death rate that prevailed in the closing months of the last and in the early part of the present year in Dublin were in great part attributable to (1) the epidemic of measles, and subsequently (2) to the outbreak of influenza with its complications. Other causes that always play a contributory part to the abnormally high death rate in Dublin are principally those associated with the habits and conditions under which a large proportion of the people live, as well as other questions intimately associated with the public health of the city, viz.:—the disposal of refuse, public and domestic cleansing, the housing of the poor, the overcrowding in tenement houses, the condition of the cow sheds and dairy yards, the large number of slaughter-houses in the very centre of the city, the absence of sufficient hospital accommodation for infectious diseases during an epidemic, the defective administration of the Infectious Disease (Notification) Act, 1889, defective drainage and the condition of the sub-soil, poverty and intemperance.

2370. Have you any intimate knowledge of the condition of the slaughter-houses in Dublin?—Within the past two or three months I have visited a con-

siderable number of the slaughter-houses in the city, both with the Inspector who is in charge of them, and also on several occasions unaccompanied by him.

2371. What opinion have you formed?—I cannot say, taking them altogether, that I had a favourable opinion of them in any one way. There are, approximately, about sixty licensed slaughter-houses within the city boundaries, some of them being situated in the midst of densely populated districts such as Moore-street, Chatham-street, &c. Although a public abattoir exists on the northern outskirts of the city, erected by the Corporation, and under the supervision of the Markets Committee, it is but little availed of, and the slaughtering of cattle and sheep continues to exist within the city boundaries, notwithstanding that Sir Charles Cameron reported in 1893 as to the advisability of closing those at least which were situated in places prejudicial to the public health. The existence of so large a number of slaughter-houses within the city must be regarded as fraught with danger to the health of the inhabitants, and although some of them are well kept, yet, in a larger number that care and strict regard for cleanliness cannot possibly be carried out, because of their immediate insanitary surroundings. The erection of an abattoir in the southern outskirts of the city would seem to be absolutely necessary, and the Corporation should endeavour strenuously to reduce, if not altogether abolish the number of slaughter-houses situated in the congested portions of the city. No slaughter-house should be allowed to exist in the rere of a dwelling-house. If there is to be an adequate and proper system of meat inspection, the necessity for abattoirs is obvious.

2372. You think the slaughter-houses a danger to public health?—I do, especially where they are immediately behind dwelling-houses, and practically in contact, in some instances, with dwelling-houses.

2373. Have you instituted any comparison between the relative nuisance or danger to health resulting from the refuse and offal of sheep and horned cattle?—Not specially, except this, that I think the offal from cattle is certainly, to my mind, much more deleterious and malodorous, if I may use the word, than the offal from sheep—that has been my experience. It is impossible, in some of these slaughter-houses, to have that great and strict regard for cleanliness—it cannot possibly be observed, because of their immediate insanitary surroundings. The fact of their being in narrow laneways, and close up to the houses of the people, is, I think, quite evidence that they are not what they should be. I think the erection of an abattoir on the southern outskirts of the city would seem to be an absolute necessity, and in due time the Corporation ought to reduce, if not abolish altogether, slaughter-houses within the municipal area. I have particularly in my mind the slaughter-houses near Moore-street, Townsend-street and Chatham-street. The ones in Moore-street are not at all conducive to the health of the neighbourhood. There are three or four of them that are very badly ventilated and in very congested areas. There is a population very close to them of from 7,000 to 10,000 people, taking all the laneways there.

2374. Right Hon. Alderman MEADE.—Do they comply with the conditions of the Public Health Act?—Some of them are well ventilated; but where you have a slaughter-house 14 feet by 18, 15 by 10, 18 by 10, 20 by 10, 12 by 10, 20 by 12, and perhaps only ventilated on one side, with a wall perhaps of somebody else's premises abutting on the other side, you cannot have thorough ventilation.

2375. Is that so where they are sometimes ventilated through the roof?—Sometimes they are.

2376. How many animals would you say went into the 15-feet house?—Probably ten or twenty sheep.

2377. We would be glad you mentioned some particular slaughter-house which is unsanitary, owing to the way it is kept and the difficulty of ventilating it?—I cannot give names; but there are some of these slaughter-houses in Sampson's-lane and Moore-street which, from the fact of their being in a crowded thoroughfare, are insanitary and dangerous to the public health.

2378. Then we may take it you object to slaughter-houses in the city altogether?—Practically I think if there was an abattoir erected they should be removed from such districts altogether.

2379. But you know these people have legal rights, and the Corporation cannot turn them out?—I know that, and I know it is difficult. In 1893 Sir Charles Cameron in one of his annual reports drew attention to several of these slaughter-houses—about twenty of them. He called the attention of the Public Health authorities to what he considered was the necessity of their acquiring the rights of the owners of these houses and abolishing them, but I find the vast majority of them are still remaining.

2380. That was in 1893, you say?—1893 or 1894.

2381 I think ten of them have been abolished within the last couple of years?—That may be on the Bride's-alley area, but I don't think they are the ones in this list.

2382. Dr. R. L. SWAN.—You have some evidence to give as to the disposal of refuse?—Yes; I think the disposal of refuse and public cleansing are both important factors to be reckoned with in the administration of public health in Dublin. Nearly all our great epidemics have more or less originated in the laneways, court-yards, and alleys of our cities, and it is in such localities that the most absolute cleanliness is necessary, and it is here, too, that the presence of the sanitary official is most needed. If the homes and surroundings of the poorer and humbler classes are kept in a cleanly and healthful condition a low rate of mortality will assuredly follow, and diseases of an infectious character will have but comparatively little chance of obtaining a foothold. Sir Charles Cameron, in his evidence in reply to a question, stated that the thoroughfares of the city of Dublin were "fairly well cleaned." A condition much better than "fairly well cleaned" is earnestly to be desired, and should be obtainable. It may be conceded that the principal thoroughfares are kept in fairly clean condition, but the bye streets, the laneways, the alleys, do not come up to the standard of being even fairly well scavenged or cleaned; it is evident that the same amount of care as regards public cleansing is not bestowed on these localities. Attention has been drawn to the large number of courts and laneways not in charge of the Corporation and consequently not scavenged and cleaned, the number being about 260. These localities, scattered as they are all over the city and in the midst of congested areas, are naturally fruitful sources of propagating infectious disease, and they become a contributory cause to the rate of mortality. Many of these laneways may be truly described as nuisances most dangerous to the public health. All such places that are accessible to the public, and in use should be cleansed by the Sanitary Authority without exception.

2383. Right Hon. Alderman MEADE.—In saying that the leading thoroughfares are fairly well cleaned are you comparing Dublin with any other city?—I have in my mind Birmingham, that I know very well; but, of course, Birmingham is a different city, with a great deal of it newer and differently paved, and differently constructed.

2384. Are we better or worse than Birmingham?—I think it is invidious to ask me to make comparisons.

2385. Do you appear as representing the Local Government Board?—I have been asked to give evidence, and you may take it that what I am stating is pretty well my experience and impressions as an Inspector under the Local Government Board for the last two years or so in the city.

2386. Dr. R. L. SWAN.—With regard to the cleansing of the streets you may have heard in evidence here that the main thoroughfares are cleaned every day, except Saturday night, and that even on that

night all portions of the streets opposite places of worship are cleaned—would you suggest anything further?—You must not take me as objecting to the condition of the principal thoroughfares.

2387. You said they are fairly well cleaned?—What I wish to convey is that I consider that the bye-lanes, alleys, and the smaller streets through the city might be much better scavenged.

2388. Then you probably would say these principal thoroughfares were fairly well cleaned, and the others are not?—They don't come up to the standard at all.

2388A. CHAIRMAN.—Do you think the state of these lanes and alleys as they are now affect the high death rate?—I say distinctly that the state of the lanes, as I have seen them up to two months ago—for they have been scavenged every day recently, and I consider them now in a sanitary condition—do indirectly contribute to the death rate, and I have been through a great many of them where enteric cases occurred.

2389. You consider they were injurious to health?—Yes.

2390. Right Hon. Alderman MEADE.—I want to get at that word "fairly well cleaned." You think that a condition of much better than fairly well cleaned is much to be desired. What would you desire more than to have the principal thoroughfares fairly well cleaned?—The back streets are the places I principally refer to.

2391. But I am speaking of the principal streets?—Well, I don't think that up to 10 o'clock and half-past 10 in the morning dirty dust-bins, papers, and things of that kind should be on the thoroughfares. The filth from the bins is blown about the street, as I have occasionally seen it happen, and I think that is a condition of things that could be improved.

2392. Are you speaking from experience or from reports of others?—No. I speak from experience. I happen to see some of the dust-bins lying in the principal streets at half-past 10 o'clock in the morning.

2393. Dr. R. L. SWAN.—You consider that epidemics are likely to arise in the laneways to which you refer?—I say nearly all the great epidemics had their origin there, and I say that if you have an accumulation of vegetable and refuse matter which is not daily removed, and you have a population of 100 in a laneway there is great risk of infectious disease being engendered and spread.

2394. Sir Charles Cameron made the statement that typhoid fever more depended in its origin on the condition of the soil than anything else, and that that is what the statistics show, because it raged equally in good localities as in bad localities?—I think when localities are continually saturated with excretal matter and other refuse, as these laneways have been, up to recently, it gives great opportunity for developing some infectious diseases.

2395. You suggested some remarks about public cleansing?—With regard to the question of the daily removal of filth from the very places I am speaking about, I am glad to know that henceforth it is probable an arrangement will be made to have all these places cleansed more frequently than they have been. The daily refuse and filth from the tenement dwellings inhabitated by the poorer classes has become a necessity in Dublin, and the estimated cost of carrying out this scheme would be counterbalanced by the vast improvement it would effect in the health and the surroundings of this class of the inhabitants. It is no doubt a self-evident fact that the habits of the occupiers of tenement dwelling-houses are a source of difficulty in the cleansing of all cities; but it is also unreasonable to expect people to be cleanly in their habits unless certain facilities are offered them, and that their dwellings and environments are kept in a state of cleanliness by the body administering the Public Health Acts. In the immediate removal of all matter liable to pollute earth, air or water, lies the essence of the benefits to be derived from public cleansing. The methods employed for the disposal of refuse in Dublin still leaves much to be desired. A considerable portion of the city refuse described as unsaleable scavenge is conveyed to sea by a hopper barge, the moorings of which on the Liffey are situated within a short distance of the principal thoroughfares in the city. The position of this barge in the immediate vicinity of a populous district, and which contains the lodgment of objectionable refuse matter, is a condition of affairs that probably has no parallel in the kingdom—it can only be described as a menace to the public health of the city and a dangerous nuisance.

2396. You consider the hopper barge not only objectionable but dangerous?—I do, distinctly. I took an opportunity of going down to it to-day. I think the Superintendent of Cleansing stated that what was put into this was the refuse from the tenement dwellings—at all events I may tell you there was a large quantity of manure there to-day of a very offensive nature.

2397. There was a high wind to-day?—Yes.

2398. Was it blowing the contents about?—Yes, everywhere.

2399. Malodorous?—Very. I think the advisability of removing it lower down the river has been suggested—at least to some place where there is not such a dense population. In fact everybody who comes in by the Tara-street railway station feels this matter keenly. There is a large population in the district, and if the barge was removed to some place where there would not be such a dense population it would not be such a nuisance, and it certainly would not be such a danger to the public health. In fact, I look upon it as a dangerous nuisance. Another method which yet obtains in Dublin is the accumulation of refuse at a depot in Marrowbone-lane, which is also situated in the centre of a congested area, and in close proximity to dwelling-houses. The vast volume of rubbish and filth collected here must necessarily not be conducive to the health of the city. In a city like Dublin, where there is such a large daily accumulation of organic, vegetable, and other refuse, and where public and domestic cleansing are sometimes carried out under difficulties, the disposal of refuse by the burning system would appear to be distinctly indicated, and the erection of more refuse destructors would undoubtedly be beneficial in disposing rapidly of offensive accumulations.

2400. This depot is not only close to dwelling-houses, but also to the disinfecting chamber?—Quite so; in fact, at the present time, the heap of refuse is so great that it actually approaches within sixty or eighty yards of the dwellings.

2401. Have you any suggestion to make as to the disposal of this?—I paid a visit the other day to the destructor at the depot at Stanley-street, and what I saw would indicate to me that if several other refuse destructors were established, it would be very, very beneficial. The destructor there is a four-cell destructor. There was not the slightest odour, and I walked round the place.

2402. CHAIRMAN.—You think one for the north side and one for the south would be sufficient?—I hardly think it would. I think if there was an eight-cell destructor on each side of the city it might assist very materially, but I don't think the four-cell destructor would be quite sufficient.

2403. Dr. R. L. SWAN.—What do you say as to the emptying of house-pails?—The emptying of house-pails is apparently carried out in a very irregular manner, and frequently late in the day pail-buckets in many of the thoroughfares remain unemptied. A better and closer supervision in every detail as regards public cleansing is absolutely necessary; and until this is effected the aspect and sanitary condition, more particularly of the poorer quarters of the city, will not improve. A day or two of inclement or severe weather in Dublin appears to unhinge the work of public scavenging. The idea of house-pails is the most up-to-date system; but it requires to be carried out with a considerable amount of regularity, and with constant supervision. I was very glad to hear the

Superintendent stating yesterday, that in his opinion, the daily cleansing of the pails in all the tenement houses should be carried out.

2404. Do you think such a condition of things should be allowed to exist as that a man should be obliged to go up a flight of steps, across a narrow passage fifty yards, down another flight of steps, and then into a back yard in order to collect these pails there?—I think it is a very great hardship.

2405. Don't you think that if such a state of things existed that it would necessarily follow that the scavenging of such courts would be very difficult if not impossible?—In that particular instance it seems to have been very difficult indeed.

2406. You would sanction the abolition of such dwellings?—Certainly, I would.

2407. You said that the inclemency of the weather has a considerable effect on public scavenging—in what way?—I mean that if there is a great deal of rain the mud very often accumulates—I am now talking of the portions of the city that are least frequented by the public—the mud seems to be allowed to accumulate for a much longer time than usual. I can understand why the Cleansing Department within the last few weeks have had a considerable difficulty to contend with, owing to disease among their horses. Pink-eye in the horses, I believe, rather upset the arrangements.

2408. Apart from the discomfort it causes do you think accumulations of mud while they remain are much prejudicial to the public health?—I think they may be absorbing things that may be prejudicial to health. They might absorb anything if allowed to remain there for two or three days.

2409. If it is allowed to dry then it becomes diffused into the atmosphere?—Yes, and especially if it becomes windy.

2410. You made some note about the duties of the sanitary sub-officers?—The classification of the duties of the sanitary sub-officer is an important question and one directly bearing on the sanitary administration of the city. The duties of these officers should be strictly defined, and should be restricted altogether to sanitary work and to no other collateral work of any kind whatever. Supervision of this staff is also indicated.

2411. Do you think it has ever occurred in Dublin, from your observation, and the knowledge that has come to you, that the sanitary sub-officers were, perhaps, sometimes heretofore of a class that they might be approached by delinquents with the view of squaring them?—Of course my experience of the sanitary sub-officers practically only deals with a period of nearly two years in the city of Dublin, and the class of persons that are now being appointed to the position of sanitary sub-officers are of a better class and superior to what they were before.

2412. You heard a few days ago medical officers of health state they made reports to sanitary sub-officers, but heard no more about them—that conveyed to me the impression that such a thing might occur. Do you think the class of persons now in that position are above that suspicion?—I quite think that. I think the sanitary sub-officers, now that they have to pass the examination of the Royal Institute of Public Health, are of a better class, and they take much greater interest in their work than they used to do.

2413. Do you approve of Sir Charles Cameron's step to obtain the services of female sanitary officers?—Yes. At the present time the female sanitary inspectors are only holding their position temporarily—they are not permanent yet.

2414. Do you consider there is a sufficient number of these sanitary sub-officers in Dublin. Could you institute any comparison with their number, say, in Liverpool, in proportion to the population in each city?—As you have asked me that question, the sanitary staff in Dublin, for the size of the city—0,000—consists, as you are aware of, an executive sanitary officer and superintendent medical officer of health, with sixteen medical officers of health, twenty-seven sanitary sub-officers, one superintendent of cleansing, and one assistant-superintendent, and as sanitary sub-officers three members of the Dublin police force. The total salaries given to these amount to £3,964 a year.

2415. That includes the medical officers of health?—Yes.

2416. And the entire machinery?—Yes; and the recoupment amounts to £1,982 3*s.* for these special officers. In addition to that I would like to state the aggregate number of those who are actually discharging what is called sanitary and kindred work, such as the clerical staff of the surveyors of buildings, surveyors under the Shop Hours' Act, the inspectors of slaughter-houses and dairies and cow sheds, the disinfecting department, the sewers department, the city laboratory staff, the staff of the baths and wash-houses and lodging-houses comes to exactly 113. Of that 113 there are nine temporary, which brings the number down to 104; and these 104 are more or less connected with the administration of the Public Health Act. I may mention that the staff of the cleansing department consists of about 597 persons, and the reason I am giving you these details is that you may know there is a considerable number of people engaged in both departments.

2417. Suppose we confined ourselves to the sanitary sub-officers—what is the proportion of these officers to the population, as compared with the number in Liverpool or any other English city?—You may get that later on.

2418. Do you consider there is a sufficient staff?—I consider there is, and I may say in addition, that within a very short time the recoupment being made in respect of the sanitary staff has increased by nearly £700 a year.

2419. Right Hon. Alderman Meade.—You mean additional expense to the Local Government Board?—The recoupment of half their salaries.

2420. Chairman.—Isn't it the number of the staff and not the cost we are dealing with?—I wish to convey that the staff, so far as my idea went, was ample, but I think that the addition of one or two female inspectors might be an advantage.

2421. Dr. R. L. Swan.—You remember the calculation we made the other day that each member of the staff was required to make one thousand odd inspections of tenement houses?—Yes, and that he can only get round his district once in two months.

2422. That did not appear to be sufficient supervision of very unsanitary dwellings. You would not consider it sufficient to inspect unsanitary dwellings once in two months?—That is a question for the Public Health Committee to decide. I would not consider it sufficient, but that is a question for the Committee.

2423. You have some evidence about cow sheds and dairy yards?—As your are aware there are at present in Dublin about 250 cow sheds and dairy yards, many of which are in immediate contact with dwelling-houses. These cow sheds and dairy yards are in many instances also situated in most unsuitable localities, and in the centre of crowded areas. The Corporation rules and bye-laws are sufficiently adequate for securing the maintenance of dairy yards in a proper condition, but the inspection hitherto has been of an imperfect kind, and not by any means thorough and stringent enough—it is probable that henceforward a better organised system will be in force. A very considerable percentage of these yards are insufficiently drained and badly paved, the result being that stagnant pools of manure water, having no proper channel course to pass through, soak into the ground, and must naturally pollute the soil. The ventilation of very many of those places

is also in need of improvement. Very little, if any, attention is paid to the personal cleanliness of the attendants, and I have myself been a witness in several instances of the filthy and unclean condition of the milkers' hands while engaged in the act of milking. The Corporation bye-laws are in themselves excellent, and provide for the registration of all persons engaged in the calling of a cowkeeper, dairyman or purveyor of milk, but they are not strictly enforced, and a dairy proprietor, once registered, may possibly infringe the bye-laws in many ways without perhaps being detected for some time. An annual registration of such places at a fixed and stated time each year would do much to correct abuses, and would afford more recent, reliable and additional information regarding each establishment of the kind. The storing and collecting of milk is also a question that does not receive sufficient attention. The buckets and pails used by the milkers are not kept as scrupulously as they should be. The removal of manure heaps should also be carried out more frequently than at present; in the smaller and confined dairy yards the daily removal of manure would appear to be absolutely necessary, and the bye-laws should be stringently enforced in this direction. Such cow sheds as are in immediate contact with dwelling-houses should not be permitted to exist. The power to inspect dairies outside the municipal area, and supplying the city with milk, would if possible be very desirable. It is notorious that for many years great laxity has prevailed in regard to the milk supply from outlying districts to the city. A recent outbreak of enteric fever has clearly demonstrated the urgent necessity that exists for a more complete and thorough inspection of the milk supplies coming into the city from outside.

2424. You say the inspection of dairy yards has hitherto been of an imperfect kind?—Yes. The Corporation rules are very stringent, but they are not sufficiently adapted for the purpose for which they are intended, and I think the inspection might be more thorough than it is.

2425. Does that come within the duties of the sanitary sub-officer?—No, it is completely separate. It is the duty of the inspectors of dairies, and they are not recouped at all.

2426. How many of them are there now?—Four, and a chief inspector.

2427. Suppose there is a complaint, to whom do they complain?—The Public Health Committee deal with that subject altogether.

2428. You say that a considerable percentage of these yards are insufficiently drained?—Yes. In fact the great proportion of them are badly paved, and in every instance they should be concreted, and a proper channel constructed to carry off the manure, water, and filth and refuse.

2429. CHAIRMAN.—Do you mean that the drainage and paving do not come up to the rules and regulations of the Corporation?—They do not.

2430. Because you say the rules and regulations are sufficient?—They are sufficiently adequate for securing the proper maintenance of these places. They want to be more stringently dealt with.

2431. Dr. R. L. SWAN.—What is your opinion on the point, to which I referred a little while ago—is there any possibility of these dairy inspectors being squared by the dairy owners to allow condonement of offences against the Corporation bye-laws?—It is difficult to answer that question.

2432. Is it possible?—It may be possible, but I may say this, that the dairy department has been much overhauled within the past two or three months.

2433. But there is no standard by which the general social class of these men has been elevated, such as has been applied to the sanitary sub-officers? No, not, as a rule, but I may say that the dairy inspectors who have been appointed in the last two or three months are trying to discharge their duties well. There has been a change for the better in that department.

2434. You are quite aware that there is possibility of great temptation being placed in the way of such persons?—Quite so; and it is not at all unlikely that such temptation might be frequently offered.

2435. Dr. R. L. SWAN.—Suppose a man had a dairy in such a condition that it would take a large sum to repair it and bring it up to such a state as the Corporation bye-laws require, and that it was in the hands of a man to whom, perhaps, a quarter of the necessary outlay might prove a sufficient temptation, don't you think that such a thing might happen?—I quite think it might.

2436. You say something about the personal cleanliness of the attendants in dairy yards?—Yes, that is a very important matter, and in several instances I found the attendants milking cows while their hands were in a simply disgraceful condition. This was the case in eight or ten instances, although there were water taps in every one of these yards. It is impossible to get these men to keep their personal attire or hands clean.

2437. Dr. R. L. SWAN.—It is very difficult to meet these sort of cases?—It is, except an example was made of one or two of these men by bringing them before the police magistrate. If one of them was fined occasionally it would do a great deal to improve that matter.

2438. They don't wash the udder of the cow?—No, they are afraid of it lest it should retard the milk.

2439. There is no hope of having here a special dress for milkers as in other places?—No, I am afraid not.

2440. They dress in their ordinary dirty clothes from day to day?—Quite so. I would like to speak of the question of registration. At present the dairyman gets his certificate and his name is put over his cow shed, and very little is practically heard of him after. He does not require to register a second time. I would suggest that an annual registration of all these places at a stated time every year would afford very valuable information regarding each such establishment in the city. It would do away with a great deal of the abuses I have described. The storage and collection of milk does not receive the attention it deserves. Some of the pails I have seen in dairy yards were not clean by any means, and that is very important, because we all know how very easy it is for milk to absorb filthy matters of all kinds.

2441. And there are certain diseases, especially in children, that are induced by milk?—Yes.

2442. Such as diarrhœa?—Yes. They are very liable to that The removal of manure heaps should be carried out more frequently. I know the inspectors have a great deal to do to insist on some of these things being done, but I think an occasional summons would make a radical change in a great many of the misdemeanours I speak of.

2443. With regard to the manure heaps, are there any diseases that you think might perhaps be induced by manure heaps which have afforded culture to many dangerous ailments?—There are—tuberculosis and diphtheria for instance.

2444. Have you not heard that there is a considerable increase in diphtheria in Dublin. We know that the bacillus of diphtheria is a saprophytic organism and don't you think a manure heap would be a very good breeding ground?—Yes, if left for any length of time.

2445. Is there not some great example shown us with regard to the diphtheria epidemic of the form it takes?—Yes, for instance, in Kilkenny there were nearly 100 cases last year, and strange to say, they all occurred in houses where there were large manure heaps at the back of the dwellings—practically at the back of every house where diphtheria occurred there was the proverbial manure heaps.

2446. Isn't it the fact that amongst the vulgar in this country there is a prevalent idea that contiguity to a manure heap is not injurious to health, and you constantly find the manure heap right up to the door?—Yes; they say where there is muck there is luck. Cow-sheds should not be allowed in contact with dwellings.

2447. You think there should be power to inspect dairies outside the municipality?—Yes; it is notorious that there has been great laxity in inspecting dairies that are supplying milk from outside the city. In fact, up to last year everybody could bring milk into the city, and dispose of it. Quite recently an outbreak of enteric fever occurred in the north suburban district, where a dairyman took ill with fever, and he was serving milk in the city. The result was a large number of cases occurred. I think the town of Halifax is applying for such power.

2448. To whom would you recommend that that power should be given?—To the Urban District Council.

2449. You have some evidence to give and some suggestions as regards hospital accommodation for the treatment of infectious disease?—The difficulty in dealing efficiently with an epidemic of infectious disease was quite recently exemplified in Dublin during the outbreak of measles, the hospital accommodation proving quite inadequate in an emergency, the result being that a large percentage of the cases that occurred were treated at their homes in the midst of the most unhealthy surroundings and in overcrowded tenement houses, &c. It was notorious during the prevalence of the epidemic that cases were daily being taken from hospital to hospital through the city, and were unable to gain admission. The extension of the disease was thus favoured, and loss of life must frequently have arisen from want of hospital room. In view of what occurred the Public Health Committee considered that the time had arrived when better provision should be made for the treatment of infectious diseases, and they invited the various suburban district councils to several conferences, with a view to taking steps to establish a joint isolation hospital for infectious diseases. It was regrettable that the project did not find favour with the Corporation, because it is quite evident, judging from past experiences, that the hospital accommodation for the treatment of infectious diseases is not sufficient when an epidemic prevails, and sooner or later this problem must be solved. In the recent outbreak of measles, if it had been possible to find the required accommodation for the earlier cases, it is probable that the epidemic would have been checked in its earlier stages. It must also be remembered that the townships surrounding Dublin have always had access to the city hospitals, and that a very considerable percentage of cases of infectious diseases are sent into Dublin for treatment in Cork-street and Hardwicke Fever Hospitals and the other general hospitals that receive infectious cases, so that a large population other than that comprised in the city proper will avail of these institutions—in round figures over 100,000. The need of a convalescent home is also a question that became very apparent during the recent epidemic of measles.

2450. You are not of opinion that measles is equally well treated in the homes of the poor?—No; I don't think it could be. The poor seem to think that measles requires very little treatment; but it is one of these diseases that require warmth and comfortable clothing, a good bed, and equable temperature.

2451. You think the accommodation for infectious diseases in hospital is likely to break down at any epidemic?—Quite so. I think it only right to say that the townships of Kingstown, Blackrock, and some of the small townships sent over 200 cases of infectious cases to the city hospitals last year, so that in times of epidemics Dublin has not only to provide for its own population, but for the surrounding townships, and that is not quite right.

2452. You think it is likely to breed epidemic, the conveyance of these patients from remote districts?—Certainly. They are brought into the city in cabs, and one case was sent in from Bray in the train.

2453. This was a case of measles?—Yes.

2454. Have there been any penalties enforced for these offences?—I don't think there have been. In that case there was an effort made to get at whoever could be made responsible for the transit of the child; but it was found that no one could be made amenable and the matter fell through.

2455. What is your opinion regarding a convalescent home for infectious cases?—I think it would be a very desirable thing indeed.

2456. What proportion of beds would you think necessary in a convalescent home for infectious cases as compared with the number of beds in hospitals for infectious cases—suppose you had accommodation for 150 in the Hardwicke Hospital and 220 in the Cork-street, say 400 beds—how many beds should be provided in the convalescent home?—I think a home to accommodate 100 to 150 would be quite ample.

2457. What is your opinion as to the great value of a home?—The paramount value is that you may be able to remove a case of scarlatina when it is beginning to desquamate, and you can make room for another case.

2458. You isolate these cases from the outside public during the very infectious period?—Yes.

2459. And in case of fever, what great advantages to the people themselves will accrue from a convalescent home?—A convalescent person requires good nourishment and time to recuperate, and if placed in a home the workingman would be able to leave in a shorter time and go straight to his work.

2460. Isn't there great debility after typhoid for a considerable time?—Yes, very.

2461. The poor man who is sent out of hospital to his work has no chance of getting strong?—No; especially where the hospitals are so full, and he has to be turned out weak and unfit to go to his employment, and he then becomes a charge upon the rates.

2462. So that in a certain aspect it might be regarded us an economy to have a convalescent home?—Quite so.

2463. I think we had evidence before regarding the accommodation, and the number of beds provided for infectious diseases?—I have a list of them here:—

Name of Hospital.	Number of Beds available for Infectious Diseases.	Average Number occupied daily during the last Three Years.	Total Accommodation provided for Infectious Cases.
Cork-street Fever Hospital,	266	174	266
Meath Hospital, . .	42	16	42
Hardwicke Hospital, .	120	80	120
Sir Patrick Dun's Hospital,	20	—	20
City of Dublin Hospital, Baggot-street.	25	10	25
Mater Misericordiæ Hospital	50	28	50
Adelaide Hospital, . .	28	—	—
Steevens's Hospital, . .	—*	—*	—*
Total, . .	—	—	523

* No infectious cases admitted unless from Constabulary Depot.

2464. What is your opinion regarding the admission of infectious diseases to general hospitals?—I have a very strong view on that point. My opinion is that infectious cases should be treated in a building specially devoted to themselves.

2465. That is the case in most of these hospitals?—But there should be hospitals at a distance for special diseases.

2466. Would you entertain the same objection, speaking as a physician, to dealing with typhoid in a general hospital?—Even in typhoid there is a certain

amount of risk, but as long as we have our present day trained nurses I don't think there would be very great danger of infection.

2467. You have great objection to scarlatina, typhus, and diphtheria being treated in a general hospital?—Quite so.

2468. What do you say as to the notification of infectious diseases?—The Notification of Infectious Diseases Act, which was, no doubt, intended by the Legislature to act as a safeguard, and to afford material assistance in the prevention of the spread of infectious diseases, is not as loyally upheld and obeyed as it should be in Dublin. Even the few districts that have adopted its provisions have, in the majority of instances, only nominally done so, and have practically allowed it to lapse. It is earnestly to be hoped that this Act will become compulsory in Ireland, as it is in England and Scotland As an instance of the unsatisfactory state of the notification of infectious diseases, in a report by the President of the Royal College of Physicians, Dr. J. W. Moore, and Sir George Duffey, on the causes of enteric some few years ago in Dublin, it was shown that out of 1,345 presumptive cases of enteric fever in one year notifications reached 434, or not one-third of the total number. Notification has improved slightly since then, but not appreciably. One great hindrance to the due and proper administration of the Act is the fact, that the majority of the suburban districts have omitted to adopt its provisions,; and this naturally interferes with its working in Dublin, and must hamper the Public Health authorities in Dublin distinctly.

2469. You think there should be uniformity in this respect?—I do, indeed. I think the notification of diseases, and especially when enteric fever occurs in a dairy or places of that kind, would be of incalculable benefit, and it becomes a serious matter if it is not carried out immediately.

2470. You have a remark to make about the constitution of the Public Health Committee?—Yes, that is a question I am especially interested in from the fact that I have attended the meetings of the Public Health Committee very frequently within the last twelve months, and I have found that in various ways the work is hampered, and I think it is very regrettable that the *personnel* of the Public Health Committee is changed each year. No sooner does the Committee become conversant with the detail work and administration of the department than a third of its members retire by a system of rotation to be attached to other committees. This must and does affect the efficient admininstration of the Public Health Department, and not infrequently the members who thus retire are those who have devoted most time and energy to the working of the department, and who have become conversant with every question in connection with it. They leave the Committee at a time when probably important and vital questions affecting the health of the city are under consideration, to be replaced by new members, who, though however capable, must necessarily remain unacquainted for some time with their new duties. The Public Health Department, charged as it is with great responsibilities immediately relating to the health and well-being of the inhabitants of the city, should be placed on a different basis to the other committees of the Corporation as regards the annual retirement of a proportion of its members. I make that statement simply, I may say, from my experience of the administration of the Public Health Department. I think the Committee should have biennial elections, and if the Committee could be kept in office for two years, I believe it would do great good, and that solid work would be done at the end of the two years.

2471. You think that these gentlemen who become conversant with the duties of the Committee are replaced by others who don't know the duties?—Yes; the new members may be quite competent, but cannot take up the work with continuity, and it is unfair to break up a committee which has been working hard together for the whole year.

2472. Perhaps it is because they have worked so hard they like to leave the Committee for rest?—This is a suggestion of mine, and I make it in all good faith, for I know that the Medical Officer of Health has a very great deal of important and very onerous duties to discharge, and I often think if the Committee was longer together they would give him a great deal of assistance.

2473. What is your opinion about the tenement dwellings and the overcrowding of them?—That is a question that has been so threshed out by everybody that I have very little to add. There is no doubt the conditions under which the poorer classes live in Dublin is by no means satisfactory, from a sanitary point of view, and the problem of the tenement dwelling is really deplorable, and is the one most difficult to solve. The Corporation deserve credit for the endeavour that has been made to solve this question, by the erection in various parts of the city of dwellings for the working classes. Of the majority of houses now let in tenements throughout the city, it was originally intended that they would give accommodation to one family only; now it happens that every room in each house is occupied by a family, and the occupants have in common the use of one closet and one back yard, always badly paved. The tenement houses in Dublin require a system of close supervision, and all such houses reaching to four and five stories high should be provided with a water supply and closet accommodation on each floor. Cleanliness cannot be expected where people are forced to live under such conditions, and when one closet is expected to accommodate ten families or more morality must also suffer. Many of the tenement houses are windowless, and boardings take the place of windows thereby hindering both light and air to enter the dwellings. On each landing the occupants, either unable or unwilling to go to the outside yard, deposit rubbish and filth, and even excrement. Ventilation, concreting of back yards, closet accommodation and a water supply on each flat, a strict supervision over the number of persons inhabiting each room, surprise visits by the inspectors occasionally at an early hour of the morning to detect overcrowding, and leaflets showing the precautionary measures that should be adopted when cases of phthisis and infectious cases occur would do much to assist in improving the conditions under which the poorer classes live.

2474. Dr. Falkiner stated yesterday that perhaps two water-closets would be sufficient, but you think four would be necessary?—Yes, if you have houses of four or five stories, for if you have six or eight families in a house there should be a closet on each landing. It would promote habits of cleanliness more than if there were only two closets.

2475. Would you have these closets inside or outside the house?—I would have them abutting on each landing. I would not have them within the tenement dwelling. I quite agree with the suggestion of Dr, O'Carroll and Dr. Falkiner as to leaflets, for the purpose of educating the people in habits of cleanliness.

2476. In fact to educate the poorer classes to some extent in elementary hygiene what suggestion do you make regarding medical officers of health?—You are aware there are about sixteen medical officers of health in the city, and these gentlemen have unusual opportunities in the discharge of their duties as dispensary medical officers of becoming acquainted with the habits and conditions under which the people live. Their duties take them into the tenement houses, and they visit the very worst class of this house property. The duties are defined in the Sanitary Order of August 8th, 1879. The medical officers of health might, with advantage, become more intimately in touch with the Public Health Department than they are at present, and much good could

be done by more frequent interchanges of consultations with the Superintendent Medical Officer of Health. Some of the districts in the more congested and poorer portions of the city need persistent and careful attention on the part of those charged with the administration of the Public Health Acts, and both the Medical Officer of Health and Sanitary Sub-Officer, in their daily visitations, must be aware of the insanitary state of the dwellings and surroundings of the poorer classes. More frequent reports from the Medical Officers of Health as to the sanitary condition of these districts is also most necessary.

2477. You think they should take the initiative more frequently?—Yes; that is exactly what I meant—that they should take the initiative more frequently than they do.

2478. What influence do you think sub-soil has on the public health?—A careful examination was made about six and a half years ago, by the late Dr. Graves and Mr. Thomas Drew, the President of the Royal Institute of Architects, into the question of ground water in Dublin. The high level of sub-soil water, they stated, was caused by—(1) heavy rains, (2) tides flooding the basements of the houses on the gravel area, (3) the cessation of the pumping of the wells in the city since the introduction of the Vartry water, (4) the exclusion of the sub-soil water from the sewers and drains, (5) the waste of Vartry water. They further stated that they got several samples from wells, used and unused, from various parts of the city, and that most of the samples were polluted with sewage. The wells were, in most instances, full of water up to within four to six feet of the surface. On looking over the list of the wells that these gentlemen examined, one was in College-green, two were in Merrion-square, another was at the Bank of Ireland, and another at the Custom House, another in Henry-street, and in every one of these wells they considered that there was a great deal of sewage matter at the time.

2479. Right Hon. Alderman MEADE.—What is the date of that?—That was in 1893. My reason for mentioning this is that it has been frequently stated that one of the main causes of the many outbreaks of enteric fever was the high level of the sub-soil water into gravel area about Dame-street and Grafton-street, and all that particular district, and I believe the main drainage will have a very beneficial effect on that sub-soil water. Another question is as to the value of baths and wash-houses as aids in the promotion of public health. I was quite struck with the Tara-street baths, which I only visited a few days ago, to see how splendidly they were kept, and I could not help feeling that it would be a great addition, indirectly, to the health of the city, if similar baths and wash-houses were erected in other parts of the city, particularly in the congested portions. I think it would have a very good effect, and, moreover, it would encourage the labouring classes to avail themselves of these places, and I think every encouragement should be given to the poorer classes in this direction, in the city of Dublin.

2480. Dr. J. W. MOORE.—At the beginning of your evidence you gave us some statistics of the death rates on the north and south sides of the city. I had the curiosity to take the averages, and they are interesting. The average for five years on the north side was 30·2, and on the south side it was identical—it was 30·2. The zymotic death rate for the last five years comes out 3·2 on the north side, and 3·8 on the south side, so that there is very little difference between them, and, therefore, whatever causes influence the health of Dublin affect it equally on the north and south sides?—Yes.

2481. You gave us very valuable statistics relative to the outdoor relief. Where is that outdoor relief distributed?—The outdoor relief is distributed, I am sorry to say, at many of the dispensaries in the city of Dublin.

2482. Are the stores kept at the dispensaries?—They are not. They are brought to the dispensaries and left there for, perhaps, about an hour or so before the people come for them. In other instances—for instance, in the case of the bread contractors, the cart comes up to the door, and the bread is delivered from the cart, but in the North Dublin Union, at the present time, owing to a suggestion of mine, the distribution of bread from the dispensaries of the North Union has been done away with for the present, but I had some difficulty in getting that done. That, however, is the present system, and the bread is being taken from the workhouse gate.

2483. Isn't it a fact that until very recently there were stores of eatables kept in some of the dispensaries, at all events?—Well, not during the time I have been discharging the duties, but previous to that I believe there were.

2484. Some months ago the Dublin Sanitary Association made a strong recommendation on the subject of the danger of keeping the stores of out-door relief on the dispensary premises, and this was in consequence of an order of the North Dublin Board of Guardians that these stores were to be kept there?—I remember the time.

2485. I suppose you don't agree in that insanitary arrangement?—No, I do not. I happened to be present the day your letter was read, and I was very glad I was there, in order to assist in having the dispensaries closed against that.

2486. Aren't you quite well aware that amongst the extern visitors at the dispensaries there may be patients suffering from scarlatina, or measles, or other infectious diseases?—Yes.

2487. And that it would be a source of danger to the paupers receiving these stores if derived from such unsanitary surroundings; however, that practice, you say, has been put a stop to?—Yes; and, I hope, permanently.

2488. You mentioned two causes of high death rate, measles and influenza, and I have here on the table the Registrar-General's return, week by week, for the last year, and I find that a little before measles set in, summer diarrhœa began, and throughout the whole of August diarrhœal diseases were producing 20 per cent. of the deaths which occurred in the Dublin registration district?—Yes; during the month of August, and also July, I think.

2489. So that you would be quite willing to add to these two diseases of measles and influenza diarrhœal disease as a further cause of the high death rate?—For last year, quite so; but I was dealing, altogether, with the time of the last epidemic, and my ideas were confined to October, November, and December.

2490. As a matter of fact, influenza is not credited with many deaths at all until January, and the causes of the high death rate last year were diarrhœa and measles plus enteric fever, which, also, was omitted?—Yes.

2491. And the reason I mention that particularly is this— do you not think that the hospital accommodation ran out last year, probably because of the coincidence of the several epidemic diseases?—Very probably, and most likely.

2492. You know there were very numerous cases of enteric fever in the Dublin hospitals all through last autumn?—There was a partial epidemic, particularly on the north side of the city.

2493. As to the slaughter-houses, I was very glad to hear your evidence on that subject. You are aware of the observations of the late Sir Alfred Carpenter as to the spread of disease in the vicinity of slaughter-houses?—Yes.

2494. He suggested that scarlatina or a disease very like it took its origin in the vicinity of slaughter-houses?—Yes.

2495. The presence of slaughter-houses in a densely-populated city is not conducive to the public health?—Certainly not.

2496. And you are opposed to the presence of slaughter-houses in the city?—Yes.

2497. I wish to state what I saw to-day. I saw a large cart laden with the skins of slain cattle, and the blood all dripping over the roadway, in the presence of the passers-by. Ought that to be allowed in a city like Dublin?—No, certainly not, in the middle of the day.

2498. With regard to the scavenging, you are a little doubtful as to the cleanliness of the Dublin streets?—I am; I have reason to be.

2499. The superintendent of scavenging told us that the streets were cleaned daily for six days in the week?—Yes.

2500. Did you observe the condition of the streets during the recent falls of snow in Dublin?—I did.

2501. Were you of opinion, from your personal observation, that the scavenging during the first fortnight of February was sufficient?—No; and that was what I had in my mind; but that was an exceptional period, for I think that was about the time the disease of the horses began, and, I think, the Cleansing Department had some excuse at the time.

2502. Do you think it is a good thing to throw the snow off the streets into the Liffey?—They do it in Dublin. I suppose it is the most convenient way of disposing of it, but it is all mixed with mud and that sort of thing.

2503. With regard to the constitution of the Public Health Committee, would your suggestion be that a certain proportion of the members should remain from year to year?—What I mean is, that the efficiency of the Public Health Committee would be far greater if they were allowed to remain together, say, for two years; and if they had a biennial system of rotation for that particular department, I think it would be very useful.

2504. Would you suggest that at the end of the two years the whole Committee should go out of office?—I think so.

2505. Or would you say half of the Committee?—Yes; I think in that particular instance it would be much better if the Committee remained together for two successive years.

2506. Isn't it quite possible that members are elected on that Committee who don't know any of the provisions of the Public Health Act?—Quite so.

2507. Or, at all events, of the more recent Acts governing public health?—Very true.

2508. Therefore you think the members should remain on the Committee long enough to become acquainted with these matters?—To become acquainted with the public health work, and the same would apply to the Chairman of the Committee who should also serve for two years.

2509. You have, in your evidence about dispensary medical officers acting as medical officers of health, suggested that they should be a little more active in the discharge of their duties?—Yes.

2510. You are aware how much these medical officers are paid per annum for their services?—Yes.

2511. How much?—£25 a year each.

2512. Of that amount one-half is defrayed out of the rates or funds at the disposal of the sanitary authorities—that is £12 10*s.* per annum?—Yes.

2513. And the liberal Treasury supplies the balance?—Yes.

2514. Do you consider that that is a liberal emolument for the duties required from these dispensary medical officers?—Well, that is rather a difficult question for me to reply to.

2515. Right Hon. Alderman Meade.—That is rather a hard question to put to an Inspector of the Local Government Board?—I think up to the present for the amount of reports they give——

2516. Dr. J. W. Moore.—You need not answer my question?—Thank you very much.

2517. Isn't it the case that these salaries are fixed by the sanitary authorities subject to the approval of the Local Government Board?—Such is the case.

2518. Here are the duties in the Order to which you have already referred. These duties are laid down by the Local Government Board:—"(2) Every medical officer of health who shall have been apprized officially by the sanitary sub-officer or shall otherwise become cognizant of any matter demanding his attention as aforesaid shall, as soon as practicable, visit the place, and if, after due inspection, he finds such matter to involve danger to public health, he shall report thereon to the sanitary authority, in the Form (B) in the said Schedule B, showing the source from which he received the information, and the date thereof, and the date of his visit of inspection; he shall also give a sufficient description of the nature of the case and the remedy which he recommends to be adopted, and shall preserve a duplicate of every such report. (3) Every medical officer of health shall inform himself, as far as practicable, respecting all influences affecting or threatening to affect injuriously the public health within the district in his charge, and shall from time to time, as occasion may require, report on the subject to the sanitary authority, and recommend the measures which, in his opinion, should be adopted for the protection or improvement of the public health in such district. (4) Every consulting sanitary officer, if such an officer be appointed for the sanitary district, shall attend meetings of the sanitary authority whenever required to do so, and shall advise them on all matters and proceedings requiring medical knowledge and advice in the administration of the sanitary laws. (5) Every medical superintendent officer of health, if such an officer be appointed for the sanitary district, shall discharge all the duties imposed by this Order on the consulting sanitary officer, and in addition to such duties shall perform the following duties—that is to say, he shall report monthly to the sanitary authority on the general sanitary condition of the urban sanitary district and on the discharge of their duties by the medical officers of health and sanitary sub-officers of the district." These are the duties of the medical officers of health. Is it your opinion they are compensated according to the duties expected of them by £25 per annum. It is suggested that they have not been been doing as much as they might?—Well, recently I have met the medical officers of health myself on two occasions in consultation with Sir Charles Cameron, but I am speaking generally, and I think it would be very well that the medical officers of health should report occasionally as to the sanitary condition of their districts.

2519. They have done so?—Yes.

2520. We have had before us a series of very valuable reports from these gentlemen. With regard to the inspection of dairy yards, you are not satisfied with the inspectors?—Well, taking them altogether, I think the inspectors might be more stringent.

2521. You think a change has recently occurred for the better?—I mean that a change has taken place for the better in the *personnel* of the inspectors; one or two better men have been drafted into the Dairy Department.

2522. Within what period?—Within the last two or three months.

2523. In fact since public attention was drawn to the very unsanitary condition of the dairy yards both inside and outside of Dublin in connection with the disastrous outbreak of enteric fever on the north side?—Very likely.

2524. You have alluded to the notice of registration, and that the notice was put up over the entrance to the dairy-yards?—Yes.

2525. Are you aware of the wording of the bye-law?—Yes. The entrance to the cow shed or dairy yard.

2526. And we know that they are perfectly different things—that the dairy yard contains many cow sheds, but that a cow shed is an individual shed in which there is only a solitary cow, or at most two cows, and the bye-law says the notice is to be over the entrance to the cow shed or the dairy yard. I think from the wording of it that it must be over the cow shed, but you seem to think that the Corporation are satisfied if the notice is put over the individual cow shed in the dairy yard?—I think the name should be over the dairy yard.

2527. Isn't there every reason why I, as an inhabitant of Dublin, should know the dairy yard from which I get my milk, and that I ought to be able to recognise that this is a dairy yard when walking along the street, and that is the object of the bye-law, but it isn't carried out?—Quite so.

2528. As regards manure heaps in dairy yards, are they often used as receptacles for human excreta?—I have seen it frequently.

2529. You spoke of the possibility of the contamination of milk by manure heaps, and you alluded also to the possible danger to the spread of enteric fever through the agency of milk being kept and stored in the vicinity of these manure heaps?—Yes, quite so.

2530. I think Sir Charles Cameron has already many years ago investigated a case in which excreta of an enteric fever patient was thrown out on the manure heap in a dairy yard, and that gave rise to a widespread epidemic?—Yes. I think the removal of manure heaps is one of the most important duties in connection with the supervision of dairy yards—and the more frequent removal. I went to a dairy yard where there were 100 cows and found a great manure heap, and the excuse offered there was that it was severe weather, but still there was a huge mountain of manure in the yard.

2531. With regard to the infectious hospitals, you are aware that repeated efforts have been made by the Corporation to get a site for an infectious hospital?—Yes.

2532. And that it is a very living difficulty?—Yes, I am aware of that.

2533. For the inhabitants of all the districts round Dublin strongly resent the idea of an infectious hospital near them?—That is so.

2534. That being so, do you consider it a good thing to establish an infectious hospital at a great distance from where the sick fall ill?—Certainly I would not, and I think the time will very likely come when the Corporation will not have that difficulty to contend with.

2535. When they will get increased powers?—Yes, I think so. You know it is a source of danger to certain patients to carry them any distance from the place where they become ill?—Yes, I know that from living in Kingstown, and sending a fever patient into Dublin. It is a very risky thing, and on several occasions it was very nearly a question of death to the patient.

2536. Has Kingstown adopted the Notification Act?—It has not, I am sorry to say.

2537. Do you consider that a source of danger to the population of Dublin?—I do, distinctly.

2538. What is the population there?—18,000 or 19,000.

2539. With reference to the Convalescent Homes, for infectious cases, you think these are absolutely necessary?—Certainly.

2540. Isn't there legal power at present to establish them?—Yes.

2541. But it has never been put in force?—No, but there is power.

2542. You consider there is a most pressing want for a convalescent home in Dublin?—Yes, in Dublin particularly.

2543. And especially in the case of disease like scarlatina?—Yes, and it is especially important in the case of working men because when they get out into a place of that kind it will enable them to return to their work very much more quickly than they can do if sent back to their own homes.

2544. May not a scarlatina case re-infect itself?—Yes.

2545. And it has been proved that if scarlatina patients are kept in the air of scarlatina at a particular period of their convalescence they may get it again?—Yes.

2546. And that therefore it is very desirable that they should be removed as soon as possible?—Yes.

2547. As to the Notification Act, you are aware that the Government were approached on the subject of making that Act compulsory throughout Ireland?—Yes—I believe it was the Royal College of Physicians that moved.

2548 And the Dublin Sanitary Association also?—Yes.

2549. But the advice was not taken?—No, and it is regrettable it was not taken, for I think it would apply with a great deal of force to Ireland, and as much as to England and Scotland.

2550. Dr. T. THOMSON.—In the evidence you gave as regards the sanitary sub-officers I notice that you stated that their duties should be restricted altogether to sanitary work, and that they should not perform any collateral duties. What collateral duties do you refer to?—Well, for instance, one of the sanitary sub-officers instead of being a sanitary sub-officer although he was classed as a sanitary sub-officer, was actually a man driving a van in connection with the disinfecting department. I think at certain periods of the year some of these officers are asked to perform what is called rebate duty. It may take them a fortnight or perhaps a month from their duties, and that rebate duty may be at a critical or important time of the year, and I think it is wrong that they should be asked to do any work of that kind if it necessitates their absence from their sanitary work for that period.

2551. What does rebate work mean?—It is a question of rebate on the rents of dwelling-houses used as tenements.

2552. Sir *Charles Cameron*.—They get 25 per cent. off artisans' cottages that are found to be of a model character. It is a survey of dwellings valued at under £8 per annum, with the view of allowing a rebate of rates.

2553. Dr. T. THOMSON.—What work do they do in carrying out these duties?—I have the sheet before me. They are to give the number and name of the street; is the street in charge of the Corporation; the number of stories; is there a yard attached; is the yard used in common; the number of water-closets, and other information of that sort concerning these houses.

2554. Sir *Charles Cameron*.—They do inspect the houses with the view of seeing whether these houses are worthy of rebate, and we consider they are doing very valuable sanitary work when they are doing that.

2555. Dr. T. THOMSON.—Do they do other work than sanitary work in doing this rebate work. It is quite clear there must be a certain amount of sanitary work in that work?—That is one of the matters I had in my mind when I spoke.

2556. Do you know of any other instance of sanitary sub-officers having done work other than sanitary work?—No, except the one instance that came to my mind about that man driving the van, and I see that their duties according to the headings of the return in connection with this rebate work must become to a certain extent connected with their sanitary duty. I think this duty lasts for a fortnight or a month, and it may take them from other work more important.

2557. CHAIRMAN.—How many sanitary sub-officers are engaged on that work?—About five or seven.

2558. Dr. T. THOMSON.—Can you give us any other instance of collateral work they discharge besides the one you have already given?—Well, no, I cannot, except the one I specially mentioned, and that was such a very remarkable one. The duties discharged by this man were apparently the duties of a cabman and stableman, and he was being recouped as a sanitary sub-officer.

2559. Right Hon. Alderman MEADE.—And was it because the Corporation asked the Local Government Board to pay half the wages of this man that you objected?—No, he was not discharging the duties of a sanitary sub-officer.

2260. Dr. T. THOMSON.—You also stated that supervision of the sanitary sub-officers is desirable?—Yes.

2561. What does that mean?—Well, supervision of the sanitary sub-officers. I think some of them may not exactly discharge their duties as efficiently as they might: for instance, on one occasion I was going round with the chief inspector, and he had a book showing the work that one of these men had done or was supposed to have done on the previous day or on the previous three days, and on looking at the record he found that this sanitary sub-officer had not given the information as accurately as he ought to have done, and in fact had not done the things he said he had done.

2562. But in that case the sanitary sub-officer was under the supervision of the chief officer?—But from what I heard I think it possible and probable that a great many of the others were the same way. They might do things of that nature.

2563. That would lead to the inference that the chief inspector does not supervise his staff?—Not exactly the chief inspector, but I think it is possible there should be a stricter supervision.

2564. You think, not that there is need for additional supervision, but that the supervision should be stricter?—Yes.

2565. Does not the inference follow that if the supervision is adequate in amount, it must be inadequate in the manner in which it is carried out; and therefore that the chief inspector is in fault?—I think the supervision should be stricter.

2566. As regards cow sheds and dairy yards, I observe that you make no comment on the amount of cubic space?—No.

2567. Are you aware of the cubic space?—Yes; 400 in the rural districts and 500 in the city of Dublin.

2568. Do you consider that sufficient?—I do. I think it is fairly good, especially if the shed is well ventilated.

2569. You are aware that the modern standard is 800?—Yes, but we cannot get that in Dublin; we had difficulty in getting the North Union to come up to 500—they wanted 400.

2570. You said that annual registration of dairy-yards and cow-sheds at fixed and stated periods each year would do much to correct abuses?—Yes.

2571. You are acquainted with the Corporation bye-laws, no doubt?—Yes.

2572. How does the provision of Bye-law 4 meet your view—"For the purpose of enabling a registry to be kept and corrected, every person registered as aforesaid shall, on the 1st day of January in each year, or within thirty days thereof, transmit to the officer a statement in writing with the several particulars mentioned in the schedule to this regulation, and if there shall be any change of the then regulations such person shall forthwith obtain a fresh certificate of registration"?—I understand that that is not carried out. I don't believe the annual registration takes place.

2573. With regard to the storage and collection of milk, you say that that is a question that has not received sufficient attention. The bye-laws deal with that matter, because Bye-laws 15 and 16 contain provisions for the daily cleansing of milk shops and milk vessels, and there is a further regulation about places for the sale of milk and for the keeping of milk—that they shall not be used for sleeping or other purposes. If these bye-laws are properly carried out would that not meet your criticism?—Yes, if they were.

2574. Your position is that they are not?—Yes, I think they would meet the point if carried out.

2575. CHAIRMAN.—Do you know they are not carried out?—I have visited very many of these places, and I have stated what I saw with my own eyes.

2576. Dr. T. THOMSON.—With regard to the removal of manure from dairy yards, there is a bye-law which provides that the manure shall be removed at intervals not exceeding seven days, or at lesser intervals, as the medical officer of health shall direct. Do you consider that a proper period?—It all depends on the quantity of manure.

2577. But do you consider the bye-law as it stands satisfactory?—I do

2578. There again you contend, not that the bye-law is defective, but that it is not carried out as strictly as it should be?—Yes; for I have seen large heaps of manure.

2679. In these cases which you have seen, I suppose you have ascertained the specific time within which the previous removal had taken place?—Yes; in one case in Summerhill I found a man with a large truck full of manure about half-past one in the day, and I saw a tremendous amount of manure in the yard, and the reply he gave, when I asked how it came to be there, was that the weather was very severe, and that he could not get time to take the manure away.

2580. How long had it been since the previous cleansing of that yard?—Fully ten or twelve days, and the excuse, as I have said, was that the snow was on the ground, but the nuisance was there, and a very great one too.

2581. You also advocate that the Dublin Corporation should have power to inspect dairies outside the municipal area?—Yes, if possible.

2582. You are aware that there is such power as regards dairies where there is reason to suspect the quality of the milk?—Yes.

2583. And you mean there ought to be powers for periodical inspection of these outside dairies quite irrespective of the condition of the milk or of the cow sheds?—I do.

2584. In reference to what you told us regarding hospital accommodation for infectious cases in Dublin I notice some discrepancy between your return and the return that has been given us as to the number of hospital beds; for instance, you gave Cork-street as 266 beds, and the return from the hospital is 260 beds; and in the case of the Meath Hospital, the number you gave was 42, but the hospital have returned 60?—These are the figures given to me by the registrars of the hospitals.

2585. Dr. J. W. MOORE.—Where do you get the figures 60?

2586. Dr. T. THOMSON.—These are the numbers handed in by Sir Charles Cameron.

2587. Sir *Charles Cameron*.—From the returns from the hospitals.

2588. Dr. J. W. MOORE.—I may explain the discrepancy, so far as concerns the Meath hospital. During the pressure of the measles epidemic the hospital authorities determined to treat typhoid fever not in the epidemic wing, but in a portion of the medico-chirurgical hospital, and that ran up our accommodation temporarily to sixty.

2589. Dr. T. THOMSON.—Then 42 is the normal number of beds, but there is still a considerable amount of difference in the totals that are given. We have a total from one source of 595, and from another the return of this total is 523?—Yes. These were the returns made by the registrars of the several hospitals

five weeks ago, and I think it was during the epidemic that the return was given to Sir Charles Cameron, and that might account for the difference.

2590. But even your 523 is in excess of the hospital accommodation in proportion to the population in the large towns in England?—Yes.

2591. And you know that these towns have seldom more than one bed per 1,000 of the population?—Yes.

2592. And you know that the population of the Dublin Registration Area is 350,000, and that Dublin has 523 beds for infectious cases?—Yes.

2593. And judging by the ordinary standard that is a very large amount?—I am fully aware of that: but I have stated that it is during the prevalence of epidemics we are generally very pushed in Dublin for accommodation.

2594. But yet it is clear that Dublin is quite as well off, at least, as most places. I am not now considering the quality of the accommodation, to which exception may possibly be taken. As regards number of beds, Dublin you will see compares favourably with most of the large towns in England and Wales?—You may say also for hospital accommodation generally that we have got a very large number of hospitals.

2595. As regards the medical officers of health who serve the subsidiary districts in Dublin—these officers are appointed under an Act which is peculiar to this country. They are, as I understand, primarily poor law officers, and by virtue of that position they become the medical officers of health for their districts. Does it not follow that because they are poor law medical officers they have acquaintance with the principles of public health?—Some of them have. They are occasionally diplomates in public health.

2596. But that is the position—I don't wish to cast any reflection on them—but that is the position?—Yes.

2597. And they also appear to be poorly paid. In your judgment, is this Act, so far as that provision is concerned, a desirable Act to apply to such a large city as Dublin?—I think not.

2598. Would it not be preferable, instead of paying a large number of medical officers of health in this way, each devoting a small period of his time to the work, that you should have one assistant medical officer of health for the whole city?—I think that would be a very capital suggestion, and a very useful one, if it is possible to carry it out.

2599. Right Hon. Alderman MEADE.—I asked you before about a statement which you made about the fairly clean condition of the streets. You said, "It may be conceded that the principal thoroughfares are kept in a fairly clean condition, but the bye-streets, the lane-ways, and the alleys do not come up to the standard of being even fairly well scavenged or cleaned." I asked you before if you had compared the city of Birmingham with Dublin, or did you consider that our main thoroughfares are as well kept and as clean as the main thoroughfares in Birmingham?—Well, I don't think they are.

2600. And then, of course, the bye-streets you say are not at all well kept?—The bye-streets I don't think are well kept.

2601. You think that?—Yes. Of course, it is my opinion, that is all.

2602. As to the hopper barge, you object to the position of it?—Yes, I do.

2603. You object to it because it is in a densely-populated district?—Yes.

2604. But you would not object to it if it was lower down the river in a less densely populated district?—No.

2605. What would be the difference to health in a less densely populated district by having the barge brought down to them?—I think if it went a mile down the river the same point might apply, but certainly the population would not be so dense, and there would not be such a thoroughfare as where it is now. It is a very great thoroughfare, and it is an unsuitable place for it.

2606. Are you aware that there is a great thoroughfare along all the quays for more than a mile down?—I don't think the thoroughfare is anything as great lower down the river on that side as it is there.

2607. You don't know it is all populated?—I know it is populated, but I don't think it is as dense as there.

2608. But it would not matter interfering with the health of a few people?—I think the present site is about the most unlikely in the city of Dublin.

2609. And, of course, cost is no object to you. You want everything done in the best possible way, but the cost is to be borne by the authorities without reference as to where the money is to come from?—I think the cost in a question of that kind should not stand in the way.

2610. You told us the bye-lanes are very badly paved, and not properly looked after?—Yes.

2611. The Public Health Committee and the Paving Committee had to deal with a lane at the rere of North Richmond-street. It was in such a state that the Corporation had to repave it and drain it, and, having done that, they proceeded against the owners for the cost of this work?—Yes.

2612. The owners objected to pay for it, and they appealed to the Local Government Board, and the Local Government Board, in its wisdom, said they would ask them to pay half of the cost of doing the work because it was done too well, and the Corporation having done it so well would be good enough to pay the other half themselves. Do you think that that is conducive to the Corporation undertaking work of that class?—I would say it is not very inviting.

2613. As to the refuse destructor, you told us you visited the destructor in Stanley-street, and you said that the character of the refuse was not objectionable, and you felt no smell?—No, not a bit.

2614. But you did at the hopper barge?—The day I visited it I did distinctly. I happend to see it to-day.

2615. You mean that the refuse sent to the barge is much more objectionable than is sent to the destructor?—What I saw to-day was decidedly very objectionable.

2616. You also referred to the necessity for constant supervision over the contents of the dust-bins, and about the necessity for daily cleansing of them?—Yes, I meant daily supervision; and I think if they were being removed every day, the people who removed them would be able to find those who are misusing the bins, and give advice to the people who are in the habit of sending all kinds of filth into them. At present the removal only takes place three times a week, and there is not, I think, an opportunity of correcting the abuse.

2617. Do you really think the advice of the Corporation official would be effective with these people?—It might have some possible effect, and it would certainly make the tenement places cleaner and the yards, if these things were removed every day.

2618. Do you think it is an objection that these pails should be allowed to have this class of refuse put into them?—Yes; I think that is a thing that should not be allowed at all.

2619. Do you think it is conducive to the health of the city that these pails are merely taken to the street front of the houses, and there turned into the dust-cart and brought back to the house with probably a large portion of the objectionable matter left in the bottom of the pail?—I think it is very objectionable.

2620. Did it occur to you what would be the remedy for that?—Well, I think leaflets; as I have already advocated in these other matters, giving the people

ideas about public health and cleanliness. If posted up in all these tenements it would do a great deal of good, and it would probably give them some idea of the importance of the habits of cleanliness.

2621. But any amount of leaflets will not clean the pails?—No. I think it is a very great difficulty. To get rid of a great deal of the matter in the pails is a very important matter.

2622. You have told us your experience of the extra work done by sanitary sub-officers, and you have mentioned an instance in your experience where one man was driving an hospital cart, and where another sanitary sub-officer was engaged in looking after tenements of the working classes in reference to which there might be claims for rebate, and Dr. Swan asked you about the dispensary doctor who gave evidence here, and said he had reported to the sanitary sub-officer on several occasions, but that no notice whatever was taken of the state of things, and that it was as bad afterwards as when he first reported it. Is that the duty of the sanitary sub-officer—to take complaints from the dispensary officer? I will define the duties of a sanitary sub-officer and of a medical officer of health:—"Every sanitary sub-officer shall, by inspection of the district for which he is appointed, keep himself informed in respect of any nuisances existing therein that require abatement under the Sanitary Acts, and if he shall receive notice of the existence of any nuisance within the district, he shall, as soon as practicable, visit the place, and inquire into such alleged nuisance; and when he finds any matter demanding, in his opinion, attention from the medical officer of health of the dispensary district in which the same occurs, he shall notify it forthwith to the medical officer of health in writing, specifying the nature of the case, the situation of the premises, and the name of the occupier or owner, in the Form A in the Schedule B to this Order annexed, and shall preserve a copy thereof in duplicate, and he shall submit to the sanitary authority at each meeting the duplicates of the reports which he has made to the medical officer of health since the previous meeting, or an abstract thereof, and he shall also report to the sanitary authority any other matter affecting or threatening to affect injuriously the public health within his district"—and the duties of the medical officer of health are those that have been read by Dr. Moore.

2623. But I am referring more directly to the position of the district medical officer, for Dr. Swan had regard to the evidence given by one of these officers that the Public Health Committee had failed to carry out recommendations made, and I want to ask you whether the medical officer had carried out his duty in merely telling the sanitary sub-officer that a nuisance was in a certain place?—I don't think he had.

2624. Are you aware that there are forms supplied to each dispensary officer?—Yes.

2625. And that the Corporation, in order to save all possible trouble to the dispensary officers, has had a telephone put into every dispensary office in Dublin?—I am aware of that.

2626. So that if a medical officer does not care to go to the trouble of writing, all he has to do is to ring up the telephone and report what he sees?—I am very glad you mentioned the fact.

2627. With regard to the cow sheds and dairy yards—you complain that the general conduct of the inspectors is very bad?—Oh, not very bad.

2628. Well, very neglectful?—I think the present staff are doing their duty very well, and I was talking of what I saw some four months ago, on one or two occasions that I was with the sanitary sub-officers, and they were not doing their duty, and I consequently inferred neglect of duty.

3629. You saw some dairy yards in a very objectionable state you say?—I saw a good many.

2630. Did you take any notice of them further, or did you tell Sir Charles Cameron, or the Public Health Department about these cases?—The chief inspector was with me, and took a note of them distinctly.

2631. But you did no more?—I think he reported them afterwards, and some of them that I have seen within the last week or ten days are very much improved.

2632. Excuse me, I take your evidence as a distinct charge against the Corporation of Dublin, and you are giving evidence as an Inspector under the Local Government Board. You say you have found these yards in the state they were in, and being of the opinion that the inspector was not doing his duty, you took no further notice?—I mentioned the matter to the Public Health Committee. At the following meeting of the Public Health Committee. I spoke to the Committee about it, and I believe the inspector of dairies had also a report in, and I think the man who was the delinquent was brought before the Committee and was severely reprimanded; and I think on the second occasion this sanitary sub officer was brought before the Public Health Committee for not discharging his duty efficiently.

2633. Was it the one inspector on both occasions?—Yes; I think so.

2634. Are these the only two occasions you have to complain of?—I have been to a great many dairy yards, and I have seen what I have told you to-day.

2635. That is what I want to come at. I think you, in the position you hold going round these dairy yards and seeing them in the state they were in, there was some duty on you to report them to the Public Health Committee?—At the Public Health Committee, when the questions crop up in regard to these things, I always speak of them.

2636. That is once a month?—No, oftener than that.

2637. You say you did that, and that you attended the meetings of the Public Health Committee. Shall I have the minutes of the Public Health Committee examined to refresh your memory?—When I came to the Public Health Committee I always entered into every matter practically of detail and everything that goes on during the day at the meeting. I have the agenda paper before me, and anything that occurs to me I generally speak about it, and that is always the case.

2638. I suppose you are aware that the four dairy inspectors are inspectors who have passed the necessary examination?—I don't think they all are.

2639. And that they got their certificates?—Yes; at present they have, but that was not the case formerly.

2640. Well you will take it from me, for I am positive they have—I know they have?—Presently, but not formerly.

2641. You say a great many of the dairy yards are badly paved?—Yes.

2642. And that they should be concreted?—Yes.

2643. Do you think we ought to insist upon having them concreted?—Yes.

2644. And you are satisfied with the bye-laws which make no such provision?—I think they should be much better, and that concreting would be the best thing.

2645. You are very strong on the point of registration, and you insist that registration is not performed every year?—I don't insist it is not performed every year, but I understand that annual registration did not take place.

2646. And don't you think you should be better prepared when you come forward to make a statement of that kind?—Yet I am not sure it does take place.

2647. Then take it from me it does?—I was informed it was not done.

2648. By whom?—I think it was the chief dairy officer of the Corporation told me if there was an annual registration it would be a good thing.

2649. We have the return for a great many years past of the annual registration, and we will ask you to correct that evidence. I ask you what chance would there be in the Dublin police courts if we prosecuted a man for milking a cow with dirty hands. Do you think we would get a conviction?—Under your bye-laws?

2650. Yes?—I should say you would.

2651. You say we don't prosecute them?—Oh, I know you are about to prosecute them. Perhaps this week you are about to prosecute, but it has not been done.

2652. Would it meet your objection if there was a provision made, that all the milk coming into the city should be sterilized?—It would be a very good thing to do.

2653. You were speaking about the advisability of surprise visits on the part of the sanitary inspectors. Do you know the regulation made by the Public Health Department is, that no inspector knows in the morning where he is going to be sent on that day?—I only throw out that as a suggestion of what I consider from my stand-point a very good suggestion; that if there were surprise visits they would be very useful.

2654. Will you take it from me that there are surprise visits, and that it is only in the morning these inspectors get the list of the houses and streets they are to visit that day?—I talk of surprise visits in the very early morning.

2655. Wouldn't it be a surprise to visit at any time of the day if they did not know you were coming?—No, not to test the overcrowding.

2656. Are you of opinion that really a central hospital for infectious disease is not required, and that if the present hospitals had convalescent homes attached they would be able to do the work when epidemics arise?—I am of opinion that in case of epidemic, as our hospital accommodation is always in a state of congestion, we have not sufficient accommodation.

2657. Always?—At every epidemic that has occurred there was very great difficulty in getting cases of infectious disease into hospital.

2658. And you say that, although Dr. Thomson told us we have 500 beds to the ordinary 350 that would be allowed for such a population?—Yes; I think a small isolation hospital would be very useful.

2659. But I am on the point of convalescent homes? Yes; I think they might be useful; but if there was an hospital for small-pox on the outskirts of the city that might meet the difficulty.

2660. As to the constitution of the Public Health Committee it will satisfy you to know that every member on the Committee is on it for three years, and that five retire every three years, and don't you think it better to rotate and change five every third year than to clear out the whole Public Health Committee every second year?—Yes, I quite think that, but I think if the five could retire by rotation biennially instead of annually, I think that would be a very good thing.

2661. I suppose you are aware that the medical officers have only come over to us very recently, and that they were appointed by the two unions?—Yes.

2662. And that the only thing we have to do with them is to pay them the £25 a year each. As to putting up notification that the dairy yard had been certified, one of the bye-laws of the Public Health Committee, referring to dairies, is "In order that the provision of the above-named regulation be fully carried out, it will be necessary for you to have a board fixed upon or over the entrance gate of your dairy yard from the street, upon which shall be painted the name of the person registered, together with the words—Registered dairy yard." Would that meet your views?—Yes.

2663. Dr. J. W. Moore.—What is the date of that bye-law?

2664. Right Hon. Alderman Meade.—January, 1900?—Yes, exactly, that is quite recently. Up to last month it was not the case.

2665. Alderman Dowd.—Are you aware that the inspector and sub-sanitary officer you refer to about the dairy yards was removed from the position of being inspector?—I am, and I think you took a very prominent part in having him removed.

2666. Are you aware that the registered lodging-houses are visited at night time weekly?—Yes, but perhaps the visits that I suggested in the early morning would be more effectual.

2667. Dr. J. W. Moore.—With regard to the sterilization of milk—if that were necessary to be done, don't you think it would dispose of the whole question of dairy yards?—To a great extent.

2668. Is it at all likely that the existing dairy yards would be in the position to carry out sterilization or anything else sanitary?—No.

2669. With regard to the instance Alderman Meade has alluded to of non-representation of these complaints directly to the Public Health authorities, you are aware that the duty of the sanitary sub-officer is defined in this way—"If he receives notices of the existence of any nuisance in the district he shall, as soon as practicable, visit the place, and inquire into the existence of such alleged nuisance." So that it was the sanitary officer's duty to notify it, and, I presume, he did?—Yes.

2670. In answer to Dr. Thomson you said it would be advisable to have in Dublin an assistant medical officer of health in lieu of the dispensary officers acting as medical officers for their district, if it was possible?—Yes; if it was possible.

2671. Surely Section 11 gives you full power to appoint such an officer. It says—"Every sanitary authority, whether urban or rural, shall appoint such other sanitary officers, including a medical superintendent officer of health when deemed necessary," and haven't the Local Government Board called into existence a number of medical officers of health under that provision, and under the title of consulting sanitary officers?—Yes.

2672. But the section gives the Local Government Board full power?—Yes; but there would be the question of dealing with the sixteen existing officers who hold the appointments.

2673. Are you aware that some of these gentlemen may not like their enforced duty as medical officers of health at all?—I don't know.

2674. Don't you think an amendment of the Public Health Act is required, that would relieve the dispensary medical officers of their onerous duties, for which they are paid so badly, and which bring them into hot water with everybody?—That may be for the Public Health Committee to consider.

2675–6. The principal objection that was given to the moving of the hopper barge from its present position is that it would cost £8,000 a year more if they moved down the river?—I think £6,000 was the figure mentioned.

The Committee then adjourned.

TENTH DAY.—MONDAY, FEBRUARY 26TH, 1900.

THE COMMITTEE SAT AT 11.30 A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Dr. E. W. HOPE examined.

2677. CHAIRMAN.—You are Medical Officer of Health for the City and the Port of Liverpool?—Yes.

2678. And Professor of Public Health at the Victoria University?—Yes.

2679. Will you tell us something about the working of your staff?—Yes. The city of Liverpool has an estimated population of 686,000 persons, and the staff appointed for carrying out the requirements of the various Sanitary Acts consists of ninety-three persons in addition to the clerical staff. The duties of these persons are very clearly defined, and each officer is held responsible, directly responsible, for his proper conduct, so that one advantage is that in the event of any neglect of duty the responsibility can be brought home to the officer. The responsibility is not divided. Each inspector, on appointment, is furnished with a book of instructions, indicating in outline his duties. I will hand that book of instructions in. In making these appointments the Health Committee of the city are particularly careful that the previous trade or calling of the officer has been such as will be calculated to fit him for the duties that he will be called upon to discharge. An inspector of fish will be chosen from men engaged in the fish trade; of fruit, in the fruit trade; an inspector of smoke will hold a first-class marine engineer's certificate; an ambulance inspector will hold a certificate from some ambulance institution; and I may say that every inspector has to pass a qualifying examination as an additional evidence of his fitness for the duties.

2680. How is that examination held?—That examination is held either by the Sanitary Institute or by the Royal Institute of Public Health, or by the Victorian University. In fact we are not particular as to which certificate the inspector holds, so long as its standard is a sufficiently high one. Then, with regard to the payment, inspectors for special purposes, as contradistinguished from the sub-inspectors in Dublin—inspectors for specific purposes, such as for the inspection of meat, or fish, or fruit, or under the Foods and Drugs Act and so, commence with the salary of £120 a year. The chief meat inspector is paid £300 a year; and the subordinate sanitary inspectors start with 35*s.* a week. In every case uniform is provided, and I need hardly say that the uniform must be always worn while the inspector is on duty.

2681. As to the administration of dairies and cow sheds in Liverpool?—This matter is one which, during the last half-dozen years, is receiving the closest attention from the Health Committee. There are in Liverpool 5,600 cows, all of them in licensed premises. Before any licence whatever is granted the premises are carefully inspected, to determine that they are fit and proper places, that the lighting is adequate, the provision for cleanliness adequate, and that 600 cubic feet are allowed for each cow.

2682. Right Hon. Alderman MEADE.—600?—Yes. And that the passage-way between the double rows of cows, when there are double rows, shall be at least five feet. The licence, when granted, is an annual one, and is not transferable.

2683. Are those the regulations that are enforced—those that you are reading now?—No; I am not reading from regulations. I am reading from a memorandum or report. But I can give you a copy of the regulations. With regard to the regulations, we have, for the convenience of the cowkeepers, put together in a little volume all the requirements which they are called upon to observe either in the Dairy and Cow Sheds Order, under the Public Health Act, relating to nuisances under our local Acts, and so on, so that the cow-keeper shall have every information, and he shall know exactly what is required of him to do; and each inspection is made with a view to determining whether he carries out these requirements. With regard to the staff employed in dealing with dairies and cow sheds, we use the services of the inspectors of meat and of animals—men conversant with the health of the cattle—to systematically examine the cows in the cow shed. In the event of their finding a cow which is not in sound health, they report it at once to me or to one or other of the veterinary surgeons employed by the Corporation, and the sale of the milk from the diseased animal is prohibited. But with regard to the structural conditions of the cow sheds and the milk shops, we employ special inspectors. We have two inspectors for that purpose, whose whole time and undivided attention are given to the supervision of the cow sheds and the milk shops, which are never registered until they are put into a thorough and proper order and condition, and then the subsequent examination is greatly facilitated, from the fact that they start, so to speak, with a clean bill of health, and their maintenance in a wholesome condition is a matter of comparative simplicity. With regard to the examination of milk, we take the usual samples for chemical analysis, and, in addition to that, samples are taken in the usual way for bacteriological analysis, both from dairies within the city and from milk arriving from the country on delivery at railway stations. The question has been raised as to whether or not the city is the proper place for dairies and cow sheds. Well, our very prolonged experience and investigation into the quality of the milk supplied from the towns, and contrasting it with that coming from the country, has proved to us beyond all doubt that the town milk is better than the country milk. In Liverpool we have roughly got about one-half the quantity of milk in the city coming in from the country districts, and the other half is supplied from the 6,000 cows with in the city.

2684. Dr. J. W. MOORE.—5,600?—Yes. The proportion of milk found to be affected with tuberculosis

is larger in the milk coming from the country than it is in the milk taken from the city cow sheds.

2685. You have no sanitary supervision over the milk coming from the country?—That is the great point; and if we had at any time adopted the policy of endeavouring to remove from the cities the dairies and cow-sheds, the consequence would have been that the businesses would have been established elsewhere in districts over which we had no control whatever. Consequently we prefer to keep the cow sheds where they are, and where they can be subject to very strict supervision.

2686. Right Hon. Alderman MEADE.—And the result has been satisfactory?—The result has been eminently satisfactory.

2687. The CHAIRMAN.—Is the bacteriologist a Corporation officer?—Yes; he is appointed by the City Council. He is the Professor of Bacteriology at the University College, Liverpool, a man of some eminence; and he undertakes, for a salary, to examine a minimum of 2,000 samples, including food stuffs of all kinds, as well as the pathological features, such as diphtheria and typhoid and so on, in the year. He has a large staff and a very fine laboratory at his disposal.

2688. Is there anything else you wish to say with regard to milk or slaughter-houses?—I should like to say this, with regard to milk, that in the summer months especially, especial care is paid to protect, as far as possible, the milk supply from contamination from putrefactive changes, for Liverpool has a very high infantile and zymotic mortality, due to improper feeding. And with a view to further combat that, if possible, the Corporation propose, in fact are at the present time engaged, in the establishment of a milk sterilizing station on the principle adopted in many French towns, and also at St. Helen's.

2689. Right Hon. Alderman MEADE.—Is that a very expensive process?—No; we think it will be an inexpensive process. At the present time it is proposed only to establish it in an experimental and tentative manner in two districts in the city, with the expectation that the milk trade will follow the lead. We have no wish at all to interfere with the milk trade, but rather to set an example which they can easily follow. In fact one company is already, if anything, disposed and anxious to take the lead in this matter.

2690. Is this sterilization solely by heat?—Yes; by heat or steam. The principle briefly is this:—That a sufficient quantity of milk for an infant of a given age is put into a small bottle—something like a small soda-water bottle, and sterilized. When the child has to be fed the top is pushed off, and the nipple is shifted, and the whole of that food is given to the infant. It is never used a second time, and is never exposed to the air after sterilization. When that is done it is cleaned out and re-filled. The quantity of milk put into each bottle will vary with the age of the infant. If it is three months it will have less than an infant of six months.

2691. And for adults?—Well, for adults, we do not bother about them so much. They can look after themselves in the matter of health. At all events, sterilized milk is on sale in Liverpool, and they can buy it, and a great number of families do.

2692. With regard to the slaughter-houses?—The slaughter-houses have been in many respects a source of trouble to us. We have in Liverpool a number of private slaughter-houses, and we also have public abattoirs. The public abattoirs are situated on a site which has been leased to a company. The site is the property of the Corporation, but the abattoirs themselves are not the property of the Corporation; they are very largely used—in fact they are quite popular with the butchers, a fact which is probably due to the consideration which was given at the time that they were established to the wishes of the trade—to the convenience of the meat trade. Of recent years, however, that site is becoming less and less convenient. Moreover the lease is running out, and the probability is that at no distant date abattoirs will be established elsewhere—where, I cannot say, and it has not been yet determined, but that it will be is beyond any question; and I have no doubt that their locality will be determined by the convenience of access for animals and the convenience for the distribution of the meat afterwards. Our private slaughter-houses number about thirty—there may, however, be thirty-two or thirty-three possibly; Liverpool has recently extended its boundaries considerably, and has incorporated the outlying districts where there have been licences for the slaughtering of animals which perhaps are not used at all, or are used very seldom; so, if we take it roughly as thirty, you would have a correct impression of the number

2693. Right Hon. Alderman MEADE.—For the whole city?—Yes, the whole of greater Liverpool.

2694. And its 700,000 population?—Greater Liverpool is 680,000. In some of the private slaughter-houses a large business is done, and these places, as one can easily understand, require a great amount of supervision; and that is one of the reasons why our staff of meat inspectors is so large. In the public abattoirs supervision is easy; the risks of bad meat being smuggled on the market are extremely small; but with the private slaughter-houses it is another matter altogether. The presence of the inspector is, of course, necessary, as constantly as he can be there.

2695. How many inspectors are there?—Six.

2696. For the private and public?—Private and public. Our view as to private slaughter-houses are those which are shared by most people in the cities of England. The objections to them are that, as a rule, their situation is bad, and they are in old and congested parts of the city, that they require unceasing watchfulness in order to prevent nuisance, and that inspection is difficult.

2697. Are any of them of great extent?—No; I would not describe them as large ones, though many of them do a big business. In some of them—the largest in the city—540 beasts are killed in a year, which is not a large number. But in another one, perhaps the same size, although fewer beasts are killed, upwards of 3,000 sheep are killed in a year as well.

2698. Solely for sheep?—No; 350 cattle and 3,000 sheep. So that is, of course, an extensive business, but relatively small in comparison with the mass killed elsewhere.

2699. Would you be able to give us a copy of these tables?—That I have just quoted?—Yes.

2700. I suppose we may take it that these are the two largest private slaughter-houses in Liverpool?—Yes, of old parts. There is one at Wavetree, where as many 670 beasts are killed, and upwards of 3,000 sheep; but that is in a much more open part, practically outside. It is one of our recently incorporated districts.

2701. It was a suburb?—It was a suburb.

2702. CHAIRMAN.—With regard to common lodging houses and houses let in lodgings?—The staff for the purpose of the inspection of common lodging-houses, and houses let in lodgings, consists of twelve persons, who have no other duties. They visit by day and by night.

2703. CHAIRMAN.—Both classes of houses?—There is a distinction in the system which I will allude to. With regard to common lodging-houses we find that owing to the very close supervision of these places that their condition is good on the whole, that overcrowding is infrequent, that the places are kept clean, and the occurrence of infectious sickness in these places is very infrequent—very infrequent—so that our common lodging-houses to-day give us relatively little trouble, although

from their age and general condition, they are not the kind of places one would hold up as models. They are not unlike some of your tenement houses, except that they are kept only as common lodging houses for people of one sex, rigorously inspected, ticketed, and under stringent regulations. With regard to sub-let houses——

2704. Right Hon. Alderman MEADE.—That is houses let for lodgings?—Yes; houses let to more than one family, and which correspond to your tenement houses—they are like yours. We have had a great amount of difficulty with them, but our practice has been to place all of these houses upon the register. The consequence is that our registers of sub-let houses swell to very considerable dimensions. At the present time I am within the limit if I say that we have 18,000 sub-let houses on the register. The reason why we have so many, or, one reason, is that Liverpool is liable to great influxes of labouring people with their families. When trade is abundant as it is now, or when great works are being carried out, as they are at the present time, labourers come in by thousands, and settle in districts which, perhaps, had not previously shown any tendency to overcrowding; but which, under these conditions, become overcrowded, and the whole streets are put on the register at once, so that the houses shall be visited, the rooms measured, and the people informed how many may occupy each room, and that tickets may be given to them—I have samples of them here—to hang up behind the door, so that the inspector can see how many people there are in the room. Then, if the house is visited at night—as they are visited—he goes with his lantern, and counts the people as they lie in bed, to see that they are not in excess of the number. I may say that these rigorous actions have been rendered necessary by the gross conditions which obtained in years gone by, at times when these houses were constant centres of infection, and from that and other circumstances the necessity for these stringent provisions arose.

2705–7. What is the cubic space you require for each adult?—350 or 300. 300 if there is a separate day room, and 350 if there is not a separate day room. I may say that at the present time we are arranging with the Local Government Board for an amendment of our bye-laws. We think that 350 is not enough. At the same time we have been obliged to accept it for economic reasons. To ask for more is to ask sometimes for what is impossible. People are too poor to take large accommodation. We think now the time has come when we can ask for 400, and we have also under consideration the feasibility of making 400 necessary for every person, irrespective of age. Although a child under ten years of age takes up less room we know that its perspiratory activity is great, and it is desirable to get 400 if we can.

2708. Are 350 required at present for every child?—No.

2709. What is the allowance?—Two children under ten years count as one adult at present—practically we get 175.

2710. Right Hon. Alderman MEADE.—Over ten they are adults?—Yes.

2711. Dr. T. THOMSON.—Do these remarks apply to tenement houses as well as to common lodging-houses?—Yes.

2712. Right Hon. Alderman MEADE.—Houses let in lodgings?—Yes.

2713. What we call tenement houses?—Yes, what you call tenement houses. Our difficulties with these house are less than yours. Our houses are smaller, so that there is not the same number of families—there is not the same overcrowding of families. With us the tendency is to overcrowd the rooms with individuals rather than the houses with families; and I would say that our emigration difficulty is not to be lost sight of. In the emigration season thousands of people pass through the city on their way to America—in the spring especially.

2714. You must make allowance for that in administration?—Yes.

2715. CHAIRMAN.—With regard to labourers' dwellings?—That question is one which engages the attention of a special committee of the Corporation of Liverpool. Formerly the housing of the working classes was dealt with by the Health Committee, but it was found to be a question of so much magnitude, and, associated as it was with the demolition of old insanitary property, it was thought expedient to constitute a special committee to deal with the question. That special committee deals with the insanitary dwellings at present occupied by the lower classes; it effects their removal year by year—a certain number; and it also undertakes, either itself to provide accommodation for those who are displaced, or it leaves it to private enterprise to do so, or to assure itself that there is accommodation existing elsewhere, so that the people shall not be turned homeless on the streets. The aim of the Corporation has been to provide for the lower classes sanitary houses—at 1*s.* a week a room. We have made some efforts in that direction, and the accommodation so provided is—of a plainness—so plain, I think, as to be almost repellant; at all events, it is not attractive—perhaps I had better say it in that way—it is not attractive.

2716. Right Hon. Alderman MEADE.—Certainly not, I should say?—The brick is lime-washed, but I should say of the dwellings that the sanitary accommodation is adequate, the water supply is abundant, the houses in an open region, and within access, may be, of public baths and wash-houses, so that the occupants are considerably better off than they formerly were, whether they come from insanitary court property or overcrowded tenement houses.

2717. Then you have solved the problem?—I cannot say that.

2718. Have you provided dwellings at 1*s.* a week, without loss to the rates?—We have, a few; but, at the same time, they have only been about three years, I think, in occupation, and there are very few of them, and I should prefer to wait to see what a few years more may bring forth. I may say this, that the Insanitary Property and Artisans' Dwellings Committee have not repeated the experiment, from which it may be inferred that they think a little better class of house is, perhaps, desirable.

2719. Have you any figures on the point as to the cost of the buildings?—Yes, I can hand in the figures: it would, perhaps, be wearisome to go through them.

2720. Perhaps the Corporation does not charge rates on the premises; perhaps they let them free of rates, do they?—No, that is not so; I think they are particularly careful to run them on business principles. I don't think they intended them for one moment to be philanthropic institutions. They want them for the purpose of benefiting the labourer who is willing to pay, and able to pay for a sanitary house, but who is at present in a house which is in an insanitary condition, because there is no where else for him to go to. I think that is the principle at which they aim. I should like to quote the most recent kind of house which we are building.

2721. Certainly?—We are building 182 on these lines: that the living room is to be let at 1*s.* 6*d.*, each bedroom at 1*s.*, and another 1*s.* for the scullery and water-closet and yard, and incidental things of that sort—domestic offices. Say that these houses have four rooms, the houses will work out at about 4*s.* 6*d.* a week. Then the Committee have also decided——

2722. 4*s*. 6*d*.?—Yes.

2723. If there are four rooms?—Yes.

2724. It would be 4*s*. 6*d*. for the rooms, and 1*s*. for the sanitary arrangements; that would be 5*s*. 6*d*.?—If you take off two bedrooms, and leave one bedroom and one living room, and domestic offices, it would be 3*s*. 6*d*.

2725. To start at a minimum of 3*s*. 6*d*.?—Which is vastly better than some of the rentals paid in Dublin—vastly better accommodation. The Committee have also decided to lay on hot water to each house, which is a distinct improvement. You see the advantage of people having an abundant water supply. If they have to go downstairs, and carry water up a flight of stairs, and so on, they won't use as much as if they had it at hand, and if it is not only at hand, but is already warm, the inducements to cleanliness will be greatly added to.

2726. Chairman.—Will you explain the arrangement by which the hot water is supplied?—One boiler is used for a whole block of houses. There has been a system established, I believe, by a company, of which, probably, you are aware, of a penny-in-the-slot hot water supply.

2727. Yes?—And the same with gas, and so on. But in these houses it was resolved, after a good deal of discussion, to put on hot water—that is the last group of houses being built now.

2728. Right Hon. Alderman Meade.—In the Guinness Trust buildings they have a hot water supply, but it is not laid on to the different rooms. It is at one end of the buildings, and is supplied to the tenants at any hour?—Yes; it is a good system.

All they have to do is to go to the end of the building.

2729. Chairman.—With regard to disposing of domestic refuse, what is your system?—The scavenging operations were, up to quite recently—up to the last year or two—conducted under the supervision of a specially-appointed officer, who associated with that work the care of the horses employed in the work—in fact, he was a veterinary surgeon—and in the process of years great improvements have been made in the removal of refuse; but latterly the Committee have transferred this work to the city engineer's department, and the whole of it now is carried on by the city engineer's staff. The refuse is collected in the usual way from bins, or such other places as are used for the deposit of domestic refuse, and removed in covered carts. We are particular about having covered carts, so that on windy days the dust and filth are not blown on the street. A great quantity of it is disposed of by destructors. The destructor is being found by the Health Committee to be the most efficient and best means of disposing of refuse. A great deal is also sent out to sea in barges, and considerable tonnage is sold for manure. As the carts arrive at the depot, inspectors tell the drivers whether the contents are fit for the barge to be taken out to sea, or for the country for manure, or whether they are to go to the destructor. We have a very large depot, and at the depot is a destructor, and there are barges lying alongside to receive the stuff as it is brought in.

2730. Dr. J. W. Moore.—Where is the barge loaded?—In Chisenhall-street, on the canal. The canal comes down to the river, and the stuff is transhipped. It does not go to sea in the canal barge—that would not be big enough.

2731. It goes out in a quantity of dust-bins?—Yes; the canal barge is fitted with a dozen iron tanks. These are lifted out one by one, and put into the hopper barge, which goes out to sea. It goes out twenty-one miles, and signals a lightship twenty-one miles out before it lets go, so that the risk of anything coming back again is infinitesimal.

2732. Chairman.—You have made yourself acquainted, as far as the limited time at your disposal allowed, with the tenement houses in Dublin?—Yes.

2733. Can you compare them in any way with the ones in Liverpool?—Well, they are comparable in a way. Our tenement houses are very much smaller, and, although the number of sub-let houses is very large—the number on the register is very large—yet a considerable number of those would not compare in any way with your tenement houses that I have seen. I must say that I think your tenement houses are worse than anything we have got in Liverpool, at the present time, in the way of tenement houses.

2734. Right Hon. Alderman Meade.—Do you mean that some of them are, or the average?—I think the average. And then, another thing is the enormous numbers of large tenement houses that you have overcrowded with families. I have not come across many conspicuous instances—in fact, very few—of overcrowding of rooms; but the mischief with your tenement houses is the numbers of families, as it appears to me, which are in this way crowded together, one above the other, on a small site, and under conditions which are not at all suited to that kind of dwelling. If these places had been properly constructed, like the Peabody buildings, or the Liverpool buildings, or some others, such as you have in Dublin—if they were properly constructed to accommodate numbers of families, one would not object to the height of the places; but as they are, they are exceedingly bad. The closet accommodation we have nothing at all like in Liverpool. On an average, the closet accommodation I consider extremely bad. Then, again, on the question of the water supply, our experience in Liverpool is very strong that every facility must be given to the people, in the first place, to be clean. You have a family five stories up, and they have to go to the basement to get a bucket of water, and have to carry slops down—they have no sink, they have to go to the basement to dispose of the domestic and other refuse, you may be sure that that will lead to a minimum use of water to begin with, and to the retention in the rooms of most offensive material.

2735. Dr. J. W. Moore.—Are you aware that the introduction of water-closets into these tenement houses in Dublin is comparatively modern?—The introduction of water-closets?

2736. Yes; such as you see them to-day?—Into the yards?

2737. Yes?—I believe there were formerly privy middens. We had that same condition of things, but in the last ten or twenty years we got rid of it.

2738. You are strongly of opinion that there should be water-closet accommodation on every landing, and a water supply on every landing?—Yes; I think there should be a water supply available for every family, and that there should be water-closet accommodation largely in excess of what you have at present. What does exist is far too small, and the state the places are in is revolting—positively revolting, many of them.

2739. Chairman.—Can you, in the same way, compare the slaughter-houses, dairies, and cow sheds in Dublin with those in Liverpool?—Well, you see, I thinks we are ahead in the matter of dairies and cow sheds. I told you how these places were some years ago. A greater amount of attention was given to the condition of these places; the requirements became more exacting; we amended our bye-laws, and got more stringent powers, and increased our staff, and took care that the men appointed should be men on whom we could place absolute dependence. That, to my mind, is one of the most important things—perhaps more than anything else—with a large staff and a great amount of work to do, we must have men

we can depend on. There is no time for one man to watch another; no staff is big enough for that. If you get a man whom you cannot place absolute dependence on, you have a source of weakness. Our dairies and cow sheds are better than yours. Many of yours, in regard to cubic space, are overcrowded. That is compensated for, in a measure, by the fact that these are almost, one might say, open sheds—they are open to the air in some cases, and therefore the air supply is practically unlimited. At the same time, that does not altogether make up for the overcrowding. The cows are too close together; there is not enough space; the passage ways between them are not big enough, and, so far as I can make out—I am speaking of the worst; I asked to see the worst—but many don't appear to comply with your bye-laws. I presume that you would deduct so much cubic space, for example, if hay is stored in the cow shed, or horses are put in it. Many of our milk people seem to be under the impression that if they were licensed for twenty cows, and they put in twenty cows, and then a couple of ponies, and a ton or two of hay, that they were keeping within the four corners of the bye-laws. Of course, that is absurd; but these are points which require to be explained to the average cow-keeper.

2740. Right Hon. Alderman MEADE.—You don't allow that in Liverpool?—Not at all; we insist on the full amount of 600 cubic feet, and adequate and proper lighting, permanent ventilation, and proper construction of cow beds, and channels, and so on, and also a periodical removal of manure. The test for middens is situation, the size of the place, the number of cows kept, and so on, but we object to anything approaching a nuisance. We insist on the place being thoroughly emptied. We don't allow them to be below the ground at all—these middens. They must be on the surface level, and drained, and the contents must be removed before 8 o'clock in the morning. The licence is renewable every year, and we have a stringent hold on the cow-keeper in that way. It is perhaps unnecessary to say that these are progressive improvements. When they were started there was a considerable amount of opposition on the part of the cow-keeper; but, I think, there is no body of men who recognise their usefulness more than the cow-keeper himself, and it is a great thing for him to be able to say that, although he is handicapped by city conditions, yet the milk is better milk than that from Cheshire Shropshire, or the dairy counties in the neighbourhood of the great towns.

2741. You find little difficulty, it would seem, in dealing with them?—Very rarely; very seldom, indeed. They want things explained to them; and we are perfectly willing to give them the reason—the why and the wherefore. We find them quite amenable.

2742. Can you in any way contrast the infantile mortality between the English and the Irish in Liverpool?—Yes; I have already told the Commission that the infantile mortality is very excessive in Liverpool—the mortality resulting from zymotic diarrhœa, or what we call English cholera, in the summer and autumn. This waste of infant life has been so great, so very pronounced, as to call for persistent investigation for many years. Amongst other things in Liverpool, we have a large foreign population—a fairly large foreign population—and it occurred to those who are carrying out the investigation to differentiate the nationality of the population. We find that amongst the low-class English the loss of infant life is very much in excess of what it is amongst the same class of the Irish population; that the Irish infantile mortality is very much less, taken all round, than the English; and the reason for this is that the Irish mothers suckle their infants much more commonly than English mothers of the same class. The English mothers use bottles and artificial foods, which give rise to this mortality. The Irish mothers, by suckling their infants, give them the proper food at proper temperature, the supply being made when wanted, so to speak. It is pure, natural, unadulterated, clean, and it contrasts very much with the artificial foods given by the English mothers. To this we ascribe the lower infantile mortality from zymotic diarrhœa among the Irish population in Liverpool.

2743. Dr. J. W. MOORE.—Have you any statistics of the birth rate among the working classes in Liverpool?—I have no definite statistics, except in localities. I can tell you, for example, that the birth rate in the Scotland division—where there is a very large proportion of Irish; not all, but pretty nearly all, Irish, or of Irish descent—the birth rate there is very much higher than it is in the districts largely inhabited by the English working classes. I would say the birth rate amongst the poorer classes in Liverpool, including a very large proportion of Irish, is over 35.

2744. In your opinion, is there a relation between a high birth rate and a great mortality among young children?—Whatever course you take, there will always be an excessive mortality among young infants under the circumstances. I find, in the wealthiest quarters of Liverpool, where everything that money can provide is available, the death rate of infants is as high as 122 per 1,000 births; so that it is perfectly plain if you have infantile deaths in so high a proportion the birth rate must naturally affect the death rate.

2745. Dr. T. THOMSON.—Do you mean the general death rate?—Yes; the relation between the death rate and birth rate of infants may be looked at in this way. There is a general impression that if mothers are suckling their infants they are not so likely to become pregnant again during the period of lactation. That is the inference which has been drawn by men of large midwifery experience.

2746. CHAIRMAN.—What about the water-closet accommodation, the supply of water, and the general accommodation in the tenement houses?—In the course of my investigation, I noted a considerable number of instances in which such closet accommodation as is provided was excessively filthy.

2747. You are speaking, now, of Dublin?—Yes. Fetid matter was about in every direction, and in one case a chamber utensil had, apparently, been flung down the stairs, as the wall was soiled with the contents. In the case of persons suffering from incipient typhoid fever, voiding the bowels into the chamber utensil, and the contents thrown away in that careless manner, or finding access in some other way, one cannot conceive it possible that that arrangement is other than one which would conduce to the extension of typhoid fever. Although the typhoid rate is relatively small, it has often puzzled me to find any other explanation for the presence of typhoid fever in the courts and alleys of Liverpool, except such carelessness as I refer to as having seen here—the careless use of the sanitary accommodation.

2748. With regard to the notification of infectious diseases, what do you say?—I would like to say, with regard to that topic, that it was a matter of the greatest astonishment to me to learn that the Notification Act in Dublin was imperfectly carried out, and that in some of the neighbouring townships (which are, geographically, portions of Dublin), it was not in force at all. You see, unless you have a rigorous extension of that Act, and a *bonâ fide* observance of it by medical men, your efforts in checking the spread of disease must be absolutely crippled. If you take, for example, the prevalence

of typhoid fever in a dairy, and, if your medical officer has no intimation of it, infinite mischief may be done. I have had such experience.

2749. Dr. J. W. Moore.—In Liverpool?—Yes; one particular case occurs to me. The existence of typhoid fever in a dairy, and the distribution of the milk, which may be contaminated, may do infinite mischief, unless you have some knowledge of the existence of the disease, and unless steps are taken in accordance with what is wanted. The case to which I allude, in Liverpool, was not altogether on all fours with it. It was the existence of typhoid fever in an ice-cream manufactory, and they were not registered, three years ago, with us.

2750. Are they registered now?—Yes. The outbreak was investigated, and, as a large number of children were attacked, we were able to trace the cause. We asked, then, to have the ice-cream places registered, and the Government allowed it to be done.

2751. Right Hon. Alderman Meade.—What steps have you to take when you want legislation of that kind?—We put a clause to that effect in our local Bill.

2752. We could not do that under our powers?—No; but you might get over the difficulty in an indirect way. The ice-cream contains milk, and, as they sell milk, you might be able to deal with them. But the direct way would be better—to get a clause put in a local Bill.

2753. Dr. J. W. Moore.—As a matter of fact, you have found that typhoid fever has been spread in Liverpool by the vending of ice-cream?—Yes.

2754. Were the medical men in Liverpool opposed to the Notification of Infectious Diseases Act?—Yes; at first the medical men opposed it, as they looked upon it as an unfair and an inquisitional attempt to obtain private information, which would be of no use. The application of the Act was resisted on the ground that if a medical man found it necessary to do a public duty he would do it, without the enforcement of such an Act. It was a very narrow view to take of the matter. But since the Act was adopted, it has been most loyally carried out, and I don't know what we should have done in Liverpool, were it not for the invaluable co-operation of the profession. I cannot conceive any argument or reason against the notification of infectious diseases.

2755. Has it been necessary to prosecute for non-observance of the provisions of the Act?—No, never; there has been an isolated case, but it was purely an oversight; never a prosecution.

2556. Do you here state publicly that the medical men in and about Liverpool have loyally observed the duties imposed upon them by the Notification Act?—I desire to make that statement with the greatest publicity, and the greatest emphasis. They have given us the greatest help and assistance.

2757. Are you surprised to hear that that is not the case in and about Dublin?—I was astonished that it was not.

2758. Chairman.—With regard to the closing of schools in times of epidemic?—We have a system upon which we go with regard to Board schools, more especially in connection with measles, because it has been measles that has suddenly swept over large areas and affected large numbers of school children, more especially, of course, the infant branches. I have found the greatest advantage from closing schools when the number of absentees from measles reaches as much as 20 per cent. What has directed my attention to it was this—outbreaks preceding the ordinary school holidays. The epidemic went on increasing, and the absentees went on increasing; and then the holidays came, and the schools were closed, and at once there is a diminution in the numbers of cases of sickness; and, not only that, but when the school re-opened, and the numbers for the three weeks preceding the closure were compared with the three weeks following the opening, it was found that the measles had almost disappeared.

2759. Dr. J. W. Moore.—Do you refer to the boarding schools, or day schools?—Day schools.

2760. What is your opinion about the closing of boarding schools?—We have very few of these, but they would, of course, come in under quite a different category. I have no great experience of the advantageous result of their closure. If you close boarding schools, you would run the risk of scattering infected children; but in the day schools you would not have that, as they are already scattered at night. The day school is a centre for the spread of infectious disease.

2761. Right Hon. Alderman Meade.—The boarding schools are day schools, too?—Well, the same remark would apply. It is the Board schools I would close.

2762. Dr. J. W. Moore.—There are also boarding schools which are not day schools; would you advocate the closing of them?—I don't think I would do that.

2763. Chairman.—Will you give us some particulars with regard to the reduction of the death rate in Liverpool in consequence of the sanitary work?—The city of Liverpool is a conspicuous example of the reduction of the death rate following upon sanitary work. The rate of mortality for the decade ending 1870 was 32 per 1,000, for the decade ending 1880 it was 28, for the decade ending 1890 it was 26, then up to 1895 it was 24·8. Then we extended our city boundaries, and, of course, the consequence was, then, that we were in a position to put ourselves in a fair comparison with other towns, having our natural outgrowth incorporated. The result is, that during the last four years the rate of mortality has been 23·3.

2764. Dr. T. Thomson.—Are those the recorded or the corrected death rates?—These are the corrected rates.

2765. The recorded death rate is lower, perhaps?—I think, within the last four years, the recorded death rate would be higher. The others are corrected, as the census gives the data for doing so. We are within a year of the census now.

2766. Dr. J. W. Moore.—Do you deduct, in the case of your death rate, the deaths of persons admitted into public institutions from outside the city?—As far as we are able to determine we do.

2767. Are the figures you give subject to that correction?—Yes; at the same time, we get the number of people, waifs and strays, and it is often impossible to ascertain where they come from.

2768. You recently read a paper before the Epidemiological Society on "The Insanitary Property in Liverpool"?—I did.

2769. What, in your opinion, is the comparison between the insanitary property in Liverpool and in Dublin?—My belief is that the insanitary property in Liverpool is as prejudicial to health as anything you have in Dublin; but it does not house so large a proportion of the population as yours does—nothing like so large. I reckon we have, at the very outside, 35,000 or 40,000, out of our large population, living in dwellings insanitary in their construction; but you have a much larger proportion than that in your tenement houses—because they appear to me to be all over the city, wherever one goes; you find them in all directions.

2770. From your observation, would you hope that, if any effective attempt were made to grapple with this insanitary property in Dublin, it would result in a marked improvement in the public health?—I saw, in my inspection, that great attempts have been made, as a matter of fact, in that direction. The remedy that occurred to me was to close up the worst, and to reconstruct the better ones, but I find that that remedy has been applied. I saw everywhere houses that have been closed up,

and I also saw the sites of houses which the inspector told me have been taken down. Then I also saw a number of similar tenements which have been closed up by the Corporation; but I would like to say this, that it is not enough to close up these places. That seems to be only half the battle; but I presume that the Corporation proposes to re-erect, either on these cleared sites or elsewhere, more suitable tenements. I saw immense clearances near the Cathedral, and I am informed that part of it is the work of the Corporation, and part Lord Iveagh's. You undoubtedly will get the benefit of this work.

2771. Are you aware that a philanthropic company, the Dublin Artisans' Dwellings Company, have provided accommodation for housing the people, and that at present over 10,000 of the population are housed in these dwellings?—I have heard of that.

2772. And do you know that the death rate in these dwellings have been only 11 per 1,000?—I was not aware it was so low.

2773. The Guinness Trust have also got dwellings both in London and Dublin, and I suppose we might assume that the population in the Guinness Trust buildings in London would be a little better, socially, than the occupants of like buildings in Dublin?—Yes. I have seen the report of the Trust, and it appears that, while in the London buildings the birth rate was high, and the death rate 18·5, per 1,000, the corresponding figures with regard to the Guinness Trust in Dublin were, the birth rate higher, and the death rate 16·97.

2774-5. Is that only one year?—Yes.

2776. What are the respective populations of the two sets of buildings?—8,436 in London, and in Dublin 853; so you see by the figures in this report we have a higher birth rate and a lower death rate in Dublin in this class of house?—It certainly is evidence that mothers take great care of their infants.

2777. Is it not also evidence that the population of Dublin, if properly housed, would be a great deal healthier than they are?—I have no doubt that if the large numbers in the tenement houses were living under better sanitary conditions there would be a distinct advantage to the public health of the city.

2778. I may state that it was Alderman Meade who planned the Guinness Trust buildings in Dublin.

2779. CHAIRMAN.—Now, with regard to comparing Dublin with English towns, what do you say?—Do you mean in regard to the birth rate or the death rate?

2780. With regard to the vital statistics?—The vital statistics generally in any of the English towns and those in Dublin cannot be compared, because the city of Dublin is a metropolitan area only—that is to say, it is only part of the city; it is not the entire city. Every English town includes its natural outgrowths. What has happened in Dublin is this:—You have a circumscribed area, beyond the limits of which the city has grown. A large proportion of your business people and your well-to-do-people have, in the course of time, gone over the boundary into the out-townships, and until you include these out-townships in the statistical returns you are at a disadvantage. Hence, at present, when you compare Dublin with Manchester or Liverpool, you are simply comparing part of the city with the whole of an English city (with the good and bad districts combined). In order to make a fair comparison you must include the whole of the natural extent of your city. You cannot draw an imaginary line down a street, and say that this side of it is in the city of Dublin and the other side is somewhere else. So that you cannot make any fair comparison between the city of Dublin and any English town; it would be simply misleading.

2781. CHAIRMAN.—But you consider that, if you had the statistics of the city of Dublin and the townships put together—if you put them all together—then you would put yourself in a fair comparison with other towns similarly circumstanced as a town?—It was exactly the same way in Liverpool until our boundaries were extended. You see our population was very dense about 1891; to the acreage it was much denser than in Dublin, and by taking in our natural outgrowths we put ourselves in a position of capable comparison with the other English towns. In fact I do not remember any English town which is in that same position.

2782. Dr. R. L. SWAN.—With regard to the extension of the boundaries, Dr. Hope, which you say is essential, do you mean that it is simply essential on the statistical result as regards the health rate?—No; I should say it is a great deal more than that. I should think the question is simply with you as it was with us, that the well-to-do people have gone away from the city, whose benefits they enjoyed, and to the existence of which they owed everything—that they have gone away from it, and, so to speak, absolved themselves from the obligation of looking after their weaker brethren who are left behind. I think a city requires the help and the co-operation of its outgrowths, and is entitled to it.

2782A. Do you think they would be any help to the present authorities, the Corporation of the city?—I think they would, certainly. I have no doubt there are a large number of your best business men who are living outside. Why should they not have a share in municipal affairs?

2783. With regard to your statement in your evidence, that the milk obtained from cows in the city compared favourably with that obtained from cows in Cheshire and Shropshire; do the same conditions obtain all the year round, in summer as well as in winter?—Yes; both in summer and in winter.

2783A. Is it the case that you had quite recently several streets of insanitary houses that were cleared away in Liverpool?—Yes; there was a presentment for some 400 houses situated in four contiguous streets. They were small insanitary houses.

2784. Was there a high death rate in those houses?—Yes; there had been an excessive rate of mortality.

2784A. Are there still insanitary areas in Liverpool?—Yes.

2784. Is the death rate high?—Yes; probably as high as 50 per 1,000.

2784B. Have the Liverpool Corporation expended much money on clearances?—Yes, since 1885; I think it was in 1885 that they got a loan of £250,000, and that has been spent on this purpose alone. It is now just exhausted; and I have no doubt—I am sure that further funds will be asked for in order to carry on the good work.

2785. Is there still a large population in Liverpool living in insanitary dwellings?—Yes; I should think 30,000 or 40,000.

2785A. Is disinfection free in Liverpool?—Yes, quite free, disinfection of houses and clothing.

2786. Is it carried out the same way as in Dublin?—Yes; I have seen your system here, and ours is pretty much the same, except that we have more than one station; we have them in different parts of our very wide and large area.

2786A. Is there a refuge for persons whose houses are undergoing disinfection?—No; we have not got one. The question has been several times discussed, but so far as we could ascertain, these refuges have not been made sufficient use of to warrant our establishing one.

2787. You are aware that there is one in Dublin?—Yes, I have seen one in Dublin; but I don't know whether it is largely used or not.

2787A. What then, do you do with the people when the houses are being disinfected in Liverpool?—Well, if a house is being disinfected the people have to leave, and they are necessitated to go into a neighbour's house, which, no doubt, is an objectionable thing; but it is an evil which has to be met in some way.

2787B. You see this chart. If the figures on this chart be correct—perhaps you have recently noticed them?—I have seen that.

2788. Don't you think they show an improvement in our public health in Dublin in recent years?—Most undoubtedly they do.

2788A. I suppose a great reduction in the death rate does immediately follow sanitary improvement?—Well, it follows after a bit. I don't think you could have great results immediately.

2789. You see these statistics show an almost immediate improvement in the case of the houses constructed by Alderman Meade?—Oh, no doubt, if you take the people and put them in these good houses, you will at once note an improvement then, so far as they are concerned; but what I meant was this, that these operations are carried out as a rule so slowly the improvement is very gradual.

2789A. The entire death rate?—The entire death rate. Quite so. Those who are transferred will, of course, reap an immediate benefit, but then this process must necessarily be slow.

2790. How long is it since sanitary improvements were first commenced in Liverpool?—I think a great many years ago. I think Liverpool first made a start in 1846. So long ago as that there was an Act to prevent the construction of court property. We now find that in court property there is a death rate of 50 per 1,000 per annum. I think that was the starting-point. The sewers and the water supply were not efficient at that time.

2790A. I suppose you are of opinion that all towns are injuriously affected by the influx of sickly and broken-down persons from the country?—Yes. They flock into the towns; and another thing that most, but not all, towns have to contend against is, the fact that the workhouses, and hospitals and charities attract numbers of people to them; and if they die in these hospitals and workhouses they cannot always be put down to the places the people come from, because you cannot tell where they come from.

2791. That applies, of course, to Dublin?—Certainly

2791A. And I suppose Liverpool is affected with an influx of country people?—Oh, yes.

2792. In Ireland, where by far more people live in the country, the influx to towns must be greater than in England, where far more people live in towns?—Yes. We are rapidly becoming an urban population in England.

2792A. I dare say you have noticed that in the last reports of the Cork-street Hospital it is stated that 300 persons were admitted to the hospital from districts outside the city?—Yes.

2793. While the total admissions were 1,679. The other hospitals receive large numbers of patients who probably belong to the country. That must, of course, as you say, increase the proportionate Dublin death rate?—Of course it does. And no doubt you get them also from your neighbouring districts as well as from your out-townships.

2794. Is it your opinion that the death rate of Dublin is so appalling as it has been believed to be by some persons?—I think the great excess of your death rate is owing to phthisis or tuberculous disease; and the cause of that I take to be the way in which a large portion of Dublin people are housed. But phthisis strikes me as having a very marked effect upon your death rate.

2794A. How does the death rate compare with that of Liverpool?—Oh; it is considerably higher,

2795. Owing to the causes you have mentioned?—Yes. While mentioning the death rate of Liverpool in that particular, I may say that there has been a most remarkable reduction, owing no doubt to the sanitary works which have been proceeding for the last thirty or forty years. Your phthisis death rate I think, last year was 36·5 per 10,000—I have a note of it—as against our 22 or 21·7.

2796. But the general death rate from all causes, how do the two cities compare?—Well, yours was 5 per 1,000 ahead of ours last year.

2797. Owing to an exceptional outbreak?—You had 28·5, and Liverpool 23·3.

2797A.—You are aware, however, that there was an epidemic of measles and influenza in 1899?—I beg pardon, I am quoting the figures for Liverpool corrected for the last five years.

2798. Right Hon. Alderman MEADE.—Including 1898—Yes. Our death rate last year was a little more than that owing to influenza and its sequelæ.

2799. Dr. R. L. SWAN.—Your death rate was apparently affected then more or less by similar causes last year—influenza and infantile diarrhœa?—Yes.

2800. Have you a large staff of inspectors of nuisances in Liverpool?—We have altogether a staff of close upon ninety-three people employed in inspection of one kind or another, many of them being special inspectors. But as to those dealing with nuisances only, we have twenty-eight inspectors for general purposes, who correspond as closely as may be with with your sanistary sub-officers; district inspectors we call them. We have twenty-eight of these, each man having his district. Then we have men whom we call prosecuting inspectors; we have seven of these prosecuting inspectors; and over the lot we have one chief sanitary inspector.

2801. Right Hon. Alderman MEADE.—That is thirty-six all told?—Thirty-six all told. The way they work is this: a district inspector visits his district daily and reports, and his business is to report generally concerning nuisances that he sees and considers prejudicial to health and to cause a notice to be served on the person responsible. After a reasonable period he visits that place to see if the nuisance has been abated. If it has not been abated then the prosecuting inspector takes it up, and conducts the prosecution. He gives evidence in court

2802. Would it be one of the twenty-eight who would first take it up?—Yes, it is one of the twenty-eight who would first take it up. Then, in connection with that, we have eight female inspectors also for general sanitary purposes on the staff.

2803. Dr. R. L. SWAN.—You are very much in favour of female sanitary inspectors?—Yes. I should just like to draw your attention to the returns of the Registrar-General for England here for the ten years, 1888, 1898. The total death rate from all classes—the average death rate for Liverpool was 25·5. I see the total death rate for the same period in Dublin was 26·7. There is not much difference?—Yes, but I may say in explanation and in justice to Liverpool that I believe the Registrar-General has once again fallen into his old error of miscalculating the population of Liverpool. Therefore we have made a supplementary estimate of our own upon evidence which is overwhelming, and I think the Registrar-General would be the first to acknowledge and admit it; and next year is the census and then we will have full——

2804. Sir *Charles Cameron*.—There was an overestimate last time?—Yes. Before our boundaries were extended, he over estimated the population by no less than 100,000.

2805. Dr. R. L. SWAN.—Does it seem to you that the area occupied by the poorer classes in Dublin is the same as in other towns?—No. It seems that the poorer classes are scattered everywhere. You have got them east and west. You have got your tenement houses everywhere.

2805A. They are not aggregated as they are in other cities?—You see your city of Dublin is not a complete city to begin with. All your natural out-growths are cut off from the city. If you took Dublin and its out-townships, then you could compare favourably with any other town.

2806. Statistically?—Not only that, but in regard to your social positions and so forth, of the miscellaneous people that make up the population. As it is you have got an immense preponderance of your poorer people in the centre of the town.

2806A. Do you think the density of the population affects the death rate?—Well, the density of the population *per se* may not. If you take a dense population and put them in proper dwellings, you can put a considerable number of people to the acre, and still keep them under good sanitary conditions.

2807. Right Hon. Alderman MEADE.—Do you know any city in Great Britain similarly circumstanced as Dublin, with all the better class, the richer class, living outside the city, and leaving all the poor inside?—No, I don't think there is one. We went so fully into it when we were extending our boundaries that I can say with confidence there is not.

2807A. And the evidence is, I think, that it must inevitably conduce to the high death rate?—It does, unquestionably.

2808. With the magnificent tramways running out to the suburbs, there would be no difficulty in bringing the working classes out at night after their day's work, and bringing them back at half-past 7 in the morning to their work in the city?—I think that would be an admirable plan, and it is one that has been reported favourably upon in the printed reports in Liverpool. I should be only too pleased to see that system more extensively carried on, as it is being carried on now.

2808A. Alderman DOWD.—How many female sanitary inspectors have you?—Eight. We started with two, and they were increased to four, and finally the Committee appointed four more. They were satisfied they were doing good work.

2809. Right Hon. Alderman MEADE.—You find them very useful?—Yes. We are particularly careful in our selection. We require them to have some conversance with the customs and habits of the poor, such as they would get, say, in district visiting, or in connection with one of the philanthropic societies.

2810. Do you insist on uniforms?—Yes. We are strict about that. We find it essential that they should have uniforms.

2811. Alderman DOWD.—I see you are in favour of having inspectors who know something about the business?—Yes. We try to get men who are plumbers or joiners, or who have been in the building trade.

2812. Right Hon. Alderman MEADE.—And you must pay these men at the rate of trade wages?—They begin at 35*s.* a week, and when they are on one year they get 37*s.* Of course, however careful you may be, you will find some men you would just as soon be without. You can only do the best you can in these matters.

2812A. In an epidemic of measles do you find any difficulty in having an outbreak of measles reported?—Measles is not one of the diseases scheduled under our Act; but at the same time I think we get information of all outbreaks of measles. The school authorities give a great deal of information in reference to these matters. Wherever we get cases of infectious diseases notified, of any kind, we ascertain are there any children attending school, and as soon as we ascertain that there are children attending school we at once send to the senior master, and tell him to exclude these children.

2813. What have you in Liverpool to correspond with our dispensary doctors?—We have three public dispensaries. At each of these are three doctors.

2813A. They don't belong to the Corporation?—No; they are the same as your hospitals here.

2814. In that way there are very frequently cases of measles that are not reported until they have reached a stage that nothing can be done for them?—Yes; we are not yet in a position to ask for measles to be scheduled as a notifiable disease. To begin with, we have not sufficient hospital accommodation.

2815. How many beds have you got in the hospitals in Liverpool?—I think about 450, which is far too small a number. And in addition to that we have small-pox accommodation. At the same time we have bought land containing a large number of acres, and we are building upon portion of it a small-pox hospital. We are also building a convalescent hospital for infectious cases.

2516. Is this outside your new district?—Outside the new district. The Corporation bought the land, and much of it is still being farmed.

2817. How far would it be from the centre of Liverpool?—I should say about three miles.

2818. It is just on the border you can see by the map. Liverpool, as you know, runs along the river. Our infectious hospitals are in the city. I may say that at present we have not enough of accommodation. What we have is very good, but we have not enough of it.

2819. Dr. T. THOMSON.—You have told us that inasmuch as Dublin city is only part of the Dublin registration area there is a difficulty in comparing it with an English city as regards vital statistics?—Yes.

2820. Would you have the same difficulty in comparing it with some of the London districts?—Well, it might be compared with central London or the central parts of some great cities.

2821. The density of Liverpool as now extended is still sixty-one to the acre, is it not?—Yes.

2822. So far as the density of the population is concerned, even extended Liverpool may be compared with the city of Dublin?—Hardly. Because it varies from 160 to the acre, as to the whole, to, let us say, West Derby, where it is only fourteen. So you must still take the sub-divisions if you want to draw deductions or conditions as to density.

2823. Clearly. But my point is, as to density of population on the whole area there is a similarity between the two?—On paper that is so.

2824-5 Can you give me information as to the density of particular areas in Liverpool, and the relation of the density to the death rate of these particular areas?—I can tell you the density of our different districts. Take, for instance, the district where we believe the death rate to be highest. The density is now put down at 128. But this division is a fairly large one, and a great portion of it is taken up with warehouses of an enormous kind. They are huge warehouses and business places, so that although the density is 128 to the acre, still when you take into account and consideration the places where the houses stand it is really more dense. Everton now is residential, and is chiefly occupied by the better class of working people, clerks, and so-forth. There the density is 160 to the acre, and why it is not actually so large as in the Scotland Division is, that it is not encroached on by those huge buildings. Figures by themselves do not, after all, show a great deal.

2826. Can you show us the relation between the density in these respective districts and the death rate?—Well, there is undoubtedly a relation between them, but it is really most difficult to say what it is with any accuracy. It depends, I think myself, on, say, the sanitation of the district. If you take, say, the Victoria buildings in Liverpool, or those buildings of Guinness's in Dublin, I have no doubt you would find the people to the acre are 800 or 900. But these people can be housed in that density in a sanitary manner. They are better housed with that density than the occupiers of your tenement houses. Careful supervision and special construction can obviate the mischief of dense population.

2827. But can you give any actual figures bearing on that point?—Well, in Wavertree, with a density of

9·8 people to the acre, the death rate is 16. In Everton the density is 166 to the acre the death rate is 24. Take the Exchange division, which is a curious mixture of the finest merchants' offices in juxtaposition to streets of the poorest and most wretched condition.

2828. Right Hon. Alderman MEADE.—What we would call slums?

2829. Yes, that is what we call them. There the density of people is 89 to the acre for the whole area, and the death rate, I am sorry to say, is 36.

2830. Well, in that area I take it, a great many of those who are down in the record do not reside?—Yes, I should say that it is nine years since this was taken. It was a district overburthened with the poorest slums, and though so many have left it still those who remained lived under the most unsanitary conditions. New areas have been opened, and doubtless what you find in the case, say of the Guinness buildings, will result most beneficially in these cases also.

2831. Dr. THOMSON.—Have you any further figures to offer?—Well, I can hand in a map showing the birth rate, infantile mortality, and estimated death rate to the acre in each of our districts, but there are so many disturbing factors that I do not think any specific inference can be drawn from these figures alone.

2832. That is the point. How much importance can be attached to the density of the population *per se*?—Well, not much from that, *per se*.

2833. In relation with the question of a proper sanitary staff for the control of public health matters in a large town, what views have you formed as to the Dublin staff?—Well, do you mean as to numbers?

2834. Yes, I think that their numbers are quite adequate. I think they are a little larger, proportionately, than our own. They do not give them quite as high wages, but perhaps living is less expensive in Dublin. We think that, although every man who enters the service looks forward to advancement and promotion, at the same time, it is not always a good thing to advertise appointments at too low a salary. If you advertise your post at too low a salary you do not get the same class of man. If you advertise with the intention of increasing his pay, no doubt, something is to be said for that; But I think you will get a better class of man if you put the most attractive points forward.

2835. Briefly, your view is that the number of the sanitary staff in Dublin is sufficient, on the assumption that the quality of the work done by the inspectors is good?—Yes.

2836. In the course of this visit you have been around the city and investigated the existing conditions for yourself?—Yes.

2837. Amongst other things, you examined a number of the cow sheds and dairy yards?—Yes.

2838. I gather from your evidence that you do not consider the condition of these cow sheds and dairy yards as satisfactory?—No, they are not, some of them at least.

2839. Have you seen cases in which the cubic space is not as much as it ought to be?—Yes.

2840. Will you give me an illustration of that?—Well, there was one case near New-street in which the cubic space, as I saw, for each cow was something under 250 feet. That was a crowded cow-shed, and it was impossible to keep it as clean as you would wish.

2841. That cubic space is less than one-half the amount required by the bye-laws?—Yes; I believe the bye-laws require 500 feet, so that this was about half that. I do not know what structural alterations may have been made in the place. Some portions may have been taken down. I only speak of what I saw. The place was full; but there was a notice painted up to the effect that it was licensed for cattle more than were there—that it was licensed for twenty-six. It is possible that places where cattle had been formerly accommodated were there no longer. But it struck me that it would be a good thing not to have a number so painted up in excess of the number that could be accommodated—in fact it would be physically impossible for so many to get in.

2842. But the bye-law dealing with registration of dairies and cow-sheds provides that on the 1st of January each year any change of condition should be duly reported?—Yes.

2843. And in that instance this does not appear to have been done?—No. The only thing that occurred to me was that, perhaps, some of the out-buildings now devoted to other purposes were originally devoted to cows, but now no longer used for that purpose. But in any case it was grossly overcrowded. But that is the worst I saw. I asked to see the worst.

2844. Did you notice any other conditions—anything concerning the paving?—I did not like the rough, cobble paving with so many interstices. I would prefer a pavement that would be capable of being washed more readily.

2845. That, perhaps you do not know is provided for in the existing bye-laws?—I did not know.

2846. Yes. It is provided that the yards shall be constructed in such a manner, either by paving, asphalting, or macadamising, as to have an uniform surface. Is that your experience of what you saw?—

2847. No; some of them were concreted, but this particular one was not. Others were cobble paved, and roughly cobbled even at that.

2848. In referring to your practice in Liverpool, I think you said it is there insisted that manure pits should be thoroughly emptied?—Yes.

2849. Have you any experience on that point as regards Dublin?—I suspect in the cases, or some of them that I saw, that it had done what used to trouble us—that is, the farmer would come and take just what he wants, and leaves the rest where it is. He just takes the top, and the remainder is left; so that there is never a thorough emptying. That is what struck me.

2850. There is yet another bye-law as to cow-sheds: "Every cowshed shall be so constructed as to be at all times well lighted and ventilated, and shall be ventilated by means of ventilators in or near as possible to the roof, and placed at intervals of not more than 12 feet apart." Is that strictly carried out in Dublin?—No; I have made no notes of the good places; but in one or two it did not matter whether it was carried out or not, for the sheds were practically open. But, on the other hand, there were two where the sheds were not open; so that when you closed the door—as could easily be done—the cows were in the dark, with little or no ventilation, except what would come through two holes in the wall.

2851. You told us one of the main causes of the high death rate in Dublin is tuberculous disease?—Yes.

2852. Is it not possible the condition you describe as obtaining in the dairy yards may tend to the spread of tuberculosis?—Yes; it may to this extent—that cows, where they are overcrowded, are liable to contamination—if the milk be tainted with tuberculous bacillus it may give rise to affections of the digestive or respiratory organs.

2853. You told us that in your opinion town milk is better than country milk?—Yes.

3854. You stated that in a town there is stricter control over the dairy yards?—Yes.

2855. You would not say, if such control were absent, that milk would be better in the town than in the country?—No; it is entirely due to the fact that in recent years we have effected such marked improvement in our cow sheds.

2856. You keep in Liverpool a very strict supervision over cattle, with a view to detection of tuberculosis?—Yes. Any kind of illness is at once reported, and now the trade co-operates with us, and

a man will himself ask the inspector to come and see the suspected animal, and ask the veterinary surgeon to come and see it.

2857. In your account of tenement houses in Dublin, you told us that they are in many respects defective as regards water supply, sanitary conveniences, and so forth, and that in these respects they ought to be largely improved?—Yes.

2858. Do not you find the tenement houses in Dublin are less clean than similar houses in Liverpool?—On the whole, I do not. On the whole, I have been rather surprised—excluding the question of the closets—I have been suprised at the cleanliness of the floors and rooms, and of the occupants. It surprised me to see them so cleanly, and the children, relatively, so well clad and shod, but then there are some gross exceptions.

2859–60. You did not notice, going round, that there were heaps of rubbish on the staircases?—Yes, I did; but I would not describe that as the rule. I found it more commonly, too, on the upper stairs.

2861. In Liverpool you endeavour to procure a cleanly condition of things—what measures do you adopt with that view in addition to furnishing proper water supply and sanitary conveniences?—We have bye-laws relating to cleansing, the opening of windows, &c., bye-laws similar to these of Dublin, and furthermore we adopt the plan, with great benefit indeed, of putting a large number of these houses on the register. We do not wait until the nuisance arises, but put the house on the register and have it vigorously inspected. We find that that prevents a great deal of nuisance arising from carelessness and the dirty habits of the inmates. The people get into the ways of cleanliness; we have special powers in Liverpool as to water-closets, and it will be of interest, perhaps, if I tell the Committee what they are, and it is very applicable to Dublin. We have two trough closets for the use of every eight or ten families. These closets would be kept clean, perhaps, if under the control of one person, but if it is the business of ten families, that which is everybody's business is nobody's. It seemed impossible to settle as amongst the ten who was responsible. Now, we say to No. 1, "You must keep the closet clean for a week; next week No. 2 will keep it clean; next week No. 3." The inspector records this and the people do it. If one of them does not do it, then, instead of summoning the ten, we summon that one, and he is fined.

2862. Dr. T. Thomson.—Do you get convictions?—Oh, yes.

2863. Right Hon. Alderman Meade.—There is no difficulty as to conviction in these cases?—None. The magistrates fine them 1*s.*—a small fine.

2864. Is this under bye-laws of your own?—It is under a local Act of 1846. I am convinced that if you could do something like that, and have a bye-law fixing the responsibility on an individual, it would be of great advantage. I may mention that these fines—none of them amounted to more than 1*s.*—came last year to £4 2*s.* for breaches of this Act. But I take occasion to say here that the constant attention of the officers is necessary. Without that you can do nothing.

2865. Dr T. Thomson.—How large is the Irish population in Liverpool?—Well, say between 150,000 and 200,000—call it about 175,000.

2866. Can you say, or is it your experience, that the Irish population in Liverpool keep their tenements in a cleaner condition than people of other nationalities, or is it the other way?—Well, I cannot say that. If we take the pains to instruct them they evince a willingness to co-operate. It is not the creation of a day. It has taken pains and time to instruct these poor people. I must certainly say we have not greater trouble with the Irish people than the others.

2867. You find them quite as teachable as the English?—Yes, I think so. In both cases you will find instances that are absolutely hopeless. Where we find that really the game is not worth the candle, we get a public scavenger to come in. But we try strenuously, and with success, to get the poor people to co-operate personally. If we go and cleanse their places over and over again they become careless individually; but when they come to learn the advantage of cleanliness they help themselves.

2868.—You gave valuable evidence as to labourers' dwellings, and you said you made provision in Liverpool for dwellings at 1*s.* per week per room?—Yes.

2869. And you do provide a room for 1*s.*?—Yes, so long as it does not involve overcrowding—one man, say, or two old women, perhaps.

2869A. You have one-room tenements?—Yes. A considerable number of one-room tenements.

2870. Right Hon. Alderman Meade.—What size?—The size is 14·3 feet by 11 feet and 9 feet in height.

2870A. That would give 1,350 cubic feet?—Yes.

2871. Enough, indeed, for three people?—Yes.

2871A. And have they proper sanitary conveniences?—Yes, one water-closet between two rooms. They are in blocks. You approach them by a common stair, and perhaps walk along by a terrace to reach the room, and the four tenements would have two water-closets and a water supply.

2872. How many storeys high are they?—About four or five. We do not like these big blocks as well as the lower ones.

2873. But if you provide tenements you provide them on this plan?—Yes. Some, however, are in three stories, and we have some cottages.

2874. At the same rent?—Yes; we have the tables here giving the rental and all particulars, with the cost and the result. I should like to say in regard to that, that a great many cottages have been built by private enterprise—more than the Corporation built.

2875. Right Hon. Alderman Meade.—Are they in competition with yours in rent?—No. If the outsiders were competing with us we would be glad.

2876. Dr. T. Thomson.—Now, as to infantile mortality in Liverpool. Can you put any figures before us by way of comparison with Dublin?—I can let you have the figures afterwards as to infantile diarrhœa and zymotic disease.

2877. Do you regard the absence of compulsory notification of infectious diseases in certain townships near Dublin as being a possible source of danger to the city of Dublin?—Yes; most decidedly. You see on the other side of the street, which is officially "outside" Dublin, you may have a dangerous infectious disease, concerning the existence of which you have no knowledge. And it is as great a source of risk, nay, greater, than if it were in the city.

2878. In dealing with the death rate of Liverpool you dealt with the general death rate; probably you can put us in possession of some details as to zymotic disease and phthisis in Liverpool?—The death rate?

2879. Yes, the death rate?—I have them here. Taking decades—the decade ending 1885, deaths per hundred thousand from typhus, 43; decade ending 1895, deaths per hundred thousand, 7. Then from 1896 to 1898, deaths per hundred thousand, 4. Now scarlet fever. Decade ending 1885, deaths per hundred thousand, 76·2; decade ending 1895, deaths per hundred thousand, 49·6, and 1896 to 1898, deaths per hundred thousand, 29·1. Small-pox, decade ending 1885, 16·3, and 1895 to 1896, 1·5. None since. Measles, decade ending 1885, 92·6; decade ending 1895, 77, and 1896 to 1898, 48. Then with regard to all sorts of tuberculosis of all ages we will take the three decades, the first ending 1875—deaths per

hundred thousand, 430; decade ending 1885, deaths per hundred thousand, 349; decade ending 1895, deaths per hundred thousand, 309, and three years to 1898, deaths per hundred thousand, 256. I will hand in the return.

2880. Do you take any special measures to control the spread of phthisis?—Yes; we do take measures now to control that form of disease and others also by placards, to a great extent, and circulating little cards like these which the Health Committee ordered to be sent broadcast. It is a decent kind of card, and we distributed it through medical men, clergy, district visitors, and so on.

2881. You also gave us information about the removal of house refuse in Liverpool?—Yes.

2882. I did not, however, gather from you whether the house refuse is stored in middens, or ashpits, or bins?—We have moveable bins put into the back passages, so that the scavengers who have custody of a key can open the passage, put the contents into the cart, and take it back again.

2883. The same bin?—Yes.

2884. Are these covered bins?—Yes; covered vulcanised bins.

2884A. Do you find that in the poorer districts the covers are damaged?—In the poorest districts we have wooden bins, into which the refuse is put, and these are emptied twice a day by the scavenger.

2885. They do not burn the lids of the wooden bins?—Sometimes they do.

2886. Do you ever find excreta in these bins?—Very seldom.

2887. Or slops?—No; they have trough closets, and they make use of them.

2887A. You were asked by one of the Committee with reference to dispensary doctors in Liverpool, and you told us the system; the dispensary doctors do not in Liverpool discharge the duty of medical officer of heath as they do here?—No; they have no function of that kind.

2888. That is peculiar to the legislation of Ireland?—Yes.

2889. Do you consider it satisfactory, that in Dublin a large number of medical officers of health, who have not necessarily expert knowledge of public health, should be asked to discharge such duties?—No; it strikes me as the reverse—that they should have that duty tacked on as a kind of secondary consideration. We find in England it is a good thing to have men giving their entire time to these important duties.

2890. In Liverpool I think you yourself have an assistant medical officer?—I have two—one for the city and one for the port.

2891. Dr. J. W. Moore.—You are aware, I suppose that the duties of medical officers of health are thrust, on them by the law?—Yes; I know it is put on them just, so to speak, as if to fill up their little spare time.

2892. And they cannot escape it?—No.

2893. Dr. T. Thomson.—Do you find your two assistant medical officers of health sufficient?—Yes.

2894. Generally speaking, can you tell us to what you are inclined to attribute the exceptionally high death rate of Dublin?—Well, I have already said that the death rate from phthisis is manifestly higher than in English towns; not only that, but the appearance of the people gives you the impression that they are tuberculous. They have the appearance of consumptives living in these tenements, in which the bacillus has the opportunity of floating about, and of being inhaled into the lungs. I have no doubt that is the cause of the excessive phthisis scheduled. Many of the houses are simply saturated with the tubercle bacilli, and the expectorations extend their area. No doubt, too, the great poverty of the people tends to this, for the people are underfed.

2896. Right Hon. Alderman Meade.—If you had a tenement house, and a case of phthisis in it, what would you do to disinfect it?—I would be inclined to take it as an ordinary infected house. One should make very careful inquiries in such cases.

2896A. But consumptive patients you would not turn them out?—No.

2897. What would you do?—In many English towns we are peculiarly alive to the necessity for providing hospital accommodation. In Liverpool, by the kindness of philanthropists, a sanitorium is being erected for certain suitable persons suffering from phthisis, who are in a stage liable to be a source of danger and infection; but who, when removed to proper surroundings, are likely to recover. There are three Boards of Guardians who are seriously considering the desirability of providing similar accommodation for their own sick—for the pauper sick similarly affected. That would meet the great difficulty you speak of. These poor people must remain somewhere.

2898. Take the case of the ordinary artisan, in receipt of good wages, and one member of the family has phthisis—what would you do with that boy or girl? Would you take it out?—No. We deal with these cases largely by these cards of instruction, teaching the people how to act—how to use spittoons, and so on.

2899. But it is an infected house?—Quite so.

2900. How do you propose to deal with the disinfection of it?—Well, in case of death, we are willing to disinfect it. It is not a notifiable disease, but we are desirous of disinfecting bedding, and, in fact, everything likely to hold the infection. If any medical man expresses a desire to have a house disinfected, we are willing to do it.

2901. You are not in a position to compel it?—No; nor to insist on the removal of the patient. I must say one thing struck me—namely, in Dublin the number of forcible removables to hospital. I must say I cannot understand how any intelligent person can fail to grasp the fact that an infectious disease is treated so much better in hospital than in a tenement room. I may say that ten or twelve years ago we, too, had a difficulty like that, but not now.

2902. Do you mean compulsory removal of measles cases?—I mean of any sort of infectious disease. Measles, we know, is more dangerous than small-pox. For one person killed by small-pox, 500 are killed by measles.

2903. Right Hon. Alderman Meade.—There is a prevalent idea in this country that every member of a family must get measles—that if one gets it, all must get it.

Dr. T. Thomson.—That idea prevails, too, on the other side.

2904. Dr. Moore.—This card is dated February, 1899?—Yes, about that time. Cards somewhat similar had been circulated from the Consumption Hospital, and then when the Corporation took it up, it was done on a wider scale.

2904A. I have here a return giving valuable information as to the number of convictions for sanitary offences in Liverpool, and for the three years I find the number of notices issued for sanitary defects was 136,687?—Yes.

2905. Then it was necessary for you to prosecute in a comparatively small number of cases, 3,437?—Yes.

2906. But, according to this table, you got only 810 convictions?—Yes. The reason of that is, the work was done when the case was called on, and we withdrew many such cases. The return will tell you how many were dismissed.

2907. At all events, that was a point I wanted to call attention to, as showing that in a very great number of cases, when the notices are served in Liverpool, they are complied with?—Yes.

2908. Without having to take further legal steps to secure compliance?—Yes.

2909. Right Hon. Alderman MEADE.—Would it be desirable for some members of this Committee to go to Liverpool and see these houses set at 1*s.* a room, and others?—Yes, and I am quite sure the various committees would give you every possible facility for seeing the methods we adopt. I should be very pleased, indeed, to show you all the various kinds of dwellings and sanitary appliances, methods of disposal of refuse, scavenging, and so on.

Professor WILLIAM ROBERT SMITH examined.

2910. Right Hon. Alderman MEADE (who at this point presided, Mr. Cotton having left).—You are President of the Royal Institute of Public Health, and Medical Officer of Health for Woolwich?—Yes.

2911–12. You have been here during the past few days, and have heard the evidence given?—Yes.

2913. We will ask you, in the first instance, to supplement that evidence. You have heard all the evidence of Dr. Hope?—Yes, and during the past few days I have been associated with him in visiting, amongst other things, various tenement houses and slaughter-houses and dairies, and I agree fully with the remarks he has made.

2914. Can you give us a comparison of the vital statistics of London with those of Dublin?—Taking the registration area of London, the general death rate is higher in Dublin. The actual figures I will hand in afterwards. (See Appendix.)

2916. Dublin city, do you mean?—No; the registration area. I thought that the fairest comparison.

2917. Shortly, what are the figures for the two?—If you take three years, from 1895, in London—it has been in 1895 in London, 19·9; Dublin, 27·9. In 1896, London, 18·6; Dublin, 25·3. In 1897, London, 18·2; Dublin, 28·9, and in 1898, London, 18·7; Dublin, 26·7. The average from these returns is, London, 19·8; Dublin, 29·8.

2918. Had you any epidemic last year in London to compare with our measles?—No; not of a similar nature. We have always diphtheria very prevalent with us, and that is one cause of the zymotic death rate being kept high in London.

2919. As to the sanitary administration of Dublin, I believe you are of opinion that all the sanitary officers should wear a uniform?—Yes. I would like to say that I think there are various duties in the sanitary department that might well be distributed amongst other departments of the Corporation. It seems to me a little unfair to the public health department, knowing its difficulties and the very onerous duties imposed on all the sanitary officials, that work connected with the architectural department and the finance department should be imposed on the officials or find a place in the sanitary department of the city. I might mention public conveniences, open spaces, sewers, pumping stations—these are samples of work which I think properly belong to the surveyor or city engineer, and it would be an immense advantage to the public health work of the city if that work were taken away from the public health department. These things impose responsible duties upon officials in connection with the health of the city which possibly would be better directed into other work. The responsibility for the collection of rents as regards artisans' dwellings in Dublin and lodging-houses, one should not expect to find centred in the sanitary department, but rather in the finance department.

2920. As to the number of the staff in Dublin, are you conversant with it?—Yes. I have the return given me by the public health department, and I am inclined to think it is somewhat more numerous than might be required, certainly it is as numerous as the necessities of the case demand. But in this I am assuming that all the men are thoroughly well trained, thoroughly alive to the responsibilities of their office, and are kept under the strictest supervision. Each department of work of the sanitary department should be under the strictest skilled supervision of its responsible head, and all the officials of these departments should, without exception, be in uniform, so that they can be known publicly as regards their official capacity.

2921. You have heard we have four lady sanitary inspectors; would you consider that enough?—No. Having regard to the number of the tenement houses and the duties these officers have to perform I would not consider that four women could adequately meet the requirements of the case.

2922. You would increase the number?—Yes. Now, as to the training of these sanitary officers, they get a training from the Royal Institute of Health; does that qualify them?—To a certain extent it does; but I do not think that should be taken as sufficient evidence of the capability of the person to discharge the duties of these various official appointments. In addition to evidence of previous training the officer should have special aptitude for the work he has to discharge.

2923. That is the system which, as Doctor Hope told us, prevailed in Liverpool?—Yes; I know many men who are in possession of certificates whom I should be sorry to have as sanitary inspectors in my district.

2924. But if the majority of sanitary inspectors had to be tradesmen they should be paid tradesmen's rate of wages?—I am inclined to think your rate of pay is not sufficiently good—that is important, having regard to the duties to be discharged. These men are, for the most part, away from supervision, and you must give them sufficient remuneration to enable them to respect themselves, and in that regard it might be considered whether a higher rate of remuneration should not be given to these men. I do not think there is a single sanitary inspector getting £78 a year in London.

2925–30. I believe in our case the Local Government Board pay half the wages of the sub-sanitary officers, and fixed the remuneration at 25*s.* a week?—Yes, in London that is also what they do, half the sum is paid by the London County Council through the intervention of the Local Government Board.

2031. Is your opinion that the amount given to these sanitary sub-officers should not be less than the current rate of tradesmen's wages?—Yes; I would so remunerate them that they are taken out of temptation, and it is not prudent to ignore that phase of the case, when dealing with people who have to deal with avowedly bad property.

2932. As to tenement houses, you think they ought to be under constant supervision?—Yes.

2933. Do you go the whole way with Dr. Hope?—Yes, unquestionably, all should be registered. They should be called on to conform to the regulations prior to registration, and then be under constant supervision.

2934. On the question of slaughter-houses do you agree with the views of Dr. Hope?—Yes.

2935. You visited them with Dr. Hope?—Yes.

2936. And you were not satisfied with them?—No I do not think they conform to your own rules and regulations.

2937. Do you object to slaughter-houses as slaughter-houses in the city?—I do; I would have them outside, or rather I would have public abattoirs outside such as you have. Admirably built and well constructed and looked after, such places are the best for slaughtering cattle.

2938–9. But if you had them in the city you would insist on having the proper cubic space or area, and proper cleansing day by day?—Yes. The Sanitary Authority should, however, have constantly before

them, the getting rid of such places as soon as possible.

2940. Now, as to dairies; do you agree with Dr. Hope that milk from dairies in the cities is better than milk of the country districts?—I am afraid I have not so much experience as Dr. Hope in that connection; but I quite recognize the advantages of having the cow sheds and dairies under immediate and reliable supervision.

2941. You would not object to dairies within the city, so long as they were properly looked after by the bye-laws of the city of Dublin?—I think I have probably seen the worst in Dublin; some of them ought to be removed.

2942. Some of the existing cow sheds?—Yes.

2943. You do not think that they could be reconstructed so as to comply with the bye-laws?—They might be; but there are other reasons which are against their retention.

2944. As for instance?—Being in such a very thickly populated district, and requiring such exceptionally constant supervision.

2945. Do you think increased powers are needed to deal with dairies, as distinguished from cow sheds?—I think the rigid enforcement of your regulations would be all that is necessary.

2946. You have seen our depot for our refuse and hopper barge and our destructor?—Yes.

2947. Have you anything to tell us that would be useful for us to know as to the disposal of the refuse?—In London general refuse is now generally removed in covered carts, and the proper method for the disposal of the refuse is a destructor. A heap I saw was most objectionable.

2948. In one of our depots?—Yes.

2949. At Marrowbone-lane?—Yes.

2950. In London is not a large quantity taken down the river to the sea?—Yes; but I do not think in London is to be seen such an accumulation as I saw at Marrowbone-lane.

2951. In Marrowbone-lane?—Yes. But if carted day by day to the wharf, and there loaded into barges, what more need you do except what is done here to bring it down the river, as they do in London.

2952. The accumulation I refer to must, I think, have been there for a long period.

2953. You have heard the way we remove the refuse from the different houses. You think covered carts ought to be used?—Yes. This accumulation to which I made reference is not of house refuse alone. There is vegetable and animal refuse, and in many cases excreta.

2954. You have the strongest objection to what you saw, and considered that the sooner it was got rid of the better?—Yes.

2955.—But the pails we have in the tenement houses they are put to uses it seems other than that they are intended for—slops, and in some cases excreta being put into them. Do you think there is danger in just tumbling them upside down to the dust-cart, and leaving them back?—No; you have just hit it. They cannot be properly cleansed in that way.

2956. Have you that to contend with in Woolwich?—No. I think the difficulties in Dublin as to removal of refuse are great, indeed; but it is partly conditional on water-closet accommodation and other questions. I only found in one of the large tenements one of these receptacles, and I do not think you empty them every day. Woolwich is small, and more under control. Where we have tenement houses we supply the people with receptacles for ashes, &c., according to the necessity, and these are emptied once, twice, or three or four times a week, or every day of the week. The necessities of the case are judged of by the sanitary officials.

2957. As to the desirability of notification of infectious disease?—That is obvious.

2957A. You cannot see why the townships around should refuse the notification, and let the city of Dublin have the disadvantage of their action?—It is obviously most unfair to the Sanitary Authority of Dublin that they are not provided with the fullest information as to the existence or prevalence of infectious disease, not only in their midst, but it may be just across the road.

2958. Dr. T. Thomson.—Do you go so far as to say that the absence of notification in certain townships is a danger to the public health of Dublin?—Most unquestionably.

2959. As to the closing of the schools when infectious diseases happen to be prevalent, what are your views?—That distinct advantages are to be obtained by the closure of schools more, perhaps, in the case of measles than in any other disease.

2960. Would you give power to the Public Health Authority to serve notice on the managers of schools to close them in such cases?—Yes. It exists in London, but not in Dublin, I believe. In London it is vested in the Sanitary Authority, that notice can be served on the authorities of the school and they are bound to close.

2961–3. Dr. Moore.—You have seen a number of the tenement houses in Dublin. Do you think there are exceptional difficulties in the Public Health Department in dealing with these?—I know no town that is comparable with Dublin from the point of view of difficulties of its sanitary work. I find these tenement houses everywhere. I do not think any other place is faced with such a difficulty, or that any other city presents such a condition of things, and obviously the difficulty of the Sanitary Authority must be great.

2964. Right Hon. Alderman Meade.—You know the way Dublin is hemmed in by the townships, and the difficulty of dealing with that question?—Yes.

2965. What would be the natural course that should be adopted by the Corporation in such circumstances?—The natural course they should adopt, and which I believe they have adopted, is to endeavour to extend the boundaries of their city, so as to include the townships—which are practically suburbs of the city—the inhabitants of which have left the city, and left behind them houses now tenanted by the poorer portion of the community, and it is obviously a duty that those who share the advantages of the metropolis should also share its burthens—not only from a pecuniary point of view, but it would be clearly of advantage that the brains of the men who have gone out into these districts should be available for the administration of the whole area.

2966. Do you think it would be possible, practically, to provide for the housing of the existing working classes and others, within the boundaries of the city, in sanitary houses?—No. I have noticed, however, the efforts that have been made within the last few years for the utilization of vacant spaces which have been obtained by the demolition of insanitary property, and it is doubtless intended to erect sanitary houses in all such cases. In London the difficulty is to obtain suitable sites which are accessible; but in Dublin you would experience no such difficulty, for you have an admirable system of trams, and outside Dublin opportunities for the erection of sanitary houses exist, such as few cities possess.

2967. Dr. J. W. Moore.—In your statement as to the public health in London in 1899, you seem to think there was no epidemic?—We had diphtheria and more zymotic disease than you had here.

2968–70. Had you not a good deal of diarrhœa in July and August?—Yes.

2971. Are you aware that the relative number of deaths from diarrhœa in London was in excess of that of Dublin?—Yes.

2972. You are medical officer of health for Woolwich?—Yes.

2973. What is its population?—51,542.

2974. And what is the death rate?—19·5.

2975. Can you tell us the density of the population in Woolwich?—I cannot give you the actual figure, but it is about 45 per acre.

2976. Dublin is 65·6?—So I believe.

2977. With regard to the registration of tenement houses, I presume such a registration would include a statement of the population of each tenement house and the number of families?—Yes, a proper registration would ensure this based upon the measurement of the various rooms and the number of occupants consequently allowed by the authorities.

2978–79. Would there be any difficulty in having that kind of registration in Dublin?—No, you have the machinery at your hand.

2980. Would it cost much?—No.

2981. You would say that this system of registration should be put in force at once?—Yes, unquestionably.

2982. With regard to notification, is it not possible that the fact that some of the townships have not adopted the Act has led to the disfavour with which notification is looked on by many?—Yes.

2983. And, as a medical officer of health, you are of opinion that in notification we have a powerful aid to sanitation?—Undoubtedly, I may say that in my experience, I have never yet known of a single case of friction arising with a medical practitioner on the point. The Act works with the most perfect smoothness.

2983A. You are aware that it is permissive in Ireland?—Yes.

2984. And compulsory in England, Scotland and Wales?—Yes.

2985. Are you aware that when the Bill making it compulsory was before the House of Parliament representations were made to the Government to make it compulsory in Ireland also?—I was not aware of that.

2985A. You know as to the closing of schools, that there is no power here to do that?—I am surprised to learn the fact.

2986. Of course boarding schools should be dealt with differently?—Yes.

2987. The closing of boarding schools might possibly result in spreading the danger?—Yes.

2988. As to the extension of the boundaries of Dublin, are you still of opinion that Dublin ought to seek to extend her boundaries, considering that the townships are strongly opposed to it?—Unquestionably.

2989. Would not an intermediate course recommend itself to you, as a practical man—that is to effect some arrangement by which a conjoint Health Committee would be appointed by the townships and the Corporation conjointly?—Well, of course half a loaf is better than no bread; but, undoubtedly, the best course is a properly constituted sanitary authority for that whole area. Such a committee as you suggest could only be a voluntary one and would have no statutory power to give effect to its views.

2990. But might it not work very well?—It could never enforce anything. It would only be a kind of consultative body—different bodies, by representatives, meeting together and considering what was to be done.

2991. Have you considered or formed any opinion as to the cause or causes of the high enteric death rate?—No; it is extremely difficult to form a judgment; but I think the condition of the tenement houses and the natural consequences of pollution of the soil must materially affect it, considering especially the want of cleanliness of the people.

2992. You have seen the Vartry works?—Yes.

2993. And you have seen nothing in connection with that supply to attach suspicion to it?—No, certainly not.

The Committee adjourned until next morning.

ELEVENTH DAY.—TUESDAY, FEBRUARY 27TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

CONWAY SCOTT, C.E., examined.

2995. CHAIRMAN.—You are the Executive Sanitary Officer for Belfast?—I am, sir.

2996. And you wish to give us evidence about Belfast and about Dublin?—Well, I wish to give you any information in my power that may assist the Public Health Committee.

2997. Of course we are not interested in Belfast in the same way as we are in Dublin?—I know. Any information I can give I will be happy to give it.

2998. What is the population of Belfast?—The present population of Belfast is 359,000 people.

2999. And the area?—16,503 acres.

3000. That leaves an average density?—I believe, of about 21·8. But of course that does not represent the density of the centre of the city.

3001. I know perfectly. But do you know the maximum density as a matter of fact?—Yes, sir; pretty fairly. I can give you a fair idea of the maximum density.

3002. Right Hon. Alderman MEADE.—That is in the old city?—Yes; the extent of the old city was 6,800 acres, and the extension of 1896 brought it up to 16,500.

3003. CHAIRMAN.—You have something to say about the housing of the working classes?—As to the density, it is calculated that we will put fifty to seventy of the working classes' houses to an acre of ground—that is, if you are laying out ten or twelve acres—that is the average. These houses average five each, and that would represent 250 or 350, our density of population, in the crowded parts of the city.

3004. Right Hon. Alderman MEADE.—What would the rent of the houses in that case be?—The four-room house and yard, closet and all necessary accommodations, about from 3s. to 4s. or 5s. per week—a four-roomed house.

3005. What would be the maximum size of the house?—3,600 and up to 4,000 cubic feet. The rooms are from 960 cubic feet down—comfortable four-room houses—comfortable houses. I could give you the number of new houses put up each year.

3006. CHAIRMAN.—You have seen tenement houses in Dublin?—Yes.

3007. Have you anything like that in Belfast?—No; I cannot say we have. We have some few houses that have been used something like that, but our policy is to close them up. There is no demand for houses of that class, owing to the number of new houses put up each year, principally in the outskirts of the city.

3008. About 10,000 are built each year you say, I think?—Oh, no. We estimate that a population of about that is added each year. The number of new houses added each year would be—1892, there were 2,112 new houses; 1893, 2,533; 1894, 3,444; 1895, 3,011; 1896, 3,727; 1897, 3,903; 1898, 5,309; and 1899, 3,219.

3009. Have you anything to say about cow sheds and dairies in Belfast?—Yes, sir. In the city of Belfast there are 355 cow sheds, and 2,950 cows. That is the extended area—the new city.

3010. And in the old city?—275.

3011. That is cow sheds—sheds for cows?—Yes, where cows are kept.

3012. How many sheds would that represent?—275.

3013. Sheds?—Yes, where cows are kept; but I may say that our regulations only allow the old scale—400 cubic feet. That is too low. The Corporation is at present revising these regulations, and, if we get the standard raised to 800 feet, it will, of course, sweep a whole lot of them right out; it will reduce the number.

3014. CHAIRMAN.—They are proposing to do that?—Yes, but the thing is not fixed yet.

3015. Right Hon. Alderman MEADE.—You want to get it up to 800?—That is a Local Government regulation recommended.

3016. We have 500 in Dublin and 600 in Liverpool?—Yes; this provision is that there shall be "not less than 800 cubic feet of a space for each cow." That would sweep away half of these.

3017. That would, I suppose, be met by slightly increasing the floor space, and raising by two or three feet the height of the shed—say from eight to ten feet?—Of course, a case like ten feet——

3018. CHAIRMAN.—That is not a fixed regulation of the Local Government Board?—No; it is advisory.

3019. More or less a recommendation than a regulation?—Yes; but I would not be inclined to fix the same ratios for the cows kept in the sheds all the year round, and to fix even a higher one, so as to put them out altogether. I do not think it desirable that cows should be in a shed all the year round.

3020. Have you such in Belfast?—A few—190 of our cows out of 2,950.

3021. All the year round?—Yes; I want to get rid of those.

3022. Right Hon Alderman MEADE.—Do you agree with Dr. Hope that the milk produced by the cows in the city is more healthy than that obtained from outside?—I do not agree with him. There are a great many things on which I do not agree with him. I took samples of milk from the four worst cow sheds and sent them to our bacteriologist to see if he could detect tuberculosis in any of them, and he said there was none in them.

3023. And does not that confirm Dr. Hope?—It confirms what I hold, that medical analysis will not always tell us what is wrong. There may be things wrong that you cannot detect. I would not like to drink milk from a dirty cow shed, no matter what the analysis may be.

3024. Dr. T. THOMSON.—You heard Dr. Hope examined yesterday, when he said that the good quality

of milk obtainable from cow sheds in towns is owing to the strict supervision of these cow-seds?—I admit that.

3025. I don't know whether you are aware that the Manchester people have found the same thing?—Well, I would like to explain that. There it no doubt that supervision in a city is much stricter than supervision in the country districts; but, if the country districts were compelled by the Local Government Board to exercise a similar strict supervision, to my mind there could be no idea but that the country milk would be the better. But that is the weakness of the country districts.

3026. Dr. J. W. Moore.—They are not under similar supervision?—They are under nominal supervision, but no real supervision.

3027. Right Hon. Alderman Meade.—How could you get supervision over the individual farmer in the country?—Each District Council, I think, are the authority for that matter, and they are bound to employ a milk inspector, and the only question is whether they will pay him or not.

3028. Dr. T. Thomson.—The question is, are you more likely to get efficient inspection in rural or in urban districts?—At present your better chance of getting efficient inspection is in the urban district.

3029. Chairman.—You wish to give some evidence as to the sanitary difficulties in Belfast?—Oh, no. We had our own difficulties in Belfast, but I suppose you are not interested. We had the ash pits and privy system, which we are getting rid of by degrees. We used to get our water supply from where there was arable land; but we have got a new Act, and under this Act the Commissioners have got power to buy up all land on which the farms were, and we will, in future, have a less amount of typhoid fever in consequence of that. We found that typhoid cases had occurred in these houses, and that the excreta had been thrown on to the manure heaps, and the liquid matter from the manure heaps had sunk into the little channels that fed the water supply. But thatcan not happen any more, for the Mourne water supply will have no farm-houses on it.

3030. What do you consider to be the difficulties in legislation?—I consider that the defects in sanitary legislation have kept back progress in Belfast considerably, particularly on the drainage and sewerage question. For instance, now we have a decision of the police magistrates that when there is a drain of more than one house, as long as it remains within private property to which the public have no right of access, it remains a drain: but as soon as it emerges into a street or open space over which the authorities have control, it ceases to be a drain and becomes a sewer. That is the workable explanation. Then we have to take charge of it outside; but inside it is private. But that may be upset in the superior courts to-morrow, and that is the difficulty. It has been brought before Her Majesty's Government, both by the Belfast and the Dublin Corporations. I went with Alderman Meade on a deputation to London about it, but nothing has been done.

3031 Right Hon. Alderman Meade.—That is the definition of a sewer and a drain?—Yes, to make it workable. It throws you out of court if you go into court and the defendant raises that question. The magistrate finds a difficulty in dealing with it.

3032. Have there been different decisions given?—Yes.

3033. Chairman.—It has been a disputed point in England as well as here?—Yes; but the sooner it is settled the better. Another question I would like to bring before you, is as to buttermilk. Buttermilk is a food for children. Now on a recent decision in Belfast no more buttermilk prosecutions can be made. You may put as much water into your buttermilk as you like; that is a bad thing for the health of the community. The reason it is based on is—there is a Scotch decision that the buttermilk is a composite article, composed of what you may call milk and waetr; and it is necessary, for the manufacture of buttermilk, to add water, and the magistrate says, "You must prove to me that this added water that you are prosecuting for was added to the milk after churning." Of course we cannot do that, and he refuses the conviction. This matter was brought before the Government two or three years ago, but they did not make the slightest provision for it.

3034. Have you considered what recommendations you would make as regards the improvement of the health of Dublin?—Yes; I went around to some tenement houses, and I also went through the slums, and I am of opinion that you cannot reduce the death rate of Dublin without moving a large proportion of the tenement house population to the suburbs.

3035. Right Hon. Alderman Meade.—You do not believe in the class of houses we have at present?—No; I think they are totally unsuited to the purpose to which they are put, and that they are unhealthy.

3036. And there would be considerable difficulty in putting them in a sanitary state?—Some of them I consider, could not be put in a sanitary state at all, because of their dilapidation. They are thoroughly rotten, and I wonder they don't close them up.

3037. What about the people who would be displaced?—What I would do is: In Belfast we had to provide for 500 people, and the Corporation took an acre and three-quarters of ground. They cut it up in streets—I think they put in the sewers—and they sold it to a builder, on condition that within a certain time he built a certain number of houses on this ground to the specification prepared by the City Surveyor, and that it be approved of by the Local Government Board. The builders put up ninety-nine houses there at a cost of about £60 each. Those were sold, and went into the public market. These houses to-day are excellent paying property, and good houses. That is, you provide for nearly 500 people without any cost to the ratepayers in that case. That is carried out by agreement between the Corporation and the builder.

3038. Right Hon. Alderman Meade.—And do you tell us that the rents received from this property pays interest and the sinking fund?—The Corporation have nothing to do with that property. They sold it out and out to this builder at so much a year. Then they sold the ground rents, and they have nothing to do with it for ever. There was an expenditure of one-tenth of a penny in the pound for a number of years for the purchase money of the ground in the centre of the city which these houses were to replace.

3039. Do you mean, then, that they not only got the ground on the outskirts on which the houses were put, but also the ground in the centre of the town?—Yes; and they took the ground outside to put the houses on.

3040 Chairman.—You recommend the abolition of all private slaughter-houses?—Yes, sir.

3041. Does that mean, whether they are kept in the best possible way or not?—I admit that there are some of them that may be well kept, and that you cannot find fault with; but on the general principle I have strong views on the slaughter-house question. In Belfast, within the old boundary, there were originally thirty-two private slaughter-houses; within the new boundary there were fourteen private slaughter-houses.

3042. That is added to the others?—Yes; that is practically forty-six. There are now only five private slaughter-houses in the whole area. The policy of the Corporation of Belfast was in every case to reduce the private slaughter-houses—first, on public health grounds, and, secondly, on the ground that they prevented cattle from being brought to the public abattoir, where they would be inspected. Each year it was my duty to make a report on all the private slaughter-houses in the town, and how they were kept, and I always tried to knock out three or

four of them each year. We have reduced them now to five. Of these three are very small, and I suppose they will disappear gradually, too. The licences in Belfast are granted for one year—there is no compensation. Here is the last clause on the subject:—"Upon breach of any of the foregoing regulations this licence shall become forfeited, and be null and void. If the Corporation shall at any time hereafter resolve to withdraw, or not to renew this licence, the said shall not be entitled to any compensation in respect thereof, or by reason of such withdrawal."

3043. Dr. T. THOMSON.—These are your own regulations for slaughter-houses?—Yes; our local Acts, in some cases, are much better and stronger than the Public Health Act alone.

3044. CHAIRMAN.—Now, with regard to the reduction of the number of cow sheds?—When we took over the cow sheds, we took over all the houses that were registered by the Guardians. We had to take them over; it was a transfer. We reduce them year by year.

3045. You recommend the reduction of cow sheds for the improvement of the health?—Yes; I think 5,000 cows is rather much to be kept in a city, and they should reduce them. That seems a large amount of cows to keep. There is always the difficulty of getting rid of cow-manure in a large city. If you wait for the farmers to come your place will be in a filthy state. It should be removed daily in my opinion.

3046. Well, how does the question of the extension of the boundaries bear on the public health?—I would say it would be necessary, if private enterprise in Dublin does not provide it by building houses on the outskirts of the town, similarly to Belfast. If Belfast builds 2,000 houses every year it means that you are providing for 2,000 new families on the outskirts practically. But that is private enterprise; it is supplemented by processes going on in the interior of the city, by the pressure of the Public Health Department on owners of old property to reconstruct. Then there is the demand for new premises for offices, warerooms, &c., so we are gradually clearing away all the old property in the centre, and the population is gradually moving out. But we are doing that automatically; whereas in Dublin you may not be able to do that. And, I should say, if you are not able to get builders to do it, the Corporation should take powers and buy land in the outskirts of the city, and lay it out and sell it to builders to build houses according to what specification you might desire for workmen's houses, gradually supplying the want of house accommodation in the suburbs, and then closing the houses in the city under the 32nd section of the Housing of the Working Classes Act.

3047. Is that the second part of the Act?—It is the principal Act—the one of 1890. There is the section that we usually work on (showing to the Committee). We join that section with the 110th section of the Act of 1878.

3048. This is the second part of the Act. Has that been used much in Belfast?—We use it a good deal, but the usual thing is that people close the houses by arrangement. When they find that we are putting pressure on them, they sell it for building ground, or pass a plan before the improvement Committee for an entire reconstruction.

3049. Right Hon. Alderman MEADE.—You have not got many old houses like those we have in Dublin?—No, not of that class, but we have a lot of rotten property that we are gradually getting rid of in the centre of the city.

3050. CHAIRMAN.—Then, with regard to the tenement houses, you divide them into two classes—one, those that can be reconstructed, and the others, those that cannot?—Yes; I was in some houses here that are unfit for human habitation because of their dilapidation—the floors were rotten, the ceilings were rotten, and everything in the house was rotten. And, in addition to that, there are houses with three or four storeys, occupied by five or more families, with only one water-closet on the basement and one water supply, that can not be considered sufficient in any way. The result is, that the people in the upper stories will carry the water up in the morning perhaps, and through the dirty hall; and it will lie in the room all day, and it will be befouled by the atmosphere of the room—the water they are drinking. They then will keep the excreta in the room rather than go down to the closet; and, when they do go down, it is rendered unfit for use—for they pitch the whole contents in on it, or put them in the pail which is intended for the ashes. I consider that those houses are structurally unfit for the purposes for which they are used.

3051. What do you mean by saying that return buildings should be erected in connection with the main building by an open gangway?—If you have a four storey house, and if you put up a return building behind it, and if it joins in on each lobby with the main building; you can then, in the return building on each storey, have a water-closet, sink, ashpit, and every accommodation for that particular storey.

3052. Would not that be very costly?—No. I do not think so, for houses of this kind. Nothing struck me more in this town than that people were getting 3*s*., 3*s*. 6*d*., and 4*s*. 6*d*. for a single room. They should get a whole house for that. I have no sympathy with people that can get such rents.

3053. Right Hon. Alderman MEADE.—Would a single room in some cases be as large as your whole houses?—It might be. But they have to go down three stories to the dirty closet, and to get their water supply. The room is right enough. It is the structural defects. That is why I say that some of them could be made into good houses.

3054. Some of them have rooms of from 4,000 to 5,000 cubic feet space?—Yes, that is a fact; but, at the same time, they have not got the necessary accommodation. But I am bound to say that I have not seen in the slums the case of a family living in each corner of a room and the landlady in the centre. I think that is an exaggeration.

3055. CHAIRMAN.—You say that the Corporation should get power to lend money to owners of property to make these improvements?—Yes; I think so.

3056. Have the Belfast Corporation such power?—We have power, under the Act of 1899, to lend money to the people who want to do away with their old privies and ashpits, reconstruct their drains, and put their houses into good sanitary condition.

3057. Do you lend money to the owners to do it?—Yes, sir; but I am bound to say, that we have not lent any yet—because the condition that they laid down for lending was, that there should be no mortgage on the property, and nearly all that applied for the money had mortgages on them, and they did not consider the security good. And, therefore, although they have the power, they did not lend it yet.

3058. Right Hon. Alderman MEADE.—The banks were in the way?—Something like that was in the way.

3059. But you have really the power?—We took the power, under the Act of 1899, last year.

3060. And the money is a first charge?—I don't think that that was specified; it is simply the power to lend the money to do this work.

3061. CHAIRMAN.—You say, respecting the slums of Dublin, their insanitary condition is greatly exaggerated?—I will not say that. I say that I expected to find the houses a great deal worse. I expected to find them dirtier, except the water-closet accommodation, the water supply and the yards. I suppose they cleaned them up while the Committee is sitting. But I went through some slums in which I found the sanitary accommodation most filthy.

3062. Did you hear Dr. Hope saying yesterday that they have succeeded in making the individual

families keep the closets clean in Liverpool?—I do not agree with him. I would like to see you holding each family in rotation responsible for their neighbours who would foul their closets in Ireland. I do not agree with him at all. It is Utopian.

3063. Right Hon. Alderman MEADE.—It is done by a precisely similar population—the Irish population in Liverpool?—They may be better trained to be more orderly than they are here. The Irishman does not want to do what Englishmen would do. The Englishman wants to do what is legal and proper. The Irishman is reckless.

3064. Dr. T. THOMSON.—Dr. Hope told us that he had no more difficulty with the Irish than with the English?—Probably they are born there.

3065. Right Hon. Alderman MEADE.—No; migratory?—I can only give you my own experience.

3066. Dr. J. W. MOORE.—At all events they are there—the Irish population in Liverpool?—I have no experience of the Irish population of Liverpool, and I am not going to say anything against my own countrymen, for I have a respect for them. But I will say that they are not as cleanly in their habits or as law-abiding as the English.

3067. But they are capable of being taught?—Yes; but I do not know who is to teach them. I don't know whether the sanitary law can go that far.

3068. Does your observation with regard to law-abiding apply to vaccination?—I do not know.

3069. There has never been the slightest objection to it in Ireland, and the Vaccination Act is set at defiance in England?—I think that is a question of religious scruples more than anything else.

3070. Dr. T. THOMSON.—In England?—Yes.

3071. Oh, no. In that respect the English are less law abiding than the Irish.

3072. CHAIRMAN.—You say that powers should be got to prevent houses being turned into tenements till they are certified as structurally fit?

3073. There is such power, I believe——

3074. *Sir Charles Cameron*.—We are taking it under the new bye-laws if it is not declared *ultra vires*.

3075. *Witness*.—I do not think it desirable that anyone should turn them into tenement houses unless they are structurally fit for that purpose.

3076. CHAIRMAN.—With regard to the mode of collecting and getting rid of the refuse in Belfast, how do you do that?—We are not as far advanced in that as you are. We have not got the length of the pail system yet. We have the ashpit system, and we clear them out four times a year. But some houses we clear daily. In houses where there has been typhoid fever we put in a pail, and when it is full we take it out and replace it with a second one, and disinfect it. But the general cleansing is the ashpit cleansing four times a year from this small house property. The new ashpits are all covered now. The old ones were open and in a bad state.

3077. Right Hon. Alderman MEADE.—And these ashpits are in the backs of the houses?—Yes; the usual space of the yard—about 100 square feet. I prefer the pail system, but it is expensive. We pay £18,000 on it at present, and the ratepayers will not stand any more.

3078. The yards are small, and you have to take four feet off that?—The regulation is that they should be 100 square feet.

3079. That is taking a 12-foot wide house, it would have an 8-foot yard?—More—about ten feet.

3080. And the ashpit would be four feet?—No: we make it as small as possible.

3081. It has to hold three months' ashes?—The whole would be about a quarter of a ton, I think.

3082. Then do you send it out to sea?—No. We are putting up a destructor at present, but have only commenced it. At present we are depositing it on the low ground along by the docks—the slob land.

3083. The Queen's Island?—By the side of the sea.

3084. I believe your death rate in Belfast is quite as high as ours in Dublin?—No, sir.

3085. What is the difference?—I will just show you. The death rate in Belfast in 1890 was 26·7, and in 1891 it was 25·5, while in 1898 it was 22·8, and 1899, 22·6. That shows a reduction from 26·7 to 22·6.

3086. Dr. T. THOMSON.—What is your death rate for 1898?—22·8.

3087. Right Hon. Alderman MEADE.—We have a return here of the death rate in Belfast in 1898, and that gives the recorded death rate as 25·3 and the corrected death rate 29·1?—That is imaginary.

3088. *Sir Charles Cameron*.—As corrected for age and sex distribution?—We do not correct for that. 22·8 is our figure for that year.

3089. Dr. T. THOMSON.—Is that the recorded death rate for that year?—Yes; these are figures prepared by Dr. Whittaker. You must remember that the Registrar-General made a mistake in the population of Belfast by 41,000, which materially affects the death rate. On the 1st April, 1899, the population of Belfast according to the Registrar-General was 308,960. On the 8th April of the same year the population jumped up to 350,000—that is a jump of 41,000. That meant, of course, that he was under-estimating it for years.

3090. Dr. J. W. MOORE.—You say he made a mistake. I think that that is hardly accurate. He went on the population of 1891; and, when Mr. Otto Jaffe was Lord Mayor, he made a representation to the Registrar-General as to the correction of the population, to which the Registrar-General at once acceded?—Yes; but I would consider that the Registrar-General, in the future corrected statistics, should see and get the necessary information to enable him to give correct statistics; and if he knows that a certain town is growing, that building is going on and the population increasing, and keeps his old population, then his death rates are fallacious.

3091. I may tell you that I believe that the population of Dublin is under-estimated at present?—I am quite with you, if you prove that.

3092. It will be proved by the census of next year; and I question whether it was wise to allow Belfast to correct them?—But I am only drawing your attention to it. We have had a steady reduction of the death rate of Belfast in the last ten years.

3093. Right Hon. Alderman MEADE.—You use your refuse for making ground for building purposes?—Yes, but not now. It will be used for docks, &c. We do not allow such ground to be built upon, except under special conditions. It must be inspected by the Medical Officer of Health.

3094. Has any such ground been so used?—Not recently.

3095. How long ago?—Not for six or seven years. The Council set themselves against it. I know one case where they would not allow houses to be built on the ground at all. They may after a lapse of years, but not at present.

3096. Dr. T. THOMSON.—You have told us with regard to the houses in the poorer districts in Dublin, that each house should be occupied by one family?—That they should be self-contained houses.

3097. Do you refer to the tenement houses?—It depends on the number of rooms. I do not think it would matter much if you had sufficient accommodation on each landing, and one person made responsible for it; but in a four-storey tenement I object to the use of the same sanitary accommodation by four responsible persons. I would have one person responsible for the building.

3098. If that were so, would you object to one room being used by one family?—Yes, but make one man

responsible for the whole and fine him sharply if he does not keep his self-contained house in a sanitary state.

3099. And, if you had several rooms on one floor, occupied by different families—if there were three families, for instance, how many water-closets should each floor have for the three families?—I do not like several families using the same water closet—for how can you have the privacy of the sexes. I am totally opposed to it.

3100. But you say that if properly controlled you would not object to a family living in a single room?—I don't like it—a man may have a wife and grown-up daughters.

3101 You have had a good deal to do with sanitary administration. If you had an old woman, with no children and no husband, would you insist on her having more than one room?—That would be a special case.

3102. Supposing you had a man and his wife, and no children, would you insist on their having more than one room?—That is rather an exceptional instance, but as a general rule I would like more than one room—I mean where they have children—as a general rule.

3103. But, supposing you had three rooms on one landing, each occupied by a man and his wife, what amount of water-closet accommodation would you require?—If they were three separate families I would have three water-closets—one for each room.

3104. Would not that make your annexe a large building?—No; I don't think so.

3105. How many sinks would there be?—One sink and three water-closets. What I want is that they are not to have to go down to the basement for their water supply and these things; for they will not do it, and they chuck things out of the window in preference.

3106. And you tell us that the insanitary condition of the slums of Dublin is very much exaggerated. Tell us precisely in what respect?—Oh, I will not go that length. What I mean is this—that some of the houses were cleaner than I expected to find them. I did not find much filth about the rooms.

3107. And the staircases?—The staircases were not as dirty as I expected. The places that were dirty were the sanitary accommodation and the yards.

3108. Are we to take it that you think that there has been exaggeration regarding the condition of the rooms and staircases in these tenements?—From what I have read in the papers I expected to find them worse than I did find them.

3109. In these respects?—Yes.

3110. Right Hon. Alderman MEADE.—They made it out worse?—I expected to find them worse from the accounts that I heard; but the houses were, some of them, thoroughly dilapidated.

3111. Dr. THOMSON.—Are these the only points on which you think there has been exaggeration?—Yes, the only points; but there has been no exaggeration with regard to the state of the water-closets and the excreta lying about them, and matters of that kind.

3112. Did you see many of the tenement houses in the city?—No: I went around with Dr. Hope and Sir Charles Cameron.

3113. Could you tell us how many you saw?—I could not.

3114. Did you see a score?—I suppose we were in twenty houses. I presume we were, but I am not giving you the figures. I am only giving you my own impression. You will have to take it for what it is worth.

3115. Dr. R. L. SWAN.—There are 32,000 tenement houses in Dublin. Do you think it an easy matter to keep these tenements in good order, or to prevent the people living in them from abusing the sanitary accommodation?—No; I think it is one of the most difficult tasks that a sanitary authority could be asked to do, and that Dublin is exceptionally unfortunately situated, compared with any city that I know of, in that respect.

3116. You appear then, not to attribute the condition of the tenements so much to the habits of the people as to the sanitary accommodation provided?—I cannot answer that question. I would say that the houses are structurally unfit for the purposes to which they are put.

3117. If the people had proper sanitary accommodation, do you think they would be able to use the tenements?—They would. I think they would be all right if they had.

3118. And you would hold the landlords or the tenants legally responsible for the insanitary condition of the tenements?—I would certainly hold the agent—the man who levies the rents—responsible. We invariably go for the agents.

3119. You would not fix the legal responsibility on one of the tenants?—If a tenant kept his room or his part of the house in a dirty state, I would like to fix the legal responsibility for that on the particular tenant; but Sir Charles Cameron tells me that the magistrate refuses to convict in these cases, which, I think, a great error in the law. As regards the dilapidation, the want of sanitary accommodation, and the defective state of the premises, it is the agent who is legally the owner, and he should be held responsible; and you have full power, in my opinion, to take nearly all these houses into court, owing to their defective state.

3120. Right Hon. Alderman MEADE.—I don't think we agree as to what the meaning of the word is. What do you mean by that exactly?—The man who levies the rents.

3121. He may be a man working for £1 a week?—In Belfast they are men usually in the regular business of rent agents.

3122. We find that in Dublin the agents for tenement property are generally in a worse position than the tenants themselves?—I don't know that that is any reason why the property should be allowed to be insanitary.

3123. But, if a decree is given, how would you recover?—Then close up the house until it is put in a sanitary condition. The house is dilapidated and the accommodation defective.

3124. Would it not be better to go against the owner of the house?—Certainly

3125. And have it a first charge on the rents that are coming in?—I would prefer to give the option—close or reconstruct—which are two simple things. Either close or reconstruct it; make it so that the sanitary authorities will consider it fit and suitable for that purpose.

3126. But take it the way I put it—that, if a nuisance is found to exist in the house, the owner ought to be primariiy responsible, and, when brought before the court, a decree is given against him to put it in order: that the sanitary authority would have the power to carry out the necessary repairs, and have a charge on the rents till that is paid off?—Yes but would it not be better to fine a man so much a day, for if you go and execute repairs on a house for a man of straw, you cannot recover the amount from him.

3127. If you collect the rents you will?—But you may not recover the money from him. Let him be fined. The great difficulty would be, when the Corporation does the work at the expense of the owner, to collect the money. The slightest flaw or matter of procedure may throw you out of court.

3128 We have power to collect from the occupying tenants?—We would not do that. We would go for a closing order, and if the man did not close let the magistrate deal with him.

3129. But we are met by the difficulty of where to put the people?—You must put them on the outskirts of the town, and close the houses wholesale.

3130. Alderman DOWD.—We have not got the outskirts of the town?—Then the sooner you get possession of them the better.

3131. Dr. J. W. MOORE.—You tell us at the beginning of your evidence that there were very few tenements in Belfast at all comparable with those in Dublin?—Of course we have a good many houses let in lodgings, but they are mostly furnished houses, and we have a few houses where they have each separate rooms and accommodation; but we have no houses that we could compare with your Dublin houses.

3132. Is not the reason for that that Belfast is not an old town?—The centre portions of Belfast are older than you would expect. It was an important place a 100 years ago.

3133. What was the population 100 years ago?—I cannot exactly answer.

3134. 10,000 or 15,000?—I think about 30,000 or 40,000. I think it was about 50,000 in the early part of the century.

3135. With regard to a comparison between Dublin and Belfast, are not the sites somewhat alike?—You mean——

3136. The sites are both on river beds—is not that so?—Yes.

3137. Is not the Lagan comparable to the Liffey?—I think your ground is higher. You rise more above the level of the sea. We are more unfavourably situated, for the low-lying parts of Belfast are very little above the level of the sea.

3138 Have you been tormented with enteric or typhoid fever in Belfast?—Yes; but it is steadily reducing now, and by the water supply which we will get in shortly, we expect we will stand fairly in that matter.

3139. Is that to be derived from the Mourne mountains?—Yes.

3140. Soft water?—Water in which there is no lime—it is a granite formation.

3141. I have here the Registrar-General's returns for 1898, and I find in that year there were 170 deaths from enteric fever in the Dublin registration district, with a population of 349,000, In Belfast the deaths from enteric fever were 640?—Yes, we had an epidemic of typhoid fever in those two years, arising from the cause I gave you, and the result of that was that the Water Commissioners went to Parliament to get powers to buy up every farm on the water areas, so as to prevent in future any pollution from the water of these farms.

3142. It was a water outbreak?—That is the result of our investigation. We sent a man up to the Stoneyford Reservoir, and we found thirty-two farms, and from these farms the liquid matter from the pig-sties, manure heaps and the cow-sheds, were in some cases directly flowing into little water channels and water-courses, and these water-courses were part of the water supply.

3143. Is it your opinion that water drawn from a rural district is a standing menace to the health of a large town?—No; I do not say that. I would not go that length. In what respect?

3144. In the respect that the source of the water supply is poisoned?—I should say that it should not be drawn from arable land, as far as possible, and that the greatest care should be taken to have early notification of infectious diseases, so as not to have people with typhoid fever on these areas without special precautions being taken.

3145. You may not be aware that Dublin city was recently visited with an epidemic of typhoid fever owing to lax administration in a neighbouring district?—I am not prepared to contradict you. I am sure it is quite possible.

3146. Are you quite satisfied with the summer diarrhœa death rate in Belfast?—We stand much about the same as Dublin.

3147. Is it falling or increasing?—I will give you the exact figures. In 1890 it was 247; in 1891, 276; in 1892, 286; in 1893, 599; in 1894, 197; in 1895, 325; in 1896, 206; in 1897, 355; in 1898, 356, and in 1899, 285. I think it is pretty much the same all over, considering the increasing population,

3148. In four of the years mentioned you had a very widespread epidemic?—Yes,

3149. You have strongly advised the transplanting of a large proportion of the population of Dublin to the suburbs?—Yes, sir.

3150. To what suburbs?—Say three miles out of the city, or two miles.

3151. Are you aware that most of the suburbs around Dublin are all in a more or less congested state already?—No. Is there no vacant ground in the neighbourhood of Dublin?

3152. The suburbs that you speak of are Pembroke, Rathmines, &c. I don't know. I simply mean if you had extended your area similarly to what Belfast has got, you would have quite an amount of unoccupied land on which to build.

3153. The suburbs around Dublin have a population of 100,000 already. Are you aware of this fact——that in at least three of the city districts there are large vacant areas at present. I may mention them. There is 1 E. District on the north side, which I do not approve of; but there are other open spaces available for building on the north-west side. You will see, the coloured space on the map. You will see to the north of the Phœnix Park we can go into the country into a No Man's Land?—Any of these places, any place that is not filled up, and that is open, and where you can get the people out of the centre of the city. When I say "suburbs," I simply mean the extended area within a certain distance from the centre of the city in any unoccupied ground. Just now we are building at Ligoniel, three miles from the centre of Belfast; and Strandtown, which is full of residences, and we have a lot there. Of course nice people do not like it, and they say it reduces the value of their property, and the children are disagreeable, but as a Public Health officer I am bound to say it is the right thing to do.

3154. I may tell you that towards the north-west there is an unlimited area—figuratively wide as the Sahara—for building purposes?—Then, why not the Corporation take a few hundred acres there, lay it out in building ground, and sell it to builders on condition that they build houses for the working classes.

3155. Right Hon. Alderman MEADE.—Suppose you did all that, how would you bring the people on the north-west area down to the extreme south east to their work?—I find that people are not now so much inclined to live near their work. You have cheap trams, and with workingmen's trams in the morning, and your general tram system, they would not feel that so much. I suppose you live a good deal off from your work yourself? I know I do.

3156. If you go to the extreme north-west, and bring workmen eight miles to their work?—That would be rather much.

3157. Dr. R. L. SWAN.—That was the question that I was going to ask you?—I should say eight miles would be too much.

3158. When we speak of the extension of our boundaries, we mean to take the centre of the city, and there strike a circle of about five miles radius, and take the whole thing?—How many acres will that be?

3159. Twenty-five circular miles. You will have to get some one to calculate it.

Mr. CHARLES EASON, J.P., Hon. Secretary of the Philanthropic Reform Association, examined.

3160. CHAIRMAN. — You wish to give us some evidence with regard to the bye-laws for houses let in lodgings?—Yes. I wish to refer first briefly to the origin of the bye-laws, and how the matter of the revised bye-laws stands at the present time—The Royal Commission of 1879–80——

3161. You are not referring to the bye-laws for common lodgings?—No; entirely to the bye-laws for houses occupied by more than one family. At the time that Commission was sitting the bye-laws were under revision, and they were adopted by the Corporation—the present bye-laws—in November, 1880, and were approved by the Local Government Board of that day. And I may mention that the Royal Commission stated, in reference to the tenements of Dublin, that they were not at that time properly classified, or registered, or regulated. These bye-laws have never been revised up to the present time. At the Housing of the Working Classes Commission in 1885, the late Registrar-General gave evidence; and he stated in a paper which he read, and which appears in the *Dublin Journal of Medical Science* in July, 1885, that the bye-laws then were extremely defective. He went through them in detail, and pointed out how inadequate they were to cope with the defects of tenement houses. That was in July, 1885, and nothing has been completed up to the present time.

3162. You are aware that they are under consideration now?—I am coming on to that. At the Health Congress which met in Dublin in August, 1898, a paper was read by Mrs. Tolerton, Secretary of the Philanthrophic Reform Association, in which she described the condition of the tenement houses, and in September articles appeared in all the newspapers, more or less pointing out the defects in the tenement houses, and a series of articles in the *Daily Nation*, giving specific instances and examples of the filthy condition of the tenement houses. A meeting of our association was held on September 23rd, at which were passed resolutions* which you will find at page 13 of the 3rd report of our association, in reference to the need of a more vigorous enforcement of the powers of the Public Health Act in relation to tenement houses, and in which we urge that the bye-laws should be revised, and also that women should be appointed as sanitary inspectors. Now, the Lord Mayor and Sir Charles Cameron were present at that meeting, and they met us in a very friendly and sympathetic way. They perfectly admitted the defects, and stated that steps were being taken to improve them; and at that meeting Sir Charles Cameron produced what he said was a revised edition of the bye-laws. There is the revision (producing copy). I have only one copy, and I think it is rather valuable; it is practically the bye-laws of 1880, with only one or two verbal changes. So that up to the time of that meeting the necessity of a radical recasting of the bye-laws had not become apparent to the Corporation. That is why I want to refer to it. After that meeting, at which a great deal was said about the model bye-laws of the English Local Government Board, the Corporation of Dublin prepared a set of bye laws which were largely based on the model bye-laws. A paper was read by me before the Statistical Society on December 13th, 1898, in which I discussed these bye-laws and compared them with those of other towns. Then pass on to September 22nd of last year, when the executive committee of our association sent a report to the Public Health Committee containing suggestions with regard to the draft bye-laws. Now, I would ask you just to refer to the suggestions we made.†

3163. Right Hon. Alderman MEADE.—Does this bring us down to the present?—The present revision is now to be considered by this Commission; it is dated 1900, and I hope you are in possession of copies of the bye-laws which Sir Charles Cameron mentioned as being ready for adoption by the Corporation, and in regard to which he expressed himself satisfied that they were very fair and satisfactory. These bye-laws to a certain extent—I don't think I should say to a large extent—follow our recommendations, but they ignore some most important suggestions, and I would like, with your permission, to run through them rapidly, pointing out what I consider their present defects.

3164. You propose to take up our present set of bye-laws, which are waiting for approval, and you want to show what suggestions you make for their further alteration and improvement?—Briefly, I do, and I want to draw your attention to this, that I think that you, as a Committee here, have power to secure that this revision shall be a very thorough one. Dr. Grimshaw, as long ago as 1885, pointed out the defects of the bye-laws, and yet they remain unremedied. Something is to be done to make the citizens of Dublin feel the necessity for better regulation and enforcement of them, and I am sure that Sir Charles Cameron would be only too glad to know that he had a strong public opinion at his back in making the bye-laws thoroughly effective. One of the first suggestions we made was:—"That the terms 'owner' and 'occupier' should be dispensed with and the terms 'landlord, and 'lodger,' as used in the model bye-laws, should be adopted." And as to the term "lodger," its meaning should be extended in the same way as in the city of London, so as to make it to include any person who occupies a room by permission of the person who pays the rent for it. But we suggest for Dublin that the word "lodger" should not be used, but the word "roomkeeper," for it is a term well known in Dublin for such persons occupying tenement houses, and as to the word "lodger," we are told that a number of technical questions might be raised as to it, which makes it undesirable to have the magistrate's mind confused by the use of the term "lodger." We suggest this, as you will notice, that it is very difficult to determine who is the owner. If you say the "occupier" is the person occupying the room by agreement with the owner, and the "owner" is the person who receives the rack rent, it is difficult to find out who is responsible. We consider that attention should be turned to the fundamental fact, as to who is living in the room and who is paying the rent. The receiver of the rent should be the person to carry out the bye-laws and regulations laid down on the landlord. Now I want you to turn to page 4, to the "Procedure as to Registration." I would take the first clause, and strike out all the words from "houses" to "family," and simply say—"Every tenement house shall be subject to the following regulations." As to the licence for conversion, it is not necessary, but I see no objection to it if the Corporation wish to have it in.

3165. You are referring to the bye-laws now?—Yes. Turn to page 4. The grouping of these bye-laws is intended to be something like this. First of all, that every house is to be registered, and every registered house is to have certain things necessary for sanitary accommodation; and therefore, the clauses relating to construction of drains and water-closets should be transferred from page 9, and be brought under the conditions at the beginning—"Structures to be provided"—if the Corporation think it is necessary to leave such clauses in the bye-laws. I am not sure that it is either necessary or advisable; it is sufficient if it is provided in general that no one should be permitted to let a tenement house until he has provided sanitary accommodation and

* See Appendix.

† See Appendix.

these other things to the approval of the authorities, I do not think it is necessary then to define in detail how the structures are to be made.

3166. You did not take a copy of our bye-laws, and alter it the way you suggest they should be altered?—No, I have not. In regard to that I would refer back again to our letter. Our idea was this: in our letter we said:—"If our suggestions are approved of, and the bye-laws are re-arranged, the process of re-arrangement will, of itself, suggest to you the condensing and reconstruction of a number of the bye-laws, and we think it would be best for us not to make any suggestions as to the details under each head until the bye-laws have been again revised by your Council, and when this is done we will be glad to have them again submitted to us and we will make any further suggestions that may be necessary." I would suggest that, before the bye-laws are submitted to the Local Government Board, they should be sent to the Sanitary Association and our own association, and suggestions in detail asked with regard to them; and I think you will see, with regard to some of the remarks I have yet to make, the reason for that. I would suggest if you take bye-law No. 4, you will see that this makes the landlord bound to furnish certain information when applied for; but it is qualified in the form that he is bound to supply the information "necessary for the registration." This should be struck out altogether, for he should be obliged to furnish the information as often, and when it is thought fit by the medical officer of health to provide it. It should not be thus limited; and I would suggest that he should give the size of the rooms as well as the manner of use, and also the number of windows in each room.

3167. Might I ask you if he has supplied the information here—the total number of rooms in the house, the manner of use of each room, and the total rooms let for lodgings—why should he be called on time after time at the instance of anyone to make out fresh reports?—Because the tenants in the houses are constantly changing, and the information as to the numbers, age and sex of the occupants given two years ago—or even one—is no use to the Sanitary Authority. It is presumed that officer would use the power with discretion, and not be constantly harassing them with returns. But it is to give him the power when he thinks fit, to get a return of the number of persons to whom he has let the premises. Then it is necessary to make it an offence on someone's part to let a house in an insanitary condition, and, instead of saying that the landlord should provide so and so, I would say that no part of a tenement house shall be let till the following structural arrangements have been provided and approved by the Sanitary Authority. "(1) Sanitary accommodation of suitable construction, and adequate to the number of persons for whom the house may be certified. (2) Receptacles for a dry house refuse." That is provided for in No. 10 at present, and I would say with regard to that, that it would be quite reasonable for the Corporation to require such an ash-bin for each family, and not one ash-bin for the whole house. Then—"scullery trough, or other suitable means for the disposal of slop and liquid refuse. (4) A supply of pure water." I was glad to hear what Doctor Scott said as to the absolute necessity to have pure water all over the house. I know the difficulties of doing so. It is stated that the tenants destroy pipes and cut them away. We wrote to the city of Glasgow, which has very good city bye-laws, and we asked them what their experience was in this matter, and the officer who was deputed to reply stated:—"As to the cutting of pipes, as these are almost all covered and out of sight, we have no trouble in this connection." It would be well for the Corporation to find out how the Glasgow people got out of that difficulty, which is a real one.

3167A. Alderman DOWD.—Does that refer to similar houses in Dublin?—So far as the two cities can be similar. It refers to houses let in lodgings. Now pass on to clause 7. It runs thus:—"The owner shall have supplied thereto and shall maintain." What the landlord is to "maintain" is all dealt with under the head "Maintenance of Premises;" and, grammatically, that should be struck out. Bye-law No. 8 is—"The owner shall put up a ticket, showing the number of persons sleeping in each room." But it is clause 27 which states the space to be allowed for each person. That clause should be transferred to this page before the regulation as to the necessity of putting up a ticket. You have a formidable list of bye-laws as to "maintenance" which are to a large extent repetitions. I think it would be sufficient to have a single bye-law to the effect that the landlord shall maintain all the structural arrangements, as specified in the bye-laws, in good working order and condition. The shorter you make the bye-laws the better. I should like to point out—to show that there has been no revision of these bye-laws—in 19 and 20 the regulations for the maintenance of the scullery trough are repeated, and the words "such pavement" have no previous reference as they stand there. That requires to be remodelled.

3168. CHAIRMAN.—What is that?—Nineteen. "He shall cause such pavement." That is right enough; but it is plain from the way the bye-laws read that they have not been gone over thoroughly. I ask you now to pass on to the inspection. I wish to point out—to repeat what Dr. Grimshaw said in reference to the inspection. It was limited to something like 9 to 4 o'clock in the afternoon. He said it was utterly impossible to discover overcrowding at such hours. I should like the Committee to ask Mr. Scott, when he said he never saw a room with four families and the landlord in the middle, whether he expected to find it in the daylight. Did he examine the houses in the middle of the night by surprise visits. If he did his evidence would be more likely to be reliable. Under these conditions of inspection I doubt very much whether it is in any one's power to discover such things, though they may occasionally occur.

3168A. Right Hon. Alderman MEADE.—This is scarcely positive evidence, is it?—On my part?

3169. On anyone's part?—But you see——

3169A. Has it occurred?

3170. Sir *Charles Cameron*.—I did not say that such an extreme case is frequent, although it may occur. It is not made on my authority. We have it proved that there is overcrowding in the city, and occasionally some people find several families in one room. *Witness*.—Now take section 25—"The owner of every house let in lodgings shall keep legible, in a conspicuous place of every sleeping room, a ticket showing the number of persons allowed to sleep in such room. Such ticket can be obtained from the sanitary sub officer, or at the office of the Sanitary Authority." This is supposed to be the duty of the landlord. To keep the ticket legible is not the duty of the landlord at all. That is quite impossible for the landlord to do. That is the duty of the person who lives in the room. Then section 26—"The owner of a tenement house shall not allow any room in it to be occupied by a larger number of persons than the room is registered to accommodate." This is a most important provision—the duty which should be thrown on the landlord in reference to overcrowding. I don't think the landlord can prevent a room being occupied; but he can prevent it from being *let* to a large number of persons, who, by their number, will overcrowd the room. In regard to the conditions laid down by the local authority, I think it should run—"The landlord of a tenement house shall not *let* any room to be occupied by a larger number of persons, &c."

3170A. Right Hon. Alderman MEADE.—Would not that defeat the bye-law altogether?—No; he can caution the roomkeeper not to let it.

3171. If it is used for that purpose, though the landlord did not let it?—If it is used contrary to his

knowledge. The bye-law will be ineffectual if you throw duties on persons which they cannot be expected to perform. It is the duty of the inspectors to find out if the roomkeepers are breaking the law by permitting a larger number to occupy a room than is allowed by the bye-law.

3172. Have you any experience of the Police Court? Would you get convictions against a roomkeeper, or, for that matter, against a landlord?—Nothing will be done if we don't try. The present difficulty is due to this feeling, that it is utterly impossible to do anything. The difficulties are, of course, very great; but if the citizens can be roused to a healthy state of public opinion on the matter, and if they will support the Corporation, I am quite certain that the magistrates will be ready to enforce the law if it is properly put before them. With regard to notification of infectious diseases, I would suggest—it is only a small matter—that notification, with regard to infectious diseases, should be put at the end of the bye-laws under one head. And as to the duties, section 29 says that it shall be the duty of the owner of the house to report any case of infectious disease. That ought to be amended by saying "if it comes to his knowledge." He cannot be supposed to know the health of the people at all times. Section 33 deals with the exclusive use of premises and the duties of the roomkeeper. There is not a word of definition as to who a roomkepeer is. It would be interesting to know how the word "roomkeeper" got in there. It ought to have been defined.

3173. You mean that in the definitions there is no definition of "roomkeeper"?—There is no allusion made to "roomkeeper" at all. It is right as it stands, but it shows that the bye-laws have not been revised. I ask you, Mr. Chairman, that you might fairly ask Sir Charles Cameron whether they have been approved of by the law officers of the Corporation.

Sir *Charles Cameron.*—No.

3174. *Witness.*—And whether they have been submitted to counsel to get their approval, or to see what is the legality of them.

3175. CHAIRMAN.—Before they are confirmed by the Local Government Board they are submitted to the Local Government Board's legal adviser, who is a Queen's Counsel.

3176. Sir *Charles Cameron.*—They have not been sent to our legal adviser yet.

Witness.—With all due respect to the Corporation, before the Public Health Committee adopt bye-laws, it should be their duty to get a report on them from their law advisers. They should not adopt bye-laws, and recommend them, without letting the law officers see that they are right.

3177. Sir *Charles Cameron.*—They have not done so.

Witness.—The first duty of a roomkeeper should be not to permit overcrowding. There is no bye-law in reference to that at all, and one should be introduced corresponding to No. 5 of the model bye-laws of the English Local Government Board. I don't know that I need say anything further. The bye-laws in reference to cleanliness are important. It was for the want of them that the prosecution to which Sir Charles Cameron alluded failed, where a tenant in a room was prosecuted. The Corporation could have had full local powers under the bye-laws, and the failure must not be thrown on the law, but must attach to the Corporation. Now, consider Bye-law 44 about joint liability, it says, "When any water-closet is fouled or injured, or when filth is deposited on the approaches to it, all the occupiers who use it in common may be prosecuted if the person or persons who have caused the fouling or injury cannot be identified." That is a point on which a great deal of controversy will arise. We are entirely in favour of trying to enforce joint liability. Sir Charles Cameron knows perfectly well that that bye-law is *ultra vires*, and will be struck out by the law officers should it come under the Local Government Board. It is now decided, on full authority, that it is *ultra vires*, and why they should persevere in introducing it I don't know. I would be glad to see such a bye-law; but it is not the law at the present time, and we might as well strike it out at once.

3178. *Sir Charles Cameron.*—We won't.

3179. CHAIRMAN.—Is the decision you referred to a very recent one?—Yes; there was a case stated by the magistrates, and it was argued before the Court to get the question settled, and it is authoritative, and put the whole case fairly before you. There is no such bye-law in any of the English bye-laws under the Local Government Act, and no such bye-law in the model bye-laws of the Local Government Board. This raises a strong presumption that it would be illegal. Of course it is founded on section 21 of the Public Health Amendment Act, which it has been decided applies only to outside structures used by two houses in common.

3180. *Sir Charles Cameron.*—The magistrates said we might try a bye-law. I am taking your own statement.

3181. Right Hon. Alderman MEADE.—We have Mr. Eason's opinion that it is *ultra vires*?—My opinion is based on the fact that the Corporation got a decision against it. They never appealed.

3182. *Sir Charles Cameron.*—We had no bye-law.

3183. CHAIRMAN.—If it is *ultra vires* it will not be confirmed?—No.

3184. Right Hon. Alderman MEADE.—What will we do?—The responsibility is on the Corporation to get increased powers. This is not the only case in which additional legislation would be of great benefit to the Corporation. If the Corporation find that they have not adequate powers to deal with them, they do not discharge their duty by remaining passive and leaving themselves without the power they require to carry out what is necessary. By so doing the effect is to injure the health of the city. I should like to mention, in connection with this, that at the meeting of our society which I referred to, on September 23rd, Dr. Anthony Roche declared himself strongly opposed to the bye-law, and it is most important that if it is to be done, it should be with the full concurrence of the public opinion of the citizens. Unless the citizens show that they want it, and are ready to obey it, there is no use in putting it into the Act. All your laws and bye-laws should be in concurrence with a healthy public opinion, if you want to get them vigorously enforced. The general provisions No. 45 to No. 49 should be summarised and abbreviated. They go on to tell us that no person, whether landlord or lodger, or person on the premises, is to obstruct the sanitary officers; and everyone is to give access to all parts of the house, and to assist the officers when called on. In No. 50 there is the curious anomaly that a special penalty can be enforced of £1 for an offence. It states, "An occupier in a tenement house or an occupier in any room therein shall not throw any liquid, filth, or wet refuse into any ash-bin or receptacle belonging to such house, and constructed and adapted for use only as receptacle for ashes, dust and dry refuse. Only dry refuse will be removed from such dust-bins, and any person putting into them liquid slops, or allowing their contents to be moistened by rain or otherwise, or by allowing them, when not in use, to be exposed to the weather, so as to cause a nuisance, shall be guilty of an offence, and shall be subject to a penalty of one pound for every such offence." There is no need to put a penalty on this particular offence. It should come under the general penalty clause at the end.

3187. Right Hon. Alderman MEADE.—Isn't it very necessary to put a special penalty on it?—It is not.

3188. For filling it with excrement and everything?—Everything is liable to a penalty; but there is the general penalty, and you could go to £5 with a lighter punishment if there is no previous offence. I don't see the need for a special penalty. Bye law 53 states—"That no adult of opposite sexes, save husband and wife, shall sleep in the same apartment, and no room shall be let or used as a sleeping apartment, unless it shall have at least one window." That bye-law consists of two parts, which have no connection with one another. The first part deals with the separation of the sexes, and the second is a reference to structural provisions, which should go at the beginning as part of the conditions, viz., that no room should be let as a sleeping apartment without a window. No one can object to that. The other matter is of extreme difficulty to enforce, and if the Corporation see their way to enforce it, let them put it in. The Local Government Board of England refers to it in their model bye-laws, and they don't insert it, knowing the difficulty. In Glasgow and Aberdeen they do, and if it is capable of being enforced in other towns I should like to see it enforced here. There are one or two additional points about which legislation might be necessary in connection with the bye-laws. In case of damage to property, done by roomkeepers, at present you can only get a civil remedy. I don't see that there should be any objection to making it a criminal offence—that of damage to property. If the penalty is not paid—if the fine is not paid—they should be liable to imprisonment. Those people are mostly no mark for fines, and it would be well they should feel that they cannot escape. Another point which might help in the administration would be to amend the law of ejectment. The law of ejectment is complicated in two ways. In the first place you can only get an ejectment before a magistrate if the rent is under 4*s*. 7*d*. That might be extended, I think, to 7*s*., and they ought to be liable to be evicted by a magistrate without having to go to the Recorder. It is estimated that £10,000 a year is lost through various delays, and the damages and expenses, and then, as was stated by Mr. Scott, you are very liable to be defeated on a point of procedure. If you shorten the time of getting a tenant out, you will do a great deal to help the landlords and keep down the rents, because if you diminish the expenses of keeping the houses, it will have a tendency to reduce the rents. Then, with regard to the improvement in administration, I think that something might be done in the direction mentioned by the witness who was examined from Liverpool, in organising the sanitary staff, and by the inspection of tenement houses more closely, and confining the duties more closely to inspection, say, by persons of experience in the bye-laws, who would pay special attention to them. Women inspectors have been appointed, and the numbers increased recently, but they are only temporary. It would be very well if an expression of opinion went forward that they should be permanently kept on. There are, of course, some sections of the work can be better done by men; but there are particular sections which can be done better by women inspectors, and by their going in and out among the women occupying the houses, and pointing out to them their duty.

3189. Right Hon. Alderman MEADE.—What number of women would you recommend?—That is a detail I must leave to the sanitary authorities. I would not attempt to define what it should be. I have no opinion on it, not knowing the details of the work sufficiently.

3190. Dr. R. L. SWAN.—Would you allow prosecutions to be carried out by the sanitary sub-inspectors; that must take up a great deal of their time in Dublin. You cannot compare them favourably, for instance, with the sanitary sub-officers in Liverpool, where prosecutions are scarcely ever undertaken. I forget the exact numbers; perhaps Sir Charles Cameron has them?

3191. *Sir Charles Cameron.*—Four times the number of prosecutions in Dublin as compared with all the great towns in England—including Liverpool—that we had returns from.

3192. *Witness.*—I was struck with the statement of them.

3193. *Sir Charles Cameron.*—One-third of their time was taken up in the Police Courts.

3194. *Witness.*—That would be a reason for having a larger staff in proportion. If you had more efficient bye-laws prosecutions would be gone through more rapidly, and you would have the matters more clearly defined.

3195. *Sir Charles Cameron.*—We have more of them.

3196. *Witness.*—Certainly, reform must be gradual. It is a very formidable problem. The houses were classified in the recommendation of the Royal Commission of 1880 very much on the lines repeated by several witnesses here, namely, those that are fairly suitable, those that could be made suitable, and those that are absolutely unfit for use. The citizens could co-operate in the matter. In London, Manchester, and Birmingham a good deal is done to assist the Corporation by the help of visitors, and in Manchester portion of the payment for the help of visitors is made by the Corporation. They go about among the people, teaching cleanliness and showing reasons for the regulations, and getting them to conform to them. In London the Mansion House Council for the Dwellings of the Poor do the same thing. They carry out prosecutions in certain cases or report them for prosecution. I don't want to deny the responsibility of the people themselves. It is necessary to say that while we do not excuse either the Corporation or the general citizens, working people may feel satisfied that we can do very little for them if they won't help themselves. Unless they have courage to combine to keep those places which are used in common in something like decent order; and to report those of their number who do not; unless they will join good landlords in trying to get the bye-laws carried out, it is impossible for a sanitary officer or anyone else to get them put in thoroughly proper condition. There is another point I should like to suggest, in which legislation might help, and that is the punishment of persons on the premises who disturb respectable tenants; such as drunken persons. That is a matter which would require legislation, but there might be a special penalty in the case of drunkards. Every employer will know of cases in which you ask a person why he is late in the morning, and he will say he did not get any sleep in the night owing to the uproarious conduct carried on in the rooms. There is no control over them at all. With regard to the question of ownership, I would suggest that as the matter is one in which public interest is so great, the owners should be registered. There are a great number of persons interested in the houses. I think that there should be a register of owners kept, so that the Sanitary Authority will know who is the person who is deriving benefit from the premises. The Local Government Board of England was asked to permit such a register to be started in West Ham, but they refused. I don't know why; perhaps because they had not legal authority. If so, I think the Corporation should see that they get legal authority. I concur with Sir Charles Cameron in the suggestion about distributing the cost of structural alterations over the owners having different interests, where the immediate rack-renter is a man who has only a short term. There should also be increased powers for pauper landlords. I don't think Part II. of the Act of 1890 has been used as energetically as it

might. I should like to know if the Corporation have tried to push that. It gives powers which are rather valuable, but they don't seem to have been exercised much. The London County Council are applying for places outside to build house which will be additional to those in their own area. I don't see why the Dublin Corporation should not do the same. The extension of the city boundary would do something, but in the meantime they might get power to take space outside. Great weight should be allowed to the statement made by Dr. Moore, that there are large areas within the city which could be taken by the Corporation. In reference to derelict houses, and houses not used for want of title, that difficulty has been grappled with in other places. In Scotland they have Acts dealing with that, and I don't see why the Corporation should not take power to take those houses—and have arbitration as to the value, and deposit the money for the owner should anyone turn up ; and in the meantime rebuild the houses, making them habitable for the poor. With regard to the health of Dublin, and the condition of the children, the Liverpool Corporation has taken powers under its Act of 1898—to deal with the trading of children in the streets—which would be of great help in protecting the children of this city. I don't see why the Corporation should not follow the example set to them by other towns on the matter; or, indeed, we should be setting an example to them, instead of always following England and Scotland in these matters. With regard to the Local Government Board, I should like to say this in reference to their position in the matter: that while the Corporation are to blame for not having improved bye-laws—and the citizens also are to blame—the Local Government Board is not free from blame. When Mr. Wodsworth was cross-examined in 1885, he admitted that he knew the English Local Government Board issued model bye-laws, and said he did not think them necessary in Ireland. That is the position of the Local Government Board up to the present. Have they remonstrated with the Corporation for having inadequate bye-laws? It is not too much to ask the Local Government Board to keep up a high standard before the local authorities, and show them the way.

3196. CHAIRMAN.—I don't know whether you know that the English model bye-laws are universally used in Ireland in drafting the bye-laws?—I believe they are perfectly applicable, but in Ireland everyone takes, as a model, the Dublin Corporation bye-laws. If you refer me to a town in Ireland where they follow the English bye-laws——

3197–98. CHAIRMAN.—Are not the Dublin ones modelled on the English bye-laws?—No; they were passed in November, 1880, and the English model bye-laws were not issued till 1881, and so far I would excuse the Dublin Corporation in 1880 for having brought out an inadequate set. You could not blame the Corporation for not at that time following the model bye-laws. I should like to make a suggestion with regard to the forthcoming census. The question of overcrowding in Dublin might be dealt with by the Census Commissioners, and a special return given in regard to Dublin. They must have the power, as the Census Acts are practically the same in this country and in Scotland. In Scotland more detailed information is given as to the number of families in single rooms than in the Dublin census. I think the Registrar-General might be approached in regard to that, and as to whether he could not do something. In reference to the provision of dwellings I want to say that I quite sympathise with Sir Charles Cameron in his statement, and with what Alderman Meade said, that one is reluctant to throw people out of their houses when you have no houses for them to go to. The question is how can you get more houses built. One way is to try and diminish the compensation being paid. The cost is excessive in Dublin, but I am not prepared to admit that the clauses of the Housing of the Working Classes Act have been used vigorously to cut down the amount paid to persons who had these houses. There are stringent clauses in regard to houses unfit for habitation. If the Corporation had a proper standard of fitness less would have been paid for them, and if they have not sufficient power to keep down the prices that is another case in which to apply for greater legal powers. With regard to employers themselves we can all do something, and there is one suggestion I should like to make as to what employers might do. A great deal has been done by the Artisans' Dwellings Company. Employers are willing to do something, but they are frightened by the cost and difficulty. They have not capital to employ in building houses, and there is a plan which could be adopted, which, I think, employers could adopt without involving themselves in indefinite liability. An employer knows if he builds a house for working people, he must not only build it, but he must find tenants, collect the rents, and keep supervision over it. Let employers say to their working people—and this can be done by a man who only employs a single one—the great advantage of it is, that it can be done by any gentleman who has, say, a coachman living in insanitary premises—let him say to the employé, "If you will find yourself sanitary and proper accommodation in the Artisans' Dwellings or in the Corporation Dwellings, I will pay part of the rent." I want you to see the distinction between doing that and increasing his wages. Supposing you pay him 18*s.* a week in wages, and you say you will increase it. If you pay him an additional 2*s.* for rent, he may take a room, but you have no security that it will be a sanitary room, or that he will continue to occupy it; but if you say, "Give me a rent receipt, from the Artisans' Dwellings Company, and I will pay you an additional sum to provide better accommodation," it can be done in that way. That is a charge on the employer, and if you be Guinness, or anyone else, the employer does not get 5 per cent. on his building. The employer, if he lets the house to his own people, he has to solicit them to come and occupy the house; they feel they are under a compliment to him; but if you say to a man, "You occupy premises elsewhere ; you are paying 2*s.* 6*d.* or 3*s.* ; you are getting bad accommodation ; but go into two or three rooms at 5*s.* 6*d.*, and I will pay part of it," individuals can do a great deal to meet the problem. If they do that there will be a demand for these houses, and everyone will be doing something to grapple with this problem. I wish to say this, with regard to the Press, that they should do something. When prosecutions are in the courts sometimes you will notice in the Press that the name of the person prosecuted is not given—the owner's name is carefully suppressed. That shows a want of courage and a want of backbone on the part of the Press—the same want of backbone that they find fault with on the part of the people. They must denounce wickedness in high places, and the magistrates should insist that the names of the persons prosecuted — and the Corporation should insist on it—that they should be published. Some people living outside Dublin are apt, instead of trying to help Dublin, to find fault with Dublin—as if they had no responsibility in the matter. It seems to me that is a very selfish way to look at the whole problem; and unless they will recognise that they have an interest in Dublin, and co-operate with the Corporation instead of hampering it, we cannot expect Dublin to be properly managed. I think that is all that I want to lay before you.

3199. Dr. J. W. MOORE. — I gather from your evidence that you think it very desirable that there should be an ash-bin for each family in a tenement house?—Yes.

3200. At present you are aware that there is only one ashbin for each tenement house—sometimes two?—Yes.

3201. Do not you think that if there was one for

each family, it would be very much more likely to be kept clean?—Yes; I think that is part of the advantage.

3202. The divided responsibility rather tends towards the fouling of the ash-bin?—Yes, it must.

3203. Are you aware whether there are any bye-laws for the regulation of tenements in the several suburban tenements about Dublin—you belong to one of the townships yourself, I believe?—I belong to Dalkey; and there is very little property of that kind in Dalkey.

3204. With regard to Rathmines?—I don't think they have. I think they are practically modelled on the Dublin bye-laws.

3205. There are a great many tenements in Rathmines?—Yes.

3206. And even in the Pembroke township?—Yes.

3207. And you are not aware whether there are existing bye-laws or not?—No; I cannot say anything as to them. With regard to Rathmines, I would like to mention a very important experiment that was made in Rathmines, and which was carried out there for some years. For some years there was a Sanitary Association in Rathmines, which did very much the class of work which I referred to as being done in Manchester and Liverpool; and it ceased to exist after some time, from the difficulty of getting visitors to carry out the work. I want to emphasize this: the blame is not merely on the Corporation of Dublin, but on the citizens of Dublin. They are responsible for the state of the city, and for the action of the Corporation. We must not be surprised if the city is not so healthy as Birmingham and Manchester, where the public spirit is much greater.

3208. Dr. J. W. Moore.—Personally, I consider your criticism of the bye-laws is exceedingly valuable; but I was rather surprised you skipped over Bye-law 27, that no greater number of persons shall occupy a room in such a house than can be accommodated with 400 cubic feet of air for each adult, and 200 cubic feet for each child under ten years. Do you think it is sufficient provision that a child should have only half the air space of an adult?—I should like something better, but that is a technical matter upon which I would not venture to express an opinion. That is a matter specially for medical officers. That is one of the matters Dr. Grimshaw specially referred to in 1885, and he said he would have it struck out rather than put in an inadequate provision.

3209. I suppose you know the best tonic for a young child is fresh air?—Yes, certainly.

3210. Do you consider 300 for an adult being used only as a sleeping room, is sufficient?—No, I do not think that is adequate.

3211. Doesn't the Bye-law 29, to which you also refer—I quite agree with your criticisms, but I don't know whether you are aware of a provision of Sub-section A. of Section 3 of the Notification of Diseases Act. I would strongly suggest to the Corporation that they should embody in that bye-law that sub-section. Here they lay the onus on the person that is last contemplated in the Act, namely, the occupier. There are four different people contemplated in the Act to give the notification. First the head of the family to which such inmate belongs; in his default, the nearest relative of the patient. In default of such relative, every person in charge of or in attendance; and in default of any such person, the occupier. I think it would be far better to embody in that bye-law that provision of the Act?—The head of the family would be the room-keeper, and the "occupier" would be, really, the landlord who let the room.

3212. I would paraphrase the sub-section of the Act in the bye-law to make it intelligible.

3213. Dr. R. L. Swan.—Do you think the various sanitary Acts would enable the sanitary authorities to deal with the graver conditions of these houses—the graver evils?—I think they give them power to set up a high standard, and assist greatly towards enforcing it, and preventing the degradation of the houses at present going on through the inadequate bye-laws. There are some amendments in the Act I believe necessary for Dublin; I quite agree with Sir Charles Cameron in that.

3214. Right Hon. Alderman Meade.—You see no difficulty in supplying and leaving a dust-bin for each room, and having each family identified with its own dust-bin?—Is not that a matter of detail. I would suggest that there should be street dust-bins, and that each of the families should have to bring down their own dust-bin and empty it into that. I do not mean that there should be nine or ten bins in front of each house; but I am quite sure the cleansing staff—with their help in the matter, and the great work they have done—that they could manage to get over a detail of that sort.

3215. Where would you propose these dust-bins would be kept? Do you mean in the rooms?—The refuse is in the room, and it is only a question of putting it into some receptacle to carry it downstairs.

3216. Am I to take it you recommend each family ought to be provided with a dust-bin that they would keep in the room, and the duty would be on each family of taking it down and emptying it into the common dust-bin?—Something like that; but there must be clearly a daily removal.

3217. Sir *Charles Cameron*.—You mean there should be a large general one in the yard?—I would rather leave the details to be worked out by the authorities in charge; but you can see the idea that is in my mind. It would be well to have a receptacle in the room of their own, in addition to that.

Mr. David Prentice examined.

3218. Chairman.—You are an Inspector in the Veterinary Department?—Yes; the Professional Travelling Inspector.

3219. What are the powers of the Privy Council in dealing with these dairy yards?—The Privy Council have not any powers with regard to the regulations for dairy yards; but previous to 1886 they did possess these powers, but they were then transferred by Act of Parliament to the Local Government Board.

3220. And what do you deal with now with regard to dairy yards?—The Veterinary Department of the Privy Council now only deals with dairy yards when there occur outbreaks of certain contagious diseases, such as pleuro-pneumonia, cattle plague, and foot-and-mouth disease.

3221. Can you give us any evidence about the sanitary condition of the Dublin dairy yards?—Up to the year 1892, and, probably, in the year 1893, owing to outbreaks of pleuro-pneumonia which existed amongst Dublin dairy cattle, the Veterinary Department had a great deal to do with the condition of these yards—with cattle in these yards; since that period these yards have been free from this disease; but I have taken the opportunity, recently, to visit a number of yards inside the city of Dublin, and I must say, since the time mentioned, particularly with regard to the condition of the floors of the sheds, a considerable improvement is observable.

3222. Right Hon. Alderman Meade.—Since 1892?—Since 1892. However, with regard to the

floors and the paving of the yards, and drainage from these sheds and manure pits, the improvement is not so apparent.

3223. CHAIRMAN.—What would you suggest as to the yards?—In my opinion, to properly cleanse a yard you must have, first, an impervious flooring that will admit of proper cleansing. A great number of the yards in Dublin have not such floors, and even the drains leading from the sheds are not uniform on the surface, and so formed, where, for instance, they are made of cobble-stones, that the animal excreta, which should flow freely, gets caught in the spaces, and saturates the ground beneath and about. Then I have also noticed, and, I believe it is contrary to the regulations of the Corporation as Sanitary Authority, that a large number of the manure pits, instead of having a flooring also made of some impervious substance, may have got out of order, but are not impervious.

3224. Right Hon. Alderman MEADE.—You think the floors should be impervious? And also the walls of the sheds to a certain height?—When you know that manure from the cattle becomes adhered to the walls of the sheds, I think, up to the height of these cattle, the walls should be made impervious to fluids, so that they could be washed.

3225. And with regard to feeding troughs?—In a number of dairy yards in Dublin, the feeding troughs still are wooden. So far as my recollection will carry me, there is a considerable improvement in that respect, a better class of feeding troughs would be, either iron troughs, or burnt clay troughs, cemented in such a way that no effete matter could be retained.

3226. And with regard to the removal of manure?—I do not think it is removed at all as frequently as it might be. Any person going round these yards and seeing the accumulations of manure which exist in these places can only, to my mind, have that opinion.

3227. Do you think there should be more cleansing and washing than there is done?—Yes; I notice that the Corporation bye-laws require a general cleansing only to take place twice in the year—if my recollection is correct, in the months of February and October. I can well see why those months are put down, probably with regard to the times animals are coming into and leaving the yards; but I think some arrangement should be made whereby, at least once a month, premises should get a general cleansing. It is too much to expect that only twice in the year premises should be generally cleansed, and remain in satisfactory order. Of course, there is a provision—whether it is carried out properly I am not in a position to say—which requires the floors and drains to be washed, at all events, once a day; but, having a casual view of these places, I would not say it is properly adhered to, or practically carried out.

3228. With regard to light in the sheds?—I think there is a good deal more to be done in that respect, from a veterinary surgeon's point of view, going to look at some of the animals, there is certainly not sufficient light; and, I don't think there is sufficient space in a number of these yards. It would be well to have more cubic space.

3229. CHAIRMAN.—What space do you think there should be in the sheds?—Well, I would certainly go up to 600 instead of 500 cubic feet, the present Dublin requirement.

3230. With regard to dairy yards in the suburbs, do you know anything about them?—Well, I have recently also visited some of these dairy yards in the suburbs, and my opinion is, in the suburbs the dairy yards are not kept in as good order as in the city. Only yesterday I happened to be in one of these yards, and I saw a man milking, and I noticed in that yard that several of the cows had manure adhering to their hips and udders. The man was milking a cow, and I saw that there was manure on the udder, and I asked him, "Did you clean the cow before milking her;" and I said why did he not clean her udder. He said, "I did." I asked him to rise so that he could see her udder, and I looked into the milk pail, and, floating on the milk were considerable particles of straw, and, what was evidently manure, which had fallen into the pail from the hair of the cow.

3231. Right Hon. Alderman MEADE.—You did not see this in the city?—No, that was not in the city; that was in one of the townships.

3232. Then one would expect the milk from the dairies in the city to be better than what comes from the townships.

3233. Dr. J. W. MOORE.—Are the orders carried out in the city?—I do not say carried out. On the question of removing the dairies from the city to the country, it might be well for the public health, in so far as the manure and matters daily collected in these yards is concerned; but I know, in the country generally, the standard of cleanliness in dairy yards is inferior to the city.

3234. CHAIRMAN.—With regard to tuberculosis in Dublin dairy cattle?—I have myself seen it in the living animals and the dead animals. I have frequently seen the lungs of animals affected with tuberculosis; but so far as the public health is concerned, I think the udders of milch cows, if affected, would be more dangerous. There is really nothing in Dublin, and, so far as I know, in Ireland, known as to the extent to which the udders of dairy cattle may be affected. The only slight reference I give is a matter which occurred in London. I believe that, last year, one of the public bodies in London wanted to have a number of the London dairy cattle examined, for the purpose of seeing to what extent their udders were affected with tuberculosis. 5,144 of these cattle were examined by inspectors, who, in the first instance, I think, were not veterinary surgeons. They reported to the veterinary surgeon that, out of that number of 5,144 dairy cattle, 680 had abnormalities of the udder—that is, were not in a natural condition. Thirty-seven of these cattle were removed before the veterinary surgeon had an opportunity to examine the udders, but he only found, clinically to be affected, seven of these cattle, with tubercle of the udder. Then he found, also, that there were five udders which he regarded as suspected of tubercle. Evidently he had no opportunity of dealing further with the matter, except that, in three instances, the milk from these udders was submitted to microscopic examination, and, at the time of the publication of the report, it was found the bacilli of tubercle were present in the milk in two cases. Of course, I need hardly say, although the number of cattle apparently is small, the great danger in such instances would be the mixing of the diseased milk with the healthy milk by milk vendors. However, from these cattle, the percentage is small, undoubtedly.

3235. With regard to pig-sties?—The pig-sties in Dublin, taken as a whole, are bad. The drainage, especially, from some of these pig-sties, is deplorable.

3236. Right Hon. Alderman MEADE.—What do you call pig-sties?—Places where pigs are kept.

3237. For?—Well, for ordinary keeping purposes; I don't refer to places where they are only received for the time being, but to persons who, for profit or otherwise, keep pigs for the purpose of rearing them until disposed of.

3238. You don't refer to pig-killing establishments?—No.

3239. Dr. J. W. MOORE.—Are there many pig-sties in the city now?—I cannot exactly tell you the number of sties, but there are about 4,000 pigs in the city, of that character; but, so far as my experience goes, it is almost impossible to imagine

how people in the vicinity of some of these pig-sties become inured to the filth and most offensive odours which arise from such places. If it were possible to keep them out of the city, so much the better; but, if not, pig-sties should be permitted to exist only when formed of such material as concrete, and not little wooden shanties, that get saturated with matter generally, and proper laws ought to be made requiring that they should be kept in order, and cleaned within specified times.

3240. You are strongly of opinion that before cows are milked, their persons should be stringently cleansed?—Most assuredly.

3241. Is that done in Dublin?—I don't believe it is done.

3242. There are bye-laws relating to that?—There are.

3243. And you think they are not carried into effect?—If officers of the Corporation who attend to these matters could arrange to visit these dairy yards at the times milking is going on, it would have a far more beneficial effect than visiting the places on other occasions.

3244. You are strongly of opinion more sunlight should be admitted into some of the sheds?—Undoubtedly.

3245. I gathered from your evidence the effect was that the animals could be more easily observed?—Exactly.

3246. But there are other hygienic reasons for admitting the sunlight?—Most decidedly.

3247. Is it not possible, if the sunlight were freely admitted, it would prevent, in a measure, tuberculosis?—Certainly.

3248. A very remarkable circumstance was the infrequency with which the udders of cows examined in London were infected by tubercle?—Yes.

3249. You seem inclined to minimise the danger to the consumer from tubercles on the udder, in consequence. Suppose the udders were perfectly healthy, don't you think there is a great risk of infection from tuberculosed cows licking their udders?—Quite so; I would be very sorry to drink milk of the cow, or eat the butter, if I thought she had tuberculosis at all.

3250. Is it not the case that infectious sputum would be deposited on the udder when the cow licked it?—Perfectly so.

3251. So that is another reason for careful cleansing before milking?—Quite so. In a recent outbreak of tuberculosis, in a farm not far from Dublin—a dairy farm; but I think the milk was not used for sale purposes—some fifty cattle were slaughtered. Out of that fifty, forty were found to have tuberculosis, but in no single instance was the udder found with tubercles, but still the danger of infection existed.

3252. You are of opinion there are only 4,000 pigs housed within the city at present?—I am of opinion that is the number.

3253. Are you of opinion even so many dirty animals should be housed in the city?—On the contrary, I think, if at all possible, the pig-sties should be removed out of what you call populous districts.

3254. There is a point in your evidence—and, as a veterinary surgeon, I am anxious to have your opinion about it. Do you think any bye-laws should be introduced regulating the keeping of dogs within a large city like Dublin?—I think so.

3255. I suppose as you walk through the streets you see the condition in which the footpaths are—very often fouled by dogs?—I think it would be very desirable, if such a condition of things could be brought about.

3256. Dr. R. L. Swan.—With reference to your observations as to dairy yards—the floors of dairy yards—has there been no progressive improvement?—I believe there has. I believe I noticed an improvement in dairy yards towards what they were ten or twelve years ago; but I think there is great room for improvement still.

3257. I gather from your observations about diseased udders in cows, you consider primary tuberculosis of the udder is an infrequent occurrence?—I believe it to be infrequent.

3258. Do you believe it is always a secondary occurrence?—Do you mean to say secondary to pulmonary?

3259. Do you believe it is conveyed by licking of the udder?—You don't think it is primary?—I do not.

3260. You think in a cow not phthisical—that it is not possible she could be affected with primary tubercles of the udder?—I do not think it likely.

3261. Would the hands of the milker, if not washed, convey bacilli to a healthy udder?—I do not see what is to prevent it, having regard to what Dr. Moore has said. If you have from a cow tuberculous sputa, and if she conveys it to her udder by licking, the dairyman may convey it to the healthy cow's udder, and thus it may get into milk.

3262. That emphasises the importance of washing the hands as well as the udders. However, a great many cows may have ulcerated udders from other causes, in addition to tubercles.

3263. Dr. T. Thomson.—Do you suggest that the surface of dairy yards should be rendered impervious to filth?—I look upon it this way. Dairymen bring into their dairy yards very heavy vehicles in the shape of carts, not so much to remove the milk as to remove the manure; and I know some certain floorings will get broken up with these heavy carts.

Sir *Charles Cameron*.—That is the reason we have objected to it; we took it out of our own bye-laws.

Witness.—But I think it possible, where you have a large yard, you can make a certain track of another material. On the public streets you have impervious material which will withstand the weight of these carts, and why not make a small portion of these yards in such a condition?

3264–5. Dr. T. Thomson.—You probably know the Corporation bye-laws provide that dairy yards shall be paved or macadamised, so as to have a uniform surface?—I do; and I further know that is not carried out.

3266. Do you think it is impossible to carry out that bye-law?—I do not think it is, except with regard to that very qualification I have given you as to tracks where carts go in.

3267. And you suggest that difficulty could be got over by making these tracks of stone. As regards the Corporation bye-law that the manure shall be removed within a period not exceeding seven days, or such lesser interval as the medical officer may direct, do you think it is adequate?—I do not. I think there should be some specific time laid down, and a much shorter interval, because, going into these yards, you see very considerable heaps of manure, and you wonder what length of time must have occurred for these to accumulate; I think there should be some bye-laws that would require them to be removed at least every three days. I do not want to say the medical officer of health would not direct it to be removed if aware of it, but I don't think it is sufficiently frequently removed.

3268. As regards the cleansing of cow sheds and dairy yards, you suggest that the biennial lime-washing that takes place is not sufficient; but suppose you had cow sheds constructed of proper material, which were properly drained, where cows had sufficient space, and where, as a result of all these conditions, the cow shed was clean; would it be necessary to have, as you suggest, a monthly lime-washing of the interior of this cow shed?—Dairymen have an idea, and there is probably force in the idea, that when cattle lie down

they require some soft material, at least under their fore legs. You will find that while dairymen are quite willing to remove the manure that is about the hind part of the cattle, they are, on the contrary, anxious to retain the manure or effete matter that may collect in the fore part of the stall, and the result is, notwithstanding bye-laws, for months at a time you may have manure in the fore part of the shed that has not been removed; I think some provision should be made to see that, at all events monthly, the dairy yards are properly overhauled.

3269. Do you mean that you despair of keeping the Dublin dairy yards clean in any other way?—Well, I mean my experience of Dublin dairy yards cannot make me imagine anything else.

3270. You have probably seen dairy yards elsewhere?—I have.

3271. And I suppose you have found some well kept?—I have seen dairy yards well kept; and I don't at all wish you to carry away the idea there are not some in Dublin well kept; but I do not think that twice in the year is sufficient at all to have a proper cleansing of dairy yards. I know in the country they are much worse kept than in Dublin.

3272. You made some reference to the Corporation bye-law regarding air-space for cow sheds, and expressed a wish for a greater amount of air space?—For more air.

3273. We have evidence, given yesterday, that in some cow sheds in Dublin the cubic space is less than the amount required by the bye-law. In one instance it was as little as 180 cubic feet per cow; do you consider that to be very inadequate?—I think that is out of all proportion.

3274. Do you consider such a condition might tend to increase the risk of tuberculosis spreading from one cow to another?—Most undoubtedly.

3275. Have you in your experience of Dublin cow sheds, encountered tuberculosis in living cattle?—Repeatedly; not in recent years, because, as I explained in the commencement of my evidence, the Veterinary Department is not now dealing with these yards at large; but in former years, frequently, in the living animal we came across tuberculosis.

3276. You surprised me very much by telling the Committee that there are about 4,000 pigs within the area of Dublin city?—Well, I don't know that from my own absolute knowledge, but it has been computed that is about the number.

3277. Is your statement based on official statistics in possession of your department?—No; I do not think that is so.

3278. Then from what source do you derive your information?—I have seen it stated by some of our officials that is about the number; but I cannot say, and I would not wish you to understand, that it is an official statement.

3279. Right Hon. Alderman MEADE.—Do I understand you to say you don't object to dairy yards being in the city so long as they are properly kept?—If I thought that they would be better kept outside I would say they should go outside.

3280. But your experience is they are kept worse outside?—My experience is they are worse outside.

3281. Were you here yesterday when Dr. Hope, of Liverpool, told us the result of an inspection of dairy yards in Liverpool was that the milk was better from the city cows than from those outside?—No, I was not.

3282. Would you not understand they are much more easily inspected and looked after in the city than outside?—That is possible; the only thing about outside is, were they there, they would have more fresh air.

3283. You object to dairy yards only when kept in an unsanitary condition?—That is so.

3284. Is there any means of ascertaining the number of pigs in the city. When you told us you were told by some officials in your department there are 4,000 pigs in the city, is there any means of ascertaining that with any degree of accuracy?—I would think there ought to be. We frequently have inspections of these yards from time to time, but generally only in connection with disease outbreaks.

3285. And you think we can get particulars with some degree of accuracy, of the number of pigs in the city?—I think that possible; I understand there has been some computation made, and that is thought to be about the number—4,000.

3286. Dr. R. L. SWAN.—Have you an opinion that there are certain localities in Dublin where dairy yards should not be allowed to exist? Do you think there ought to be some rule laid down, or have a bye-law to prohibit dairy yards in certain congested areas?—I do; I quite agree with you there.

3287. For instance would you enumerate any place or places you think are unfit?—I will mention what I know has occurred, and that will convey my idea. I remember, as far back as the year 1886, a lane known, on the north side of the city, as Mahony's-lane. Right beside Mahony's-lane is the North Dublin Union and Hospital, and, very properly, to my mind, the dairy yards have all been cleared out of that place.

3288. Dr. T. THOMSON.—Were they not cleared out in order to leave space for the rebuilding of the Richmond Hospital?

Right Hon. Alderman MEADE.—Yes; it was required by the Governors.

Witness.—In such a place, to my mind, they should not be allowed.

3289. Dr. R. L. SWAN.—Do you think such a populous district as Lower Mount-street should be the situation of a dairy yard; or Summer-hill, behind some of the houses with the air space circumscribed with high dwellings?—I think it would be better, in such populous districts, not to have dairy yards.

Mr. CHARLES H. SUTTER examined.

3290. CHAIRMAN.—You are Engineer to the Dublin Sanitary Association?—I am, sir.

3291. And you wish to give some evidence about the drainage and sanitary arrangements of the factories and workshops?—I do; I want to let you know I do not represent the Sanitary Association. I am merely here to give you my experience as their engineer.

3291A. What have you got to say about the sanitary condition of the factories in the city of Dublin?—I have examined a considerable number of factories and workshops, through the Association. I do not know if you have seen this report (referring to Precis) mentioning certain sanitary defects, some of which I have found to exist, on practical observation and test, in every workshop and factory I have examined. I have not examined a great many; perhaps about a dozen, or half a dozen of each, but quite enough to give an idea. However, I will just read some of these defects. These are only particular defects. I discovered a great many more; I found defective and leaking brick and rubble masonry drains, under the buildings, sometimes half choked; defective and leaking pipe drains with sewage deposit inside, situate underneath buildings; drains not intercepted from the sewer or cesspool air, by a trap; unventilated drains; surface water inlets untrapped and acting as ventilators; rain pipes acting as drain and sewer ventilators; defective traps; unventilated soil

pipes; unventilated water-closet apartments, internally situated, adjoining workrooms; pan water-closets insanitary; tank overflows connected to soil drains; leakages of drain and sewer air into buildings; well liable to sewage contamination.

3292. What class of factories are you alluding to? I don't want names?—Non-textile and textile factories, and different classes of workshops.

3293. Then, in fact, the bye-laws have not been complied with, with regard to ventilation?—The sanitary administration of factories is under the direction of Factories Inspectors of the Home Office.

3294. Do you mean the bye-laws don't apply to them—the Corporation bye-laws?—No, I don't think they do; the Factories Act states that factories must be kept free from effluvia arising from any drain, privy, w.c., earth closet, or urinal, and it is not part of the duty of the Inspectors of Factories to examine drains systematically. The Act says, "if an inspector observe a nuisance," he must report to the Sanitary Authority, and they take steps to abate the nuisance. If the factory inspector observe a defect it is his duty to call the attention of the Sanitary Authority. It is sometimes only by the most searching examination one can ascertain these defects. I have found them myself in the most awkward places. I do not mean to say it is always necessary to make an examination in order to discover sanitary defects, but the factory inspector does not profess to be an expert on sanitary arrangements. Another thing is, where foodstuffs are prepared in factories, we find sewer air, not alone drain air, escaping where these foodstuffs—perhaps, milk and eggs—are stored, which is decidedly injurious to the people in the factories, and to the consumers of these stuffs. I found in every factory I have examined, some of these defects I have read for you.

3295. What would you suggest as an improvement?—I should certainly suggest periodical examinations.

3296. By whom?—Of course, I should say, certainly by an expert, and nobody else, and that it must be a periodical examination; no examination that is only made at odd times in a superficial manner, and perhaps a report in a few lines, is the slightest use. It must be made very carefully, and there should be some way of checking it. There must be a block plan to show the existing drains, and, if possible, a diagram section showing the vertical pipes, so that the head of a department could see whether the place was examined properly, and not merely walked through. There must be a written report, and a record kept of it, and suggestions should be made, and some means taken to see whether they were carried out, and put into effect, otherwise it is not a bit of use. That is my opinion on the matter. An examination of the sanitary arrangements, I am afraid, is not always carried out the way it should be. I find it very hard to examine an ordinary house in a day, and write the report on the same day. If you don't examine everything you probably miss the most important point.

3297. With regard to public offices and shops?—I think the same thing applies to all public buildings, and especially places like restaurants, where there is a large amount of foodstuffs; and in some of these places in Dublin I could swear to having detected sewer air. I have one specially in my mind, but it has now been improved. When one is used to it you know the smell of sewer air. I have also found leakage of sewer air into a women's workroom in a factory.

3298. Was that coming from a faulty drain in the factory?—From a drain and waste pipe that wanted proper trapping. That was about the worst defect I found in the factory. It was simply caused by the tradesmen who did the work not being supervised. It was very hard to find it, and prove it was the case, but I did, and I was very glad of it.

3299. You have been here several days?—I have, sir.

3300. And you have heard a good deal of evidence that has been given about cleansing; have you anything to add to it?—I have something put down here (referring to Precis); I think everybody who lives in Dublin knows what I refer to—how the house refuse dust-bins are left lying on the pavements at all hours of the forenoon. Walking to my office in the morning, by Merrion-row, Stephen's-green, Grafton-street, and Dame-street, I see them up to about 10 o'clock.

3301. Not after ten o'clock?—Yes, after 10 o'clock also; and not only dust and ashes, but I have seen refuse from poulterers' shops, and vegetable matter in them, and on a squally day the result must be decidedely harmful. A great proportion of these buckets have loose covers or no covers, and the dust carts are quite uncovered, or partly covered only, and, what I want to point out is, I do not object to the system of collecting, but I think it should be done at an early hour, and you should not see the bucket out after that; any one offending should be fined. In Edinburgh it is so. You hear a bell between 4 o'clock and 5 o'clock in the morning, and that is the dust cart coming round, but one never sees the dust-bin left on the footway during the day. It must look peculiar to people coming over here from England, to see these refuse buckets lying about at all hours of the morning.

3302. Dr. J. W. Moore.—You would suggest a more general inspection of the drainage system of shops, and factories, and public offices?—I do, especially with regard to factories and workshops, because the class of people in these places, judging from appearances, don't appear to be very well fed and an escape of sewer or drain air in those places must be very lowering to their health. Shops, banks, and such places, I think, should be examined at least annually, but I do not think that is so important. I think where these poorer people are employed, they, *i.e.*, the factories, should be examined periodically—at least once a year—and a record kept, showing everything really done regarding the sanitary arrangements—I mean they should be examined properly, and not in a superficial way.

3303. When are the dust-bins put out for collection in Edinburgh?—They are put out in the evening.

3304. Is it not dangerous to travellers in the streets at night, if the streets are not well lighted?—They are well lighted by electricity. Well, I dare say an improvement might be made there; but I think there is a great objection to the existing arrangement here, when the great bulk of people are out between 9 o'clock and 10 o'clock in the morning—there is no reason why dirt should be flying about their faces as it constantly is.

3305. Have you examined any schools?—With regard to schools, I endorse what Canon Mahaffey said. I find the condition of drains of all schools want to be constantly looked after, and not only the drains, but the ventilation. You find children are most destructive with regard to these things—inlet ventilators and so forth. When they are choked, some man is sent in who, perhaps, leaves some serious defect behind him, and the air pipes may be choked. All this makes it very necessary to have a periodical examination.

3306. The same as you mention about factories?—Oh, I think factories more so. The people who work there should be looked after, as regards their health, and there is nothing to prevent the drains and sanitary arrangements being properly maintained.

3307. Dr. T. Thomson.—You have been engineer to the Sanitary Association for a number of years?—Nine or ten years.

3308. And you have given us a long list of the different classes of defects you found. Can you

tell us the number of instances in which you found these defective conditions?—I could not attempt to single them all out relatively; it would be rather a difficult matter. Before I prepared my evidence I looked up my reports, and marked down in my list wherever I found defects.

3309. A general statement of the sort you have made does not furnish information as to the extent to which these defects are present. I don't suppose you will find any town in the United Kingdom in which the factories are perfect. The question is to what degree they are defective.

3310. Dr. J. W. Moore.—Can you give us a list of the number of occasions on which those several defects occurred?—I cannot now.

3311. Right Hon. Alderman Meade.—That only refers to cases where you were called in specially?—Exactly; I have not been to a great many.

3312. And I presume you were called in because of the proprietors having reason to believe defects were on the premises?—I cannot say why I was called in.

3313. It was because your Association were asked to inspect a certain factory, and report?—Oh, certainly; that is why I was there to examine and report.

3314. I take it in all the factories you examined, you found defects in every one of them. Therefore, it was because these were known to the proprietor he asked the Association to report?—Of course, I cannot say.

3315. The same as a doctor is brought in to prescribe for a disease of a human being. Then it would come in how many you have inspected. Would they mean ten in the year?—Nothing like that; only about a dozen altogether; but I think that is all the more reason why more care should be used.

3316. Dr. R. L. Swan.—There are probably far more factories than you have visited in Dublin?—I should think so; and that is the reason why they should be all seen to.

3317. Right Hon. Alderman Meade.—As a sanitary engineer, you would like to have all inspected; but twelve factories only have been proved to have sewer defects; would you say the other 1,000 should be examined?—In every one I examined, I found serious defects.

3318. Dr. T. Thomson.—But you have only examined a small number, while there is a very large number in Dublin. It is not justifiable to draw the inference that all the others were defective because, when inspected, a dozen were found unsanitary?—The factory inspector has to take notice of certain defects, and they have got to see that the privies are lime-washed, and, I believe, a great many owners are under the impression that the factory inspectors examine all these things, which is not the case.

3319. You say the ventilation of these buildings—meaning factories—is far from satisfactory?—Judging by one's nose.

3320. On what proportion of factories in Dublin do you base that statement?—I have only a small number to go on; but if I only examined half a dozen, it gives you something to go on.

3321. It is a serious matter to make a general statement like that, from your experience of such a limited number of buildings. That statement casts an aspersion on the manner in which factory inspectors do their duty. To say that in a large number of instances these buildings are defective, when you have only seen a dozen, seems to be going too far?—That may be; but, judging by the atmosphere, it doesn't seem pure.

3322. That is the point?—The fact of drain air getting into a moderately close room is a great deal more injurious than if the air in the room were perfectly fresh.

3323. But do you perceive that you are talking of a dozen places only?—That may not be sufficient ground to go on; however, I consider it is.

The Committee then adjourned.

TWELFTH DAY.—WEDNESDAY, FEBRUARY 28TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Mr. GEORGE ROSS examined.

3324. Alderman DOWD.—You are the Hon. Secretary of the National Registration of Plumbers?—Yes. I am a Member of the Institute of Civil Engineers of Ireland, a Bachelor of Engineers of T.C.D., and for the last two years I have held the position of Hon. Secretary to the National Registration of Plumbers. The National Registration of Plumbers, is not in any way connected with trades unionism. We do not in any way wish to interfere with tradesmen. Our objects are—"1st. To elevate, by training in workmanship, technical education and registration, the status of the plumbers' craft. 2nd. To give to every competent plumber a certificate, which will be recognised throughout the Empire. 3rd. To aid by these means in the protection of the public health." The Leinster and Connaught branch are governed by a Council consisting of public representatives, master plumbers and operatives. The public representatives are nominated by the Corporation, the Institution of Civil Engineers of Ireland, Royal College of Surgeons, Royal College of Physicians, Royal Institute of the Architects of Ireland, and the Dublin Sanitary Association, and at each meeting each section must be represented. What the Council wish to lay before the Committee is—1st. That the present system of allowing everybody and anybody to carry out plumbing and sanitary works without the supervision of a properly qualified person on behalf of the sanitary authorities, is, in our opinion, vicious, and tends to create and spread disease. 2nd. That householders should notify the Public Health Office when any alterations in their plumbing and sanitary fittings are proposed, with a view of having them approved and inspected by a plumbing inspector during progress and after completion, even although such works may be done under either an architect or engineer. 3rd. That in addition to the present sanitary officers registered plumbers should be appointed to supervise all such works and inspect the fittings and materials used for the carrying out of all water or sanitary works. 4th. That in all specifications for plumbing or sanitary works in Government or municipal establishments a clause should be inserted that registered plumbers should be employed to either carry out or do such sanitary work, with a view to ensuring satisfactory work. 5th. That before any person be allowed to undertake any sanitary or plumbing works, either he, or some person in his employment on his behalf, shall be duly approved of by the Sanitary Authority as a registered plumber. 6th. That in all tenement houses, whether present or future, where more than one family resides, separate sanitary accommodation shall be erected on each landing, and that the receiver of rent in each house should look after the cleaning of and keeping in order of such daily, and that all dust or refuse matter should be removed before 10 o'clock each day.

3325. How is the Council you represent constituted?—The Council of which I am the Hon. Secretary is governed by three classes—representatives of the operative plumbers, the masters, and the public representatives. These latter are elected by different public bodies.

3326. You consider the present system of allowing, as it were, everybody to do plumbing a bad system?—Yes, and one calculated to result in a spread of disease. The result of my visiting the houses is to enable me to say that some of the plumbing work is really scandalous—not only in its design, but in its execution. Some of the closets are, I might almost say, constructed to admit foul air into the dwellings.

3327. Do you consider that the Public Health Authority should get notice of what was being done?—Yes, householders should notify to the Public Health Office whenever any alterations in their plumbing and sanitary fittings are proposed, with a view of having them approved and inspected by a plumbing inspector during its progress, and even after its completion. All plumbing work and alteration of drains should be superintended by a qualified plumber, or qualified inspector of the Corporation before being sanctioned.

3328. CHAIRMAN.—Is not new legislation required for that?—I do not think so. It could, I think, be carried out under the building laws. You build a small addition to your house and the building laws will decide whether the walls are thick enough, or the windows large enough, but you may put in any kind of plumbing you like.

3329. You do not require a bye-law to require a licence to be taken out?—There is a building law at present that you cannot make alterations in your buildings without notifying the Corporation officials and getting their consent.

3330. Do you want to prevent any plumber taking work unless he has a licence?—No, certainly not; we do not wish to interfere in any way with the working man, but we say that if competent plumbers were appointed things would be better. We believe, that as no man with his eyes open would take an incompetent plumber, all competent plumbers would have a chance by being registered. There will always be a certain number of incompetent men. We do not want to interfere with them, legislation only could do that.

3330A. Right Hon. Alderman MEADE.—Do you say that any time plumbing work is to be done in a house it is to be inspected by the Corporation?—Yes.

3331. Suppose there is a bad system of plumbing in a house and the proprietor wishes to have it improved, and will have to put himself under the Corporation and face any trouble that may arise therefrom, is that the idea?—We think if there is anything wrong the Corporation inspectors should find it out and correct it.

3332. But surely the Corporation inspectors have no right to go into a person's house?—I believe they have, under the Corporation Act, if the Corporation or the Corporation inspector has reason to suspect there is a nuisance in the house.

3333–4. How will he have the opportunity of knowing that if he cannot go into the house?—He can ascertain it.

3335. From information received?—Yes, or find out himself.

3336. Do you mean that he is to go outside a person's house and find out by sniffing if there is a nuisance, as some witness said he could ascertain if there was sewer gas?—No.

3337. There are very few houses that you could not at least suspect that they required something.

3338. Private houses?—Yes.

3339. Do you not think that in a great number of private houses there are not still such enormities as pan-closets?—Yes.

3340. You would not say these are sanitary closets now?—No.

3341. You want a very large order when you say you assume the right to enter a private house by Corporation officials, and have that work done and certified by the Registration of Plumbers?—No.

3342. Alderman Dowd.—You would not say exactly that it is to be done under the Registration of Plumbers?—It should be done by competent plumbers, competent officials, and the Corporation officials should be competent to say if it was properly done and otherwise not pass it.

3343. Right Hon. Alderman Meade.—You want that the Registration of Plumbers should be appointed to supervise all works?—We think, that in addition to the present sanitary officials, some officers should be appointed who would be competent and qualified plumbers, and whose duty it would be to inspect the works that were carried out after an order was given.

3344. Alderman Dowd.—Are you aware that we have a qualified man at present?—Yes; but we think that is not sufficient. We do not wish to interfere with the ordinary sanitary officer, because there are a great many other duties he has to perform outside the plumbing. But a certain number of plumbers should be appointed as ordinary inspectors to see that the orders of the Corporation and of the magistrates are carried out by competent men. It is a practice in England and Scotland for authorities to appoint duties to sanitary Inspectors according to their qualifications.

3345. Dr. T. Thomson.—I suppose you would also say that men skilled in the building trade would be useful?—Yes, certainly.

3345a. Have you any idea of the number of plumbers you would have?—We thought there should be two plumbers for the north and two for the south.

3346. Right Hon. Alderman Meade.—Four plumbers?—Yes Whether these should be in addition to the present staff of sanitary officers or appointed when vacancies arise we leave to the Health Committee to decide. But we think that at least two plumbers should be appointed to the north and two for the south.

3347. Have you made any inquiry as to what is done in other places?—Generally, I believe plumbers are largely employed.

3348. But can you give definite instances?—Yes.

* (*Mr. Ross afterwards gave instances, see Appendix*).

3349–50. You are aware that four plumbers to the already very large staff would mean a considerable expenditure in the year?—Yes; but it does not follow it would be really an additional expenditure; as vacancies occur, plumbers might be appointed. I believe there are special cases in which the knowledge and experience of a competent plumber would be invaluable to the public health in deciding what should be done. Some of the notices served on the owners of property and tenements, do not, in my opinion, specify all that should be done. We get notices frequently where we would insist on a great deal more being done.

3351. The Public Health Committee is not intended to put landlords to unnecessary expense, but merely to get done what is necessary to put the place in a sanitary condition?—I do not want to put the landlords to expense. But inspectors who have no knowledge of plumbing cannot be expected to see that the necessary work is specified or properly carried out.

3352. Could you give an instance?—Yes; only last week in a house within a hundred yards of where I sit notice was served to put in new drains. The new drains were put in, and when we went to make a specification, we found there was an unventilated soil-pipe that went to a pan-closet, and no attention whatever had been called to this, although it was as great a defect, of course, as the necessity for laying a new drain.

3353. This was in a private house?—Yes. I think the authority of the Corporation only runs as far as the drain?—Well, it should not be so.

3354. Unless there was a nuisance existing in the house?—The presence of a competent plumber would discover defects which the ordinary inspector would not observe.

3355. Dr. T. Thomson.—Was there a nuisance existing in the house?—I believe so.

3356. And, as I understand you, the point is that the proper notice had not been framed to deal with this particular nuisance?—Yes; the owner said he had only been only called on to do a certain thing, and he would only do that.

3357. Right Hon. Alderman Meade.—I suppose the owner applied to the Corporation for connection with the main sewer, and the Corporation said you must complete your drain up to a certain point?—I really could not say.

3358. Chairman.—Was there a complaint under section 51?—That may be.

3359. Dr. R. L. Swan.—Are you aware that the principle you advocate was practically adopted by Dr. Hope?—From what I read in the papers, he was in favour of skilled workmen.

3360. Generally in England and Scotland that is the rule?—Yes.

3361. Right Hon Alderman Meade.—Do I understand that you were called in before the work was completed?—I was called in before the work was begun.

3362. Do you know that the Corporation, if called in, in that way, they first direct what is to be done, and then when the work is done send and have it inspected, and there is a certificate that it is all right up to that stage?—I do not know that they gave a certificate in the case I mention. I may say that my point is that the owner is practically notified to leave things as they are. As soon as it was ascertained there was a nuisance on the premises it should not be left to the owner to deal with it. It should be removed in spite of him. My point is that the owner in this case is perfectly satisfied to leave things as they are. It should not rest with the owner to decide.

3363. In the case you have been referring to did any one complain of a nuisance?—Not that I know of.

3364. Dr. T. Thomson.—You would yourself regard an unventilated soil pipe in an inhabited dwelling as a defective condition?—Yes.

3365. And you would expect the Corporation officials to look after it?—Yes.

3366. Right Hon. Alderman Meade.—Would you privately give Mr. O'Sullivan the information as to where this house is and any other particulars?—Yes, I will speak to him afterwards.

3367. Alderman Dowd.—You are of opinion that before any person is to undertake any sanitary or plumbing works either he or some person on his behalf shall be duly approved of by the Sanitary Authority as a registered plumber?—Yes, we do not at all wish to say that an employer, because he is not a registered plumber should not undertake plumbing work, but we

think that before he undertakes it the Corporation should see that some person is in his employment capable of undertaking it.

3363. What would you say in the case of large limited companies?—They should have a properly qualified foreman.

3369. CHAIRMAN.—Would your suggestion involve fresh legislation?—Probably, it might, but I am not exactly qualified to say it would; we think it ought to be done.

3370–71. Surely if an inspector is a qualified plumber himself is it not enough for him to hold that knowledge without requiring every man who makes a joint to have a similar qualification?—There is a great deal of plumbing work that it is impossible to be sure is rightly done unless the foreman stands over the man to see it done. Without that it is practically impossible to see whether the work has been properly carried out or not. No system of subsequent inspection that you could possibly devise would check defects which would be done by unqualified men if they were allowed to carry out plumbing work. If your inspector could stand over him and see every bit done before it was covered in, it would be all right. The laying and jointing of drains should not be done by men not qualified. You may have a good handy man helping.

3372. Yes, a labouring man—a handy man accustomed to doing a particular job should he not be entrusted with the work at which he is proved to be "handy"?—I quite admit that some men of that class lay splendid drains.

3373. Well, what would you object to then?—Well, there are some cases; for instance, I got a case myself at Ball's Bridge where the trap was turned upside down, and the cleansing-screw was at the top.

3374. Dr. T. THOMSON.—Would not a skilled man detect that at once?—In a tenement house it might be covered in, and a great deal of the plumbing could not be inspected.

3375. Right Hon. Alderman MEADE.—Why necessarily, should a handy man, accustomed to such work, make such a mistake as that?—Not necessarily; but a qualified man is less likely to make it. If a man suffers a wound a qualified surgeon is more likely to be able to deal with it than one who is not.

3376–77. Would your association be prepared to guarantee for employers that every man they would send out was duly qualified, and one after whom no complaint would be made?—They would guarantee that he had passed examinations and be certificated, as in the doctor's case.

3378–79. Oh, well, do not let us compare the question of doctors with this?—It might be comparing small things with great—the principle, Alderman, is the same.

3380. Alderman DOWD.—You say that in all tenement houses, whether present or future, where more than one family resides, separate sanitary accommodation shall be erected on each landing, and that the receiver of rent in each house should look after the cleansing and keeping in order of such daily, and that all dust or refuse matter should be removed before 10 o'clock each day?—Yes.

3381. CHAIRMAN.—Does not the Act of Parliament provide for the question of sanitary accommodation?—Yes; provided the Sanitary Authority are satisfied that it is sufficient.

3382. Alderman DOWD.—Do you think one closet for six families sufficient?—No.

3383. Do you suggest one for each family?—For each landing. I, for one, think that when a number of tenants bring down their slops to the one closet in the morning they are bound to choke the closet, and it is impossible to have any check or supervision over them.

3384. Right Hon. Alderman MEADE.—Would you object to four closets in the yard?—Yes, because in that case you would be storing during the night a large quantity of soil.

3385. Do you think, having regard to your knowledge of the tenement houses of Dublin, that the residents in these houses would come out at night, even on the landing?—Yes; they are certainly more likely to empty these slops that way than if they had to go to the yard.

3386. How would you provide tenement houses with the class of accommodation you suggest?—In a large number of cases it could not be done without difficulty, but in others it could be done by building an annexe. I believe no matter what number of artisans' dwellings are built by private enterprise, that a large number of the tenement houses will be in our time occupied as tenement houses, and these should be put in as habitable a condition as possible.

3387. You think that a large number of the houses now occupied by one family will afterwards be occupied by more than one family?—Yes, no doubt. But I rather refer to the houses at present occupied as tenement houses. Many could, with a comparatively small expenditure of money, be made sanitary, and these houses, I believe, no matter what other houses are built, will remain as tenement houses for years to come.

3388. You think that the Corporation should see that they are reconstructed as to sanitary arrangements?—Yes.

3389. Right Hon. Alderman MEADE.—I think we may all say we agree as to that.

3390. Alderman DOWD.—As to the dust-bins being removed earlier in the day?—Yes. The refuse, I say, should be removed before 10 o'clock each day. I believe, indeed, the Corporation are lately doing that, and I believe it is one of the best things they ever did.

3391. And you think it should be removed every day?—Yes.

3392. Alderman DOWD.—Now, as to the Council of the Registration of Plumbers. When they grant a certificate, if any complaint is made as to any of the men who have got their certificate, would not the certificate be withdrawn?—Yes, if there is good cause for the complaint. Men have been struck off in England. The movement has not taken the same hold in Ireland as in England, and our numbers here compare very small with England, we are not as fully organised.

3393. That leads us to inquire the relative number of registered plumbers in Dublin as compared with other places?—I could not give the figures exactly.

3394. How many are there in Dublin?—About sixty. There are some men registered direct from London or registered in Scotland.

3395. Dr. J. W. MOORE.—During the course of your experience have you found much defective plumbing work in Dublin?—Yes.

3396. Have you been called into houses in which illness resulted from that?—Yes, in a good many of the houses I inspected I would be called in because illness occurred in the house.

3397. Principally what illness did you hear of?—Last year there were a great many cases of diphtheria and typhoid.

3398. And perhaps scarlatina?—Yes, scarlatina.

3399. You are of opinion, therefore, that a good deal of the sickness of Dublin is attributable to imperfect or bad plumbing?—Yes. I have no doubt about it.

3400. That applies to private houses and common lodging-houses?—Yes; and last year I went through most of the tenement houses of the city.

3401–2. Some of these private houses are in the best residential quarters?—Yes.

3403. You suggest removing all refuse before 10 o'clock. Is that early enough?—Well, I think so, especially in the high houses; I do not think it would be brought down earlier.

3404. You are alluding to the tenement houses?—Yes, the tenement houses. The others should be cleaned before 8 or 9 o'clock.

3405. I gather from the 45th section of the Public Public Health Act that, if the Sanitary Authority are of opinion a separate closet should be necessary it could be put in?—Yes.

3406. Right Hon. Alderman MEADE.—You are a member of a firm of sanitary engineers?—Yes.

3407. And a great many citizens when anything is wrong go to you to see what is wrong?—Yes.

3408. I believe what you have been referring to is the plumbing work done fifteen years ago?—Yes, partly; but there is plumbing work done, even now, that is a disgrace.

3409. Yes; but when you have been called in with reference, say to pan-closets, unventilated soil pipes, and that, was it not regarded as good plumbing enough fifteen years or so ago?—Yes.

3410. And there are plenty of such cases?—Yes.

3411. Even in some of the leading squares?—Yes, but I think within the last ten or fifteen years the plumbing work done in that class of house is fairly good.

3412. A change or revolution in the system took place about ten or fifteen years ago?—Yes.

3413. Dr. T. THOMSON.—Have you any experience of other towns besides Dublin?—I have knowledge of Belfast and a good many country towns—Cork and Limerick.

3414. But not of English or Scotch towns?—No; except that I naturally take an interest in the subject.

3415. You are aware that it is not claimed in England or Scotland that the plumbing is perfect?—By no means.

3416. Have you reason to suppose Dublin is worse off in that respect than other large towns?—I think Dublin is much poorer, and I do not think we spend the same amount of money on plumbing as they do in the large towns in England and Scotland. In fact I am sure we do not. I might say that I superintended a contract in London for relaying drains, and I would not be allowed to cover in any of the pipes, or case in any of the vertical pipes without the inspector of the vestry—it was St. Martin's—seeing them, and he would not take my certificate or word that it was done. Then, the Local Government Board rules in London are very much more stringent than here.

3417. Dr. T. THOMSON.—You mean the rules of particular districts—the Local Government Board does not make regulations that apply to all districts, but model regulations, which may or may not be adopted?—Yes, in this case they were adopted. In Dublin in tenement houses the inspection is not as rigidly carried out as it might be. I have seen a closet choked up, and a man coming with a pail and just swabbing it down and going away, and the same operation repeated next day.

3418. Dr. R. L. SWAN.—I think you said the sanitary inspector had power to go into any house?—Yes. I believe he has.

3419. If he went into your house without permission would you not consider it a trespass?—I believe I am stating the law when I say that if the sanitary inspector went to your house and you refused him admission, and if he forced his way in, he would be a trespasser, but he could apply to a police magistrate, who would give him an order enabling him to go in.

3420. Dr. T. THOMSON.—The magistrate would want to know the grounds of the application.

3421. Mr. R. L. SWAN.—Are the residents of even the better class of houses qualified to find out a defect in a house?—No; they are not.

3422. Do you think a knowledge of plumbing is a general thing?—No; I do not. In a great many cases the plumbing may be good, and a smell arises—which is put down to defective plumbing.

3423. Take the case of large hotels. Can the inspector go in and investigate its condition as he chooses?—I believe the right exists.

3424. Mr. R. L. SWAN.—Is there supervision over the public buildings, hotels, Government offices——

3425. The Right Hon. Alderman MEADE.—Say the Custom House; we may look at the outside.

Witness.—I know some of the hotels are very bad.

3426. Dr. J. W. MOORE.—The 51st section of the Public Health Act provides: "On the written application of any person to the sanitary authority, stating that any drain, water-closet, earth-closet, privy, ash-pit, or cess pool, in or belonging to any premises in their district, is a nuisance and dangerous to health, but not otherwise, it shall be lawful for any sanitary authority after twenty-four hours notice, or in case of emergency, without notice to visit such premises and cause the ground to be opened, &c."

3427. *Witness.*—I think that bears out what I have said. In the Dublin Corporation Act you will find it very much stronger.

3428. Dr. J. W. MOORE.—That seems strong.

Mr. *Ignatius Rice*, Solicitor.—It depends on a "written" complaint.

Witness.—It does not say the owner of the house; anyone can write and complain.

3429. Right Hon. Alderman MEADE.—Do you say that if you went into a hotel, and had occasion from your own sense of smell or otherwise, to believe that a state of things injurious to public health existed, that you could make a complaint in that case?—I can explain what I state.

3430. Dr. J. W. MOORE.—Yes.

Dr. R. L. SWAN.—Yes.

3431. Right Hon. Alderman MEADE.—You must be allowed to go into the place before doing that?—No; that does not say so. You might write a notice that you thought the Shelbourne Hotel was defective.

3432. CHAIRMAN.—Without having grounds for it?—I think so.

3433. CHAIRMAN.—Oh, such a thing would never be tolerated.

3434. Right Hon. Alderman MEADE.—You told us about closets, and you said that if plumbers went round they would have cleared them out?—Yes.

3435. Do you know that the men who took the rubbish out and put it into the receptacle were Cleansing Department men?—Yes.

3436. And you don't suppose that men who go after scavenging carts will be qualified plumbers?—No.

3437. Those men having done that report it to the Public Health Committee, and they send a sanitary inspector to see what is the matter?—Yes.

3438. Would not that show you that the man who went in the first instance, that his duty was done when he swabbed it and left it ready for use, and then reported it to the Public Health Department—he could not do any more?—No; he did his duty when he cleaned it'; but I watched these closets for some weeks, and the same operation went on morning after morning for weeks.

3439. Right Hon. Alderman MEADE.—We have to serve notice through the Public Health Committee, and sometimes we have ultimately to take them before the police magistrate?—I am not finding fault with the Corporation; I am merely stating facts.

3440. Right Hon. Alderman MEADE.—I am glad we have got that.

3441. Dr. R. L. SWAN.—It appears to me that in this Act there is a penalty for a person making a false statement: he has to pay damages?—Yes.

3442. If his application is found not to be founded on fact?—Yes.

3443. So far as you go there is no systematic investigation of the state of the drains of restaurants or hotels, or such places, unless an amateur makes a charge?—I know there is not. Some of them are very bad.

3444. Right Hon. Alderman MEADE.—What do you call that—an informant or an informer; you would have to establish a number of informers.

There is no right of entry on the part of the Corporation into a private house, restaurant, or hotel, or private residence of any kind.

3445. CHAIRMAN.—A hotel for the purposes of the Act is a private house.

3446. Mr. *O'Sullivan*, C.E.—A doctor called in to attend a patient in a hotel, within the last fortnight, reported to Sir Charles Cameron that the drains required to be examined. We examined the drains, and served notice on the owner of the hotel to have them reconstructed. That was within the last fortnight.

3447. Alderman DOWD.—You think that if the Sanitary Authority have not got power they ought to get it?—They ought to get it.

3448. Alderman DOWD.—I see; that's all I want.

3448A. Right Hon. Alderman MEADE.—An Act of Parliament is very easily obtained.

Witness.—I hand in a copy of model regulations drawn up by a joint board of plumbers and sanitary authorities in Scotland.

Dr. FRANK CHETWODE CRAWLEY, examined by Dr. MOORE.

3449. You are a Doctor of Medicine of the University of Dublin?—Yes.

3450. And one of the Honorary Secretaries of the Dublin Sanitary Association?—Yes.

3451. That association has been watching the public health of Dublin for twenty-eight years?—Yes.

3452. It was founded in 1872?—Yes.

3453. The first point you wish to bring under the notice of the Committee is the high death rate which you maintain to be referable to tuberculosis?—Yes.

3454. The Sanitary Association drew up a report on the subject?—Yes; it was published as an appendix in a report sent to every member of the Sanitary Association, and also to 166 Urban and Rural District Authorities.

3455. In Dublin the proportion of deaths from tuberculosis, as compared with the deaths from all causes is greater than that over Ireland taken as a whole?—Yes, that is so, but I have not got the exact figures.

3456. From 1871 to 1895 the deaths due to tubercular disease in Ireland amounted to an annual average of 13,304?—Yes; that is in the whole of Ireland.

3457. In the whole of Ireland, out of a total average of deaths from all causes of 91,607—these are your figures?—Yes; those, I think, are correct.

3458. The proportion in Dublin is relatively higher?—Yes, but I have not got the figures.

3459. Sir Charles Cameron in his evidence admitted that the phthisical death rate was a very serious item in the mortality returns of Dublin?—Yes.

3460. The Sanitary Association have some views as to the influence of milk in spreading tubercular disease?—Yes, sir, we think that one of the chief—in fact there are only two chief animal sources, as they may be described of tuberculosis, namely, one milk, and the other tuberculous meat. Yesterday I listened to the evidence of Mr. Prentice, who said, "That tubercular disease of the udder in cows was not a very common disease." Unfortunately I have been unable to find statistics on the point, but his, if correct, show that it is not a common disease in cows; still, if a cow has tubercular disease of the udder we hold that that milk possesses a virulence in giving people tuberculosis that can hardly be described at all—the extreme virulence of that milk.

3461. You have high authority for that?—Yes, we agree thoroughly with the report of the Royal Commission on Tuberculosis of 1890 and 1894.

3462. Dr. Sidney Martin especially was of that opinion?—Yes.

3463. That tuberculosis derived from diseased udders was exceedingly virulent?—Yes.

3464. Do you agree with the suggestion made yesterday that, independently of any tuberculous udders great risk of infection is due to the uncleanly habits of the milkers and the inattention to the washing of the udder?—Undoubtedly: but I should like to say that although the cows may not have actual tubercular disease, the udder of the cow may be affected with tuberculosis in other ways.

3465. For instance, she may have tuberculosis of the lungs?—Yes.

3466. You said that a copy of the tuberculosis report drawn up by the Sanitary Association was forwarded to the urban and rural sanitary authorities in Ireland?—Yes.

3467. Was that extensively acknowledged?—It certainly was not extensively acknowledged. I remember very few acknowledgments at all.

3468. Did the sanitary authorities seem to attach much importance to the document?—None.

3469. The Corporation of Dublin did?—Yes.

Sir *Charles Cameron.*—They circulated it.

3470. Dr. J. W. MOORE.—They circulated it?—Yes.

3471. And the facts contained in it?—Yes.

3472. With regard to making pulmonary consumption a notifiable disease, what is the opinion of the Sanitary Association?—We think there would be great difficulty, but that it ought to be done. It can do no one any harm, having it as a notifiable disease, and we think that more frequent and thorough disinfection of the houses or rooms that such phthisical people occupied might be able to be carried out; and we also think—perhaps contrary to Sir Charles Cameron—that the milk supply of these people should be more strictly investigated. Sir Charles Cameron said "He did not think that phthisis was much to be traced to the milk supply in Dublin."

3473. Passing from the subject of tuberculosis to that of typhoid fever, you recollect the report on typhoid fever which was drawn up?—Yes.

3474. What was the occasion which led to the drawing up of that report?—The typhoid fever became so prevalent that a public meeting was held. Dr. Meade, I think, was Lord Mayor at the time, and under his auspices a committee was formed, which investigated the subject very freely. I have the report.

3475. In that report, which was a conjoint report of the Committee of the Dublin Sanitary Association and of the citizens, there was a very alarming statement made as to the non-notification of typhoid fever, especially?—Yes, on typhoid. It was found that, I think, it was only one-third of the cases of typhoid fever which had occurred in Dublin had been notified.

3476. Right Hon. Alderman MEADE.—When was that—1891-1892?

3477. Dr. J. W. MOORE.—1891-1892. (*To Witness*).—That report was considered by the Public Health Committee?—Yes.

3478. And they made several recommendations?—Twenty-one recommendations.

3479. Based on that?—Yes.

3480 Is it your opinion that they have been thoroughly carried out?—No, sir. It is rather a difficult question to answer fully in that way, but we contend that certainly many of those recommendations have not been carried out. Take, for example, with regard to the notification of infectious diseases, this Act was to be enforced under penalty, according to the recommendation of the Public Health Committee, but I don't think that it is. I think most people will agree that, if one may judge by the public utterances of certain doctors in Dublin, the Act might just as well never have been adopted at all.

3481. In fact it is left to the discretion of members of the medical profession whether they will notify or not ; it practically comes to that?—Yes.

3482. Is that a danger to public health?—We think that it is a very serious danger.

3483. When the Public Health Committee drew up twenty-one recommendations, it appears from your notes that the Corporation adopted ten wholly, one partially, referred five to a committee of the whole house, and rejected four, so that all the recommendations of the Public Health Committee were by no means adopted by the Corporation?—No; they adopted ten wholly out of twenty-one, but some were adopted partially.

3484. Right Hon. Alderman MEADE.—Is this the Joint Public Health Committee?

3485. Dr. J. W. MOORE.—No, it is the Public Health Committee of the Corporation. They made twenty-one recommendations, and only ten were adopted wholly.

3486. Right Hon. Alderman MEADE. — By the Council?

3486A. Dr. J. W. MOORE.—By the Municipal Council, and one was adopted partially, and five were referred to a committee of the whole house, and the whole house rejected four. (*To Witness*).—With regard to the ætiology of typhoid fever in Dublin you remember that some years ago there was on outbreak in Trinity College?—I don't know that I recollect it, but I have heard of it.

3486B. It is mentioned in the report of the Dublin Sanitary Association that it was due to the backing of sewer water into a well that supplied the Commons table in Trinity College?—Yes.

3487. That well was disused afterwards, and a pumping-station established?—Yes.

3488. With what result?—It has been seen, I think, that Trinity College is remarkably free from typhoid, although it lies, I should think, at a very low level, and whatever cases of typhoid have occurred in Trinity College of late years, I think they have been fairly proved to have been brought in from outside.

3489. Right Hon. Alderman MEADE.—Are they drinking Vartry water there?—Yes.

3490. Not well water?—Not well water.

3491. Dr. MOORE.—With regard to notification, the Sanitary Association seem to be of opinion that the declaration of the Local Government Board as to who should receive notifications has been detrimental to the working of the Act?—Yes. We hold very strong opinions about that, and we think this Act—the Notification of Infectious Diseases Act—seems to have been originally drafted for England, and then it was applied to Ireland as well. In England I believe that there are officers who are called medical superintendent officers of health. They have charge of certain districts—sanitary districts. There may be one or two sanitary districts joined under their charge, and they are the people to whom the notifications of infectious diseases should be sent. Now in most districts in Ireland we have nobody who is a medical superintendent officer of health. We have officers of health—medical officers of health—and the Local Government Board says that these officers are to notify to themselves the cases of infectious disease that may occur in their practice. They are generally or nearly always the dispensary doctors. Now, we think that that is wrong. Already a case has occurred in which a certain doctor is reported to have said that he did not think there was any necessity to notify the disease, because he would be notifying it to himself as medical officer of health. Now, we hold that that is not correct.

3492. Dr. T. THOMSON.—Do you mean us to understand that the same thing cannot occur in England?—We have no such thing in England as a Medical Superintendent Officer of Health.

3493. Dr. J. W. MOORE.—He may consider nothing is wrong.

3494. Dr. T. THOMSON.—A medical officer of health when in practice is in that position ; is he to notify to himself or not?—Yes, certainly ; that is a question of words. It will be difficult to differentiate between two medical officers of health, but we hold——

3495. Two medical officers of health ; do you mean in Dublin or in England?—In Ireland.

3496. Not England?—No, not England ; and where you have a medical officer of health—a dispensary doctor—as we call them commonly, we say that over his dispensary district, and possibly over a conglomeration of dispensary districts, there should be a medical officer of health to whom notification of infectious disease would be sent.

3497. Right Hon Alderman MEADE.—That would be a new appointment?—Yes ; I think so.

3498–9. Dr. T. THOMSON.—I was under the impression that in Dublin, which is the place we are dealing with, notifications do actually come to Sir Charles Cameron?—I said in Ireland.

3500. Dr. T. THOMSON.—But we are considering Dublin.

3501. Dr. J. W. MOORE.—You can explain to Dr. Thomson that it is necesary for us to consider the law as applied to the whole of Ireland, because the case to which you allude occurred in one of the suburban districts, and led to an outbreak of enteric fever within the city of Dublin. This gentleman said it was not necessary to notify, because the certificate would have gone to himself as dispensary officer. His failure to do so led to a serious outbreak last autumn—isn't that the case?—Yes.

3502. Dr. T. THOMSON.—How would that differ from what might have occurred in England under similar circumstances ; he would have had to notify himself in precisely the same manner.

3503. Right Hon. Alderman MEADE.—To whom are notices sent in the city of Dublin?

3504. Dr. J. W. MOORE.—With regard to the question raised by Dr. Thomson, as to notification as adopted in the city of Dublin, Sir Charles Cameron made a very wise arrangement. He made this arrangement, that the notifications were not to go to the dispensary medical officers, but had to go to him as Medical Superintendent Officer of Health. That arrangement has worked splendidly in Dublin, but unfortunately it is not the law.

Sir *Charles Cameron*.—It is now made the law.

3505. Dr. J. W. MOORE.—Is it?—It was made law by the Public Health Act of 1896.

3506. Right Hon. Alderman MEADE.—Then it works all right in Dublin?

3507. Dr. J. W. MOORE.—It does ; but, unfortunately, we are suffering from the other arrangement which holds outside the city. Isn't that right, Sir Charles?

Sir *Charles Cameron*.—That's right.

3508–9. Dr. J. W. MOORE.—Have the dispensary medical officers, acting as dispensary officers of health, where there are dispensary districts, any executive powers in Ireland—can they give effect to complaints coming to them of the outbreak of infectious diseases?—I can't see how they could.

3510. They have not. (*To Witness*).—Has the attention of the Sanitary Association been drawn to the condition of the tenement houses in Dublin for many years back?—Yes.

3511. I wish you would give the Committee the opinion of Mr. Frederick W. Pim, who, in 1885 was one of the Honorary Secretaries of the Dublin Sanitary Association?—Mr. Pim, in 1885, pointed out in his evidence, furnished to the Royal Commission on the Housing of the Working Classes, that the experience of the Association during thirteen years of continuous attention to Dublin, induced them not to look for improvement to drastic measures, but to continuous steady pressure in the direction of gradual amelioration.

3512. Is that the opinion of the Dublin Sanitary Association to the present day?—Yes.

3513. The Dublin Sanitary Association would not be prepared to advise that 30,000 or 40,000 people should be drastically removed outside the boundaries of the city?—We think there would be great difficulty in doing it.

3514–15. In what way do they think the public authority would best serve the welfare of the city in regard to this question?—We think that the public authority would best serve the city if, as they have already done, they built artisans' dwellings as models, and then devoted their attention in that line to superintending other artisans' dwellings wherever they may be erected. We hold that they lessen their influence as inspectors if they become owners as well.

3516. The association suggests that the Public Health authorities should regulate and supervise rather than construct and manage?—Yes.

3517. You draw attention to the failing prosperity of such places as Gardiner-street and Gloucester-street?—Yes.

3518. The houses in these streets are rapidly becoming tenement houses?—Yes.

3519. Do you think they are being supervised?—Well, I understand that there has been a set of bye-laws drafted, but I don't think, from what I know of those houses, that they could be made proper tenement houses, unless by a very large outlay.

3520. With regard to the water supply of Dublin, what is the view of the Sanitary Association?—We think the Vartry water most excellent water, and Mr. O'Brien Furlong stated that opinion before the Royal Commission that inquired into sewerage and drainage.

3521. The Sanitary Association have received further opinions?—Yes.

3522. Repeatedly?—Yes. The only time I can find any notice of anything wrong with the Vartry water was in a report of the Typhoid Committee, in which it was stated that Professor Emerson Reynolds made daily analysis for, I think, three weeks, and on some of the days he found that there was something wrong with the water—that it was not as pure as it might be.

3523. Dr. T. Thomson.—Chemically pure?—I think it was, as to the amount of organic matter or ammonia in the water. I have his report. But, otherwise, I think the Vartry water is as good drinking water as can be got.

3524. Dr. J. W. Moore.—This is the result of the report on the Vartry water:—"In 1892 the Typhoid Committee appointed a Sub-Committee, consisting of Professor Emerson Reynolds and Dr. Christopher J. Nixon (now Sir Christopher J. Nixon), to inquire into the water supply of Dublin between the 22nd January and the 24th February, 1892. In their report they show that the general results obtained are in accordance with all previous analyses made at the same points (Chemical Laboratory, T.C.D.), and prove that the Vartry water is often for a considerable time of exceptionally high purity; but that it is liable to comparatively rapid alterations of quality, which have only been detected by almost daily analysis. Briefly, their analyses showed that on the 26th, 27th, 28th, and 29th January there was a sensible declension in purity; but that on the other days, between January 22nd and February 14th, the results of the analyses were satisfactory. As causes of this rapid alteration their report suggested:—(1) Replacement of burst pipes by ones imperfectly cleansed; (2) the faulty action of street valves, shown by Mr. Wigham to be quite capable of permitting the occasional introduction of foul matter into the water. These analyses have reference, of course, only to water taken from the mains, and not to stored water." (*To Witness*).—The very general impression is, that the Vartry water is an excellent supply, and that to it little or no illness is directly traceable?—Yes.

3525. Now, with regard to the hopper barge?—We have received complaints about the hopper barge, as regards the nuisance it creates in its present situation, though I have heard it stated that only ashes was sent out from the barge. The Dublin Sanitary Association think this is hardly substantiated by fact. Dr. Edgar Flinn stated that he saw manure sent out one day.

3526. Would ashes give rise to the odour you complain of?—I don't think so.

3527. You say, "Our association is strongly of opinion that if the barge is to be used in the future, it is to be hoped that it will be placed further down the river"?—Yes, we think that would be advisable; but we quite see that the Lighting and Cleansing Committee have great difficulties in the way of carriage, and that would entail extra carriage.

3528. Right Hon. Alderman Meade.—Do you take into account the fact that the Corporation have nothing to say to the selection of berths on the river?—Yes.

3529. That it is the Port and Docks Board who only gave that place and won't give any other?—Yes.

3530. With regard to the lanes and alleys being in charge of the Corporation?—I think Sir Charles Cameron has settled that point. We are thoroughly in accord with Sir Charles Cameron when he says all the lanes and alleys should be in charge of the Corporation.

3531. We have heard a good deal of evidence with regard to manure heaps—I suppose you agree in the main with what has been laid before the Committee?—We are constantly receiving complaints about manure heaps in various parts of the city. We do not get complaints about the Corporation depots, possibly because the people surrounding them are——

3532. Do you think these manure heaps in dairy yards are prejudicial to health?—I don't think it has been proved that disease has spread from them.

3533. Are you aware of the fact that Sir Charles Cameron, in 1878, traced a remarkable epidemic of enteric fever, which broke out in Pembroke township, to a dairy yard in the city (from which milk was supplied to a number of houses) where a dung heap was accumulated—might not that be occurring at the present day?—It might; but in that case, I don't think it was the fact that it was the dung heap that particular stress was laid upon.

3534. Right Hon. Alderman Meade.—Where did this happen?

Sir Charles Cameron.—It was in a dairy yard close to Lower Mount-street, and the fever spread through Pembroke township.

3535. Dr. J. W. Moore.—Now, Dr. Crawley, with regard to the regulation of dairy yards?—That is a matter we have been dealing about with Sir Charles Cameron, and we have now a set of bye-laws which the Corporation has framed, and which are very excellent bye-laws, but which I don't think are carried out as thoroughly as they might be. For some time we had quite a long correspondence with the Public Health Committee with reference to the bye-law which has to do with the placing of the owner's name over the entrance to the dairy. Last October we inspected, I suppose, fifty dairies in Dublin.

3536. Dairies or dairy yards?—Dairy yards. We found in many cases that the name of the owner was not over the entrance or not over the proper entrance, but I believe Alderman Meade read out an amended bye-law on this subject the other day.

3537. That was a circular letter addressed to the dairy keepers?—Yes, and we think that will be a great improvement. A doctor will not be able to go through a dairy yard to attend a patient, and say he did not know it was such, when the dairy-keeper's name is over the entrance.

3538. What is the opinion of your association with regard to private slaughter-houses?—We think all the private slaughter-houses within the city should be

abolished. Ever since the association has been formed that has been before it. One of the chief objections to private slaughterhouses is, that we think there is no adequate inspection of the meat, leaving out of the question the inspection of the yards and the things about them. We don't think the meat is inspected properly, and we think Sir Charles Cameron's idea, that there should be a south city abattoir as well as a north city abattoir, is a good one, and that the abattoir on the north side of the city must be brought within the city boundary.

3539. Right Hon. Alderman MEADE.—It is brought within the city boundary?—It is now, I did not know that.

3540. Dr. J. W. MOORE.—What are the recommendations of your association on this matter?—I have here the recommendations of the Royal Commission on Tuberclosis, 1895.

3541. And the Sanitary Association adopt these?—Yes, certainly. These are the recommendations—"We recommend that in all towns and municipal boroughs in England and Wales and in Ireland power be conferred on the authorities similar to those conferred on Scottish corporations and municipalities by the Borough Police (Scotland) Act, viz.:—(*a.*) When the local authority in any town or urban district in England and Wales and Ireland have provided a public slaughter-house, power be conferred on them to declare that no other place within the town or borough shall be used for slaughtering, except that a period of three years be allowed to the owners of existing registered private slaughter-houses to apply their premises to other purposes. The term of three years to date in these places where adequate public slaughter-houses already exist from the public announcement by the local authority that the use of such public slaughter-houses is obligatory, or in those places where public slaughter-houses have not been erected, from the public announcement by the local authority that tenders for their erection have been accepted. (*b.*) That local authorities be empowered to require all meat slaughtered elsewhere than in a public slaughter-house, and brought into the district for sale, to be taken to a place or places where such meat may be inspected, and that local authorities be empowered to make a charge to cover the expenses attendant on such inspection. (*c.*) That when a public slaughter-house has been established inspectors shall be engaged to inspect all animals immediately after slaughter, and stamp the joints of all carcases passed as sound."

3542. The Sanitary Association approve these recommendations, and think they should be carried out?—Most decidedly.

3543. Just one more question with regard to notification. I have here a list of the notifications of infectious diseases in Dublin during 1898, and there were 1,448 cases of typhoid or enteric fever, and the deaths registered 135—would not that indicate a fairly good percentage of notifications?—Yes.

3544. It would give the death rate about 10 per cent.?—That looks as if the notifications were improving in Dublin.

3545. Dr. R. L. SWAN.—You stated there was no evidence to show that manure heaps originated diseases of any kind, as far as I understood it. Do you mean to contend that the presence of manure accumulations is not injurious?—I said that we (the Dublin Sanitary Association) had not been able to trace that there had been any sickness directly caused by the manure heaps; but they are calculated to lower the vitality of the people living in the neighbourhood.

3546. Wouldn't you believe that manure heaps may form favourable culture-ground for many organisms that would be prejudicial to public health?—Yes.

3547. Such as these of diphtheria?—Yes.

3548. However, that does not increase the death rate materially.—Have the communications from your association to the Public Health Office received attention?—Yes, of late years, certainly; previously I don't think we could say so. I think our recommendations to Sir Charles Cameron are acted on by him as far as he can possibly do so, because our association may put things rather strongly, in the hope that we may get a little done if we ask often enough. As far as I know we have no complaint to make with regard to the Public Health Committee paying attention to our communications.

Dr. R. L. SWAN.—Thank you.

3549. Dr. T. THOMSON.—You told us the condition of the milk in Dublin might be associated with the propagation of tuberculous disease?—I think so.

3550.—Do you think that milk is liable to produce phthisis as well as other forms of tuberculous disease?—I think it is liable to produce other forms of tuberculous disease that may go on to phthisis.

3551. Do you believe that tuberculous disease may be communicated through the alimentary canal to other parts of the system?—I am stating here the views of the Dublin Sanitary Association, not my own.

3552. What are the views of the association on this question?—I don't think we have ever gone into it.

3553. The Dublin Sanitary Association has not formed an opinion on that point?—Not as to phthisis.

3554. The death rate from phthisis here is very high?—Yes.

3555 9. You are against the removal of any large proportion of the city population outside the city boundaries?—Yes.

3560. What is your objection to such a course?—The Dublin Sanitary Association is of opinion that the difficulty is the point which Sir Charles Cameron has brought out so very forcibly—that with regard to the housing of the people, the housing of the very poor. If you take a number of the very poor and transfer them into the suburbs they are in a position that they cannot possibly hope to benefit by workmen's trams. If, on the other hand, you take the class of persons who inhabit the Artisans' Company's houses and the Corporation dwellings, and send them out to the suburbs, well and good. They are, generally speaking, in more or less steady work, but for the very poor we do not think the arrangement would be a good one.

3561. What is your objection to the housing of the working classes outside the boundary?—I think it would be impracticable to house the working classes eight miles from their work, as someone said here a few days ago.

3562. Right Hon. Alderman MEADE.—That was stated about the north side of the city, and what could be got there.

3563. Dr. *Crawley.*—I mean to say that workmen will live a great distance from their work, but not eight miles.

3564. Dr. T. THOMSON.—Supposing houses could be got a reasonable distance from the work, would you approve of it then?—Yes.

3565. Dr. J. W. MOORE.—You know that Cabra and Phibsborough are available?—Yes.

3565A. Right Hon. Alderman MEADE.—Not Phibsborough.

3565B. Dr. J. W. MOORE.—And Cabra is almost one and a half miles from the General Post Office?—About that.

3566. Right Hon. Alderman MEADE.—It is three miles where there is any land available.

3567. Dr. T. THOMSON.—I gather from you that your association are not in favour of the Corporation erecting and managing workmen's dwellings?—I am afraid I expressed myself very badly if that is so. No one can say anything against the Corporation or the Artisans' Dwellings Company in this matter of improved houses; but what we do say is this—that we think the Corporation will better serve the public welfare if they supervised, rather than erected and managed, artisans' dwellings such as they have already erected.

3568. In what way do you consider it would be better for the Corporation to adopt the course you

propose, instead of themselves constructing and managing workmen's dwellings?—Because it is one thing to be told to do certain repairs by a man set over you in authority; but if you see a neighbouring house that you think is in a similar bad state to your own, I think the effect is not so great or so beneficial as it otherwise would be if the owner of that house orders you to set your own in order—you have no line to draw a comparison by.

3569. That seems to imply that the Corporation houses are badly managed?—No.

3570. If you don't allege that where is the basis of your argument. You are aware that Part III. of the Housing of the Working Classes Act was passed for this object; that other Corporations have availed themselves of this part of the Act; and why should not the Dublin Corporation do what other Corporations do?—We think this, that although there may be no defects found in the dwellings put up by the Corporation, owned and run by them, still it will be easier for them to make improvements in other people's dwellings if they did not themselves own artisans' dwellings.

3571. Don't you perceive that your adopting that attitude is virtually a criticism of the Housing of the Working Classes Act (Part 3). If the Corporation goes in for a scheme under that portion of the Act, are you prepared to complain of them in that position?—I certainly am not prepared to complain of them in any position with regard to the managing of the dwellings. We think it, however, better if they supervised rather than erected.

3752. Then, the logical outcome of your contention is that you are opposed to Part 3 of the Housing of the Working Classes Act?—No; but we think it would be better if the Corporation supervised instead of erected.

3753. Why do you think so?—Because we think their hands would be strengthened by it.

3754. As I understand you, in this you specially criticise the Dublin Corporation?—I am not criticising them; I am merely referring to them. As I already stated, we think that the Dublin Corporation, as the Dublin Corporation, having nothing to do with any Acts, would serve the public welfare better if they supervised rather than erected, and managed artisans' dwellings.

3755. Observe that I have been putting this question distinctly to you for the last five minutes; why do you make that suggestion—what are your reasons for making it?

3756. Chairman.—Would you apply the same to the Corporations of Limerick, Cork, and Waterford?

3756a. Dr. T. Thomson.—And to the Liverpool and Manchester Corporations?—I know nothing about other Corporations.

3757. Would you apply it?—We think it has special reference to the Dublin Corporation.

3758. Because the Dublin Corporation is the Dublin Corporation?—It has special reference to them.

3759. Right Hon. Alderman Meade.—May I take it that the meaning of it is that the association think the Dublin Corporation would be competing ones with private companies or private parties, and that they would be here inclined to insist on the houses of private companies being kept in order and money spent on them than on their own property?—Well, that is a very wide reading.

3760. That is the reading I take out of it?—That has nothing to do with us. We admit that as long as the Corporation build houses they have a right to manage them; but we think you would have an easier time of it if you didn't do so.

3761. That is only a case of labour then; if the Corporation are prepared to take this additional labour upon their shoulders, what objection is there to the Corporation taking such work upon themselves?—There is no objection; but we think you would have an easier way before you if you did not do so.

3762. Don't spare us the labour—I certainly thought your meaning was that it was unfair for the Corporation to be in competition with private owners—Not so far as that.

3763. I think you were present when Dr. Hope, of Liverpool (the Medical Officer of Health of that city), gave us evidence, and told us of what the Liverpool Corporation are doing in the matter of dwellings—why should not this Corporation do the same?—We don't object to it if the Corporation are willing. We can say that the Corporation have managed their own buildings most excellently.

3764. Alderman Dowd.—You referred to typhoid being caused by persons from outside the city—have you any suggestion to make as to the Corporation getting facilities for inspection outside the city?—I think that meat, when killed outside, ought to be inspected and passed before being allowed into the city, and the same remark applies to the inspection of milk coming into the city.

3765. That is to have it inspected outside the city?—Yes.

3766. Do you think the medical officers outside the city ought to give our medical superintendent the names of the owners of any dairies when disease occurs in them?—Certainly. As far as I recollect, in the recent case that occurred, the medical officer stated he was not aware that it was a dairy.

3767. If he was aware, ought he to inform our Medical Superintendent of Health?—Certainly.

Dr. Joseph E. Kenny examined.

3768. Chairman.—Dr. Kenny, Dr. Thomson has a few questions to ask you.

Dr. *Kenny.*—Very well, Mr. Chairman.

3769. Dr. T. Thomson.—You are a Doctor of Medicine?—Yes.

3770. And Coroner for the City of Dublin?—Yes, since 1891. Previous to that I was Visiting Medical Officer for the North Dublin Union for eight years, and previous to that I was Dispensing Officer for No. 2, North City District for nine and a half years. That brings my entire professional career to something like thirty years.

3771. Do you desire to state to the Committee, first your views as to the health, and then to the nature of the high death rate in Dublin?—I think that Dublin ought to be a healthy city from its situation, without taking into consideration the fact that a good deal of it is built on reclaimed land; but in the latter regard, the ill effects on health of the reclaimed land must be pretty well exhausted now, though not entirely, as the buildings are of an old date. Taking its geographical situation, its proximity to mountain and sea, it ought to be a very healthy town. There are many causes contributing to a high death rate, which can be remedied, though difficult to remedy; but of the many factors contributing to this, the main factor—which is responsible for, at least, seven-eighths of the whole excess in the death rate—is the housing of the poor. I have a good deal of experience of foreign cities and of English cities, and I know no city where the overcrowding of the poor exists to the same extent as in Dublin. That is to say, there is a much larger proportion of the inhabitants of Dublin confined to insanitary overcrowded dwellings than in any other city I am acquainted with. I cannot give the figures—others can give them—but I can speak from my own observation. I was born in Dublin, and have spent a considerable period professionally in it, and I can speak with full knowledge of the condition of my old district—bounded on the north by Great Britain-street, on the east by Sackville-street (or O'Connell-street), on the south by the Quays and on

the west by Green-street—a parallelogram of about a mile in length—and with the exception of some houses in Sackville-street (O'Connell-street), and Henry-street, and Capel-street, there is not a single house in this parallelogram—and there were not 5 per cent. that I did not visit—that was other than tenement habitations. A considerable area of it has been, fortunately, cleared away since—Bull-lane and Fisher's-lane on which I reported at the time—but there is still the Ormond-market area and Cole's-lane (off Moore-street), and I don't think there is a single house in that area that ought to be allowed to remain open as a tenement house. The Ormond-market houses have no means of providing sanitary accommodation whatever. The houses are built up back to back or against dead walls; no yards whatever, or any space for them.

3772. Dr. T. THOMSON.—You take the view that while a great deal has been done in the way of removing insanitary houses and replacing them, still there remains a great deal to be done?—Yes.

3773. You suggest that these houses should be demolished and reconstructed?—Yes; the two words that express what should be done are "demolition" and "reconstruction." There is a movement going on on the north side of the city, wherever we find that streets—fine respectable streets, are passing gradually into tenement house streets, and as instances of this I may mention two streets—Gardiner-street (where I lived formerly myself), and Gloucester-street. These were constructed as fine, respectable streets, and the houses are now in tenements; and my view is that the better the house was originally the worse it becomes when converted into a tenement house, because the bigger the house the greater the number of persons who want to live in it. I hold it is worse to have forty people in one large house than to have twenty people each in two smaller houses, so that when these large houses run into tenement houses, the more likely they are to aggravate the evil.

3774. Do you refer to the size of the houses?—Yes, and unless radical changes are made in the construction of these houses they are not suitable for tenements. These big houses go out of occupation for a time, say, and the landlord, having no money to reconstruct them, turns to and lets them out in tenements, to the great detriment of his neighbours in the street.

3775. Do you think that many of those houses could be adapted for living in?—I do, some of them; but the expense of putting them in proper form, would be too great to make them profitable to the owners of the houses. I saw the experiment tried in my own district. A man named Marjoribanks reconstructed some houses on the east side of Stafford-street, as tenement houses, and he told me they were highly profitable, but they were tenements that anyone might dwell in. He threw all the yards into one yard, he concreted all the walls, he constructed privies in all the yards, he put water-taps in all the rooms; and he told me that, after doing this, he was making a profit. His were the only tenement houses I ever saw that were not discreditable to the owners.

3776. Right Hon. Alderman MEADE.—You say he erected a sanitary convenience in each yard?—Yes.

3777. Not on the landings?—No. I have got a note here, under the "Heads of evidence," that might be brought in here—"It has aggravated the evil, but it was done with the best intention. A movement took place on the part of the sanitary authorities to substitute water-closets. Now, a water-closet, we all know is a luxury, and we must use it properly or it will become a plague, and no water-closet can be properly kept in a tenement house, unless in a self-contained tenement that belongs exclusively to, and is in the exclusive use of a particular tenant. If it is to be a proper water-closet one tenant must have the exclusive use of it, because, if not, you can never make him accountable for the damage. If it is common to the tenement house it is bound within a week to get out of order. I have seen a water-closet at the foot of a stair-case in a house that absolutely had no yard whatever, and that closet must have been, from the moment it got out of repair, a flue for carrying disease into the house. Before you altered the privy system you should also alter each tenement house, and make it what it ought to be. It was a mistake made with the best intentions. But I think, it was a dangerous mistake. The old privies were very offensive. They, no doubt, did lower the nervous tension and make persons more susceptible to disease. But, in my opinion, they never carried disease. They contained nearly all matter in a moist state. They might be germ beds, cultivation beds for bacilli, but they were always wet, and that condition is not favourable for the transmission of disease."

3779. Dr. T. THOMSON.—Are you aware that in some recent experiments, conducted in the neighbourhood of Manchester, it was found that typhoid fever bacilli were distributed between the bricks, and on the dry surface of the bricks in the privy itself?—I am aware of that. But, I think, that was a lesser evil; and as far as I can see typhoid fever is more frequent in Dublin since the introduction of the water-closets than before.

3780. Do you recommend that Dublin should revert to the old system?—I don't by any means; but I think the wholesale alteration was a mistake. The privies were a considerable distance to the rere of the houses, being open to the full air of heaven, they were not at all as great an evil as the filtration of sewage matter into the house by water-closets. But, if you were put to the alternative you ought to at least shut up houses unless you can make them sanitary. You should not, in my opinion, keep any insanitary house open. It ought to be closed forthwith. But the difficulty is where are you to put the inhabitants. With regard to this question of overcrowding a great evil seems to arise out of it, not alone in the living of the people together in such numbers, but in the fact that in wet weather, of which we have a large proportion in this country, the children of the poor have absolutely no place to go to; and any one who is conversant with the work of a dispensary medical officer in Dublin will be able to tell you that it is a constant experience when mounting up the stairs, visiting a room, that he has to make his way through dozens of children sitting on the stairs. So that the evil of the tenement system becomes aggravated by the fact that, not alone do they dwell in them during the night, but in wet weather during the day as well. They have no change of clothes, and it is not possible for them to go and face the weather, and the result is that they were in the house all day when not at school. I suggest that in a climate like ours, in a city like Dublin, you want not alone open spaces for recreation, but you require that these spaces should be covered. I am not referring to the erection of halls, but to recreation grounds covered in with corrugated iron roofs with pillars, to which the children could go and play.

3781. Are there not such recreation grounds in Dublin?—There is not one, nor did I ever hear it mooted that there should be.

3782. Right Hon. Alderman MEADE.—It was mooted often enough.

Dr. *Kenny*.—That was my opinion.

3783. Dr. T. THOMSON.—Would you require a great many of them in Dublin?—You would, but they need not be very large. They would serve several purposes They would cope with the drink question because the public authority could let portion of them for coffee stalls and for other purposes, and as there is a movement for providing music for the people, band stands could be provided there for the accommodation of bands. I think the providing of these covered spaces is a very urgent necessity. They need not be elaborate. I think they would be of very substantial use, because they would take the children out of the houses in the day time when they would not be at school. I think

that when epidemics break out in Dublin the primary schools ought to be closed, at all events when the epidemic reaches any dimensions. I believe that the Corporation have no power to order it. In connection with that I think the clergymen of various denominations ought to be asked to give advice from the pulpit on this subject; they ought to advise that the children should not alone be excluded from being sent to school, but also that they should not be sent to places of public worship. I am perfectly certain that amongst Catholics, who are very punctilious about their church, epidemic disease is largely disseminated in the church. To come back to the tenement house—a child gets sick in the house and the mother is attending it, and she walks from the bedside to the crowded church or chapel, and she is a source of infection to all her neighbours.

3784. What would you suggest as a remedy?—That the heads of the churches should be asked to advise their congregations not to attend church when disease was in their house; that the people should be relieved of the obligation of attending worship in church at stated times; and that they should be in fact strongly advised not to attend church when disease existed in their houses. That may look a strong measure, but I think it is a very necessary measure. I remember one day travelling in a tram-car in which was a man with a child on his knee; suddenly the child burst out into a violent fit of whooping-cough. I went up to him and asked him to leave the car. He didn't seem to be alive to the fact that he was running the risk of conveying the whooping-cough to every child that came into that car. He did not leave the car. This incident is an example of the ignorance of the people of their duties to the public.

3785. As regards the buildings that you have been telling us about—tenement houses and overcrowded places—do you suggest that they should be abolished, and that suitable buildings should be put in their places?—Yes.

4786. What view do you take as regards the position in which such buildings should be placed?—Considering the crowded state of the city of Dublin I think it would be criminal to build any more houses in the city I speak generally. There are one or two spots here and there that might be built on. The only one that I can call to mind is one on the north Circular-road at back of houses already built there.

3787. Right Hon. Alderman Meade.—Where is that?—The Infirmary-road—at the back of that.

3788. The Dublin Artisans' Dwellings Company are taking that?—That is the only suitable area I know in the city of Dublin. I think that when you do destroy an area like Cole's-lane, it would be a monstrous thing to allow it to be built over in the same way again. All these places should be built with central plots and with the covered spaces that I have referred to.

3789. Dr. T. Thomson.—You would not propose to re-house all the population in them?—It has been tried over and over again. You would only re-create the evil you have already destroyed by doing so.

3790. What would you do with the surplus population not re-housed?—You must build outside the city. It would be criminal, generally speaking, to allow any more buildings to be erected in the city of Dublin. A great deal of building, owing to the fact that the Corporation had no power to prevent it, took place on land utterly unfit for building—on land that had been a dumping ground for all sorts of refuse for many years. Buildings were erected on land such as this without proper preparation, and the Corporation had no power to prevent it. Take the case of the area near the Mater Misericordiæ Hospital. I remember, when I was a student there, seeing that area as a dumping place for all sorts of refuse. But they have built a number of small houses there, inhabited by commercial clerks and others whose means were limited. In my opinion the majority of these houses are jerry built; and they are absolutely and entirely bad houses on account of their construction. I have been in many of them, and I have seen the evils of bad sanitation aggravated in a great degree. Then there is another area known as "The Lots," behind the North Wall. That area is not, in my opinion, at all yet fit for building; nor will it be for many years to come. It is too low. A great deal of it is below the level of high tide, and building ought not to be permitted on it. The Sanitary Authority ought to have power to prevent it, and to say to the parties interested, "That area is not fit for building, and we will not allow you to build on it." A great deal of evil would be obviated if that was done. All land about to be built on should be submitted to an expert to ascertain that the soil was free from germs, that the sub-soil was such as would permit of draining, trenching, and concreting. With regard to the privies, what I wish to say is that you must have some accommodation. The yards ought to be reconstructed and concreted, and a regular system of cleansing should be applied to the privies especially. I never contemplated going back to the old privy system. But I say that the old privy system was not as bad as the water-closet system.

I have got here in my hand a table, which shows the number of inquests each year since 1892, and you will see that there has been a progressive increase in the inquests and the reports. What I call an inquiry is simply where I did not hold an inquest. Cases are reported to me, and I decide in one case that I will hold an inquest and in another that I will not. This table shows a progressive increase, which is of a very alarming character. The number of reports is 365 in 1892, and it is nearer to 600 in 1899. These are the total reports, and the inquests have increased from 222 in 1892, I think it is, to 332 in 1899. In connection with this, my opinion is that the census of the labouring classes—the very poor labourers—is not at all correct. The alleged population of 250,000 is, I think, wrong. But it is not wrong from any default of any person. But it is wrong through circumstances which cannot be kept in view from day to day. I believe that Dublin is gradually becoming a labour centre for a large area indeed, and that nearly all the labour of the whole of that area is housed in the city of Dublin; and there must be a large increase in the labour population because of the circumstances referred to. Every house in Gardiner-street or Gloucester-street, for example, contained but one family not more than eighteen or twenty years ago. Now in every room in each house in these streets there is a family. That means a very large increase in the population.

3791.—You think the population has increased since the last census?—I think the labour population has vastly increased.

3792. And that accounts for the increase of inquests?—Yes. I have tried to make out as far as I could what proportion of inquests the poor give. They give, at least, nine-tenths of all the inquests, whereas they are not nine-tenths of the population. They are the persons who have had no medical attendance. They don't seek it, and they don't get it, and they go on labouring to the very last moment of their lives, and they are then found dead in bed. These figures seem to me to indicate clearly a large movement of the labouring population into the city, and it synchronises with the starting of large works, such as the Main Drainage works and the Tramway works, and so on, which have been mainly constructed within the past ten years. These matters have brought in a large number of labourers, and there is an exceedingly small accommodation for any labour population in the city. A family moves to the suburbs, and its place is taken by eight or ten labour families in a house previously inhabited by but one family. This has aggravated the evil.

3793. You have no other suggestion to account for the number of inquests?—I cannot. In my predecessor's time the books were not regularly kept. But I have kept them very regularly, and have them

written up to date, and, as far as I could see from the early records, which are imperfect, there was an increase the very first year I took up the office, and that has gone on progressively, and this year, so far as it has gone, is the worst. We have not yet had sixty days of the year, and I have had 63 inquests.

3794. Is there any particular class of case in which inquests have increased?—They have increased generally. The proportion of inquests among the well-to-do is exceedingly small—very small, indeed.

3795. What I wish to know is, whether this increase in the number of inquests has special reference to any particular classs of case?—I think it is entirely in reference to the poor.

3796. I mean the class of case in which you hold inquests. You might hold an inquest in a case of alleged murder, or in a case of a death from burns?—With regard to burns and scalds, I believe they are a very large item, indeed, and this brings us back again to the question of the tenement houses. The story of the mother in a case of burns is generally this—"I went downstairs to the yard to get a can of water. I was absent only while I was getting it. When coming back I heard my child screaming. I went into my room, and found her clothes on fire." There again you have it that persons living in tenements have to seek all their accommodation downstairs, there being no self-contained tenements. That involves leaving the children in rooms with open fire-places. There is often a young child, eight or nine years old, left in the control of others. Such a child is unable to control the others, and one goes over to the fire-place, and is burned to death.

3797. Do you mean that there has been an increase in cases of that sort?—I believe so. During the last two years, 1898 and 1899, they number forty-two, these being cases amongst children; and this year, out of sixty-three inquests that have been held, sixteen are of that class. That is, 25 or 26 per cent. of the whole number are due to that cause. This and heart disease constitute the two great factors for inquest cases.

3798. Do you classify your inquests by age?—No; I have not gone into classification of that sort. With regard to inquests, the old cases of alleged apoplexy have almost disappeared altogether. Thirty years ago a a very large percentage of the cases of sudden deaths was put down to apoplexy, though the cases were clearly cases of syncope, and, as far as my statistics go, I do not think that of all the sudden deaths 3 per cent. are due to apoplexy. Of those which turn out to be due to natural causes, nearly all arise from heart disease.

3799. Right Hon. Alderman Meade.—Are there many cases of drowning?—A good many cases, but I don't think they vary much as to numbers. There are certain items that don't seem to vary. Some years ago I had to make out statistics for a Parliamentary return as to the number of persons who committed suicide. I made it out for the city of Dublin, and it turned out that ten was the average for the five years that I gave. They were all returned as of unsound mind. The suicide rate is exceedingly low.

3800. Dr. T. Thomson.—You make inquiries with regard to uncertified deaths?—The *primâ facie* case for an inquest is sudden death. I don't hold inquests in all cases of sudden death if I am satisfied on certain points.

3801. Suppose a death is uncertified, do you make inquiry whether it is sudden or not?—No; unless reported to me. I had an interview with the late Registrar-General, as I found that a good deal of trouble was given to people about registration, and I said I thought it would be a convenience if, when uncertified cases came to the dispensary officers for registration, they should be reported to me, and that if I was satisfied that everything was right, I would give a certificate to that effect, and I have done so. But they have not increased the statistics in the least degree. That would only come to the question of cases of sudden death. I must first be moved. If a case came under my own notice I may move myself; but as a general rule the police report first to me. It might be said that I hold a greater proportion of inquests than my predecessor; but I have no control over the cases reported to me, and you will see from these figures that the total reports have enormously increased. Burns and scalds, generally among children, are due to the fact that the tenements are not self-contained tenements. They do not contain the conveniences of life, and people have to leave their children suddenly exposed for the purpose of carrying on domestic work, and the result is a vast loss of life. With regard to that question, all tenements should not alone be self-contained in the sense of having a water supply in the room, but all fire-places should be provided with moveable fire-guards, so that in the necessary absence of the parents, the fire-guards should be placed in their position before the fire.

3801. Would you compel the owner to supply the fire-guard?—Yes, and I would make an injury of the fire-guard a criminal offence on the part of the tenant.

3802. I think you wish to say something to the Committee regarding the Vartry water?—Yes. A witness recently said that the Varty water was the cause of enteric fever. When I was first appointed Medical Officer for the North Dublin Union, I found, to my great surprise, that the water supplied there was from the canal, and for the first two or three years I was constantly plagued with cases of infantile typhoid, diarrhœa, and similar others. I moved the Board to get the Vartry water supply. Dr. McCabe, who was then Local Government Board Inspector, reported in the same sense. The Vartry Water was introduced with an immediate alteration in the condition of things. We had, of course, typhoid among the adults also, but for the last four years I never had a case of typhoid fever arising amongst the adults in the Union at all. The Vartry water, instead of being a source of typhoid fever, is one of the best supplies in the world. I have often heard it argued that it doesn't contain lime. Those who argue that the absence of lime is bad, don't understand the question. It is not from the water you get the lime that makes your bones, but from your food.

3803. You also hold certain views regarding the relation between the Liffey and disease?—I do, sir. I think the Liffey acts in a way that a professional man will understand. The general public think that the smell from the Liffey causes disease. I don't think it has more than a depressing influence, just as a bad smell of any kind has a depressing influence. The real evil is that which is about to be remedied, namely, that it closes the sewers twice in the twenty-four hours, and the gas is forced out through the houses, and in that connection I may mention that it is a common thing when people leave their houses in the summer and go to the seaside, to close up their houses. They don't leave caretakers in them, and I have seen myself very grave attacks of disease occurring to people who have come back full of health. The system of draining into the Liffey is the old unscientific, barbarous method of disposing of sewage. Not alone is it putting it into the wrong place, but also destroying one of the most beautiful things in the world—a river. It is in defiance of every law, both æsthetic and sanitary.

3804. That will disappear with the completion of the main drainage system?—Yes, with the main drainage. My experience both as coroner and medical officer makes me believe that a great number of cases of tuberculosis are not registered as tuberculosis. They are registered under some other heading, and the reason of that is that amongst the poor there are insurance companies who insure the lives of the children at birth, and they insure adults as well for small sums, chiefly for burial purposes. The agents will take any life whatever without a certificate, and the result is that there is a constant deception going on as to the cause of death. They know very well that the registration of one member of a family or more for tuberculosis

will militate against them, and they make out that it is bronchitis. A great number of cases also, which are registered as convulsions, are tubercular meningitis. So that I believe, that even bad as the tables are for tuberculosis, they don't fully represent all the cases.

3805. That perhaps is not peculiar to Dublin?—No; but I think what is peculiar to Dublin is this—I have to go back again to the same subject—that the houses of Dublin, these wretched tenement houses in Dublin, are saturated with tuberculosis germs. Between the time that one tenancy has terminated and the next tenancy begins it is an exceptional thing to get anything done to them in the way of disinfection. I know the Sanitary Authority is now bending its efforts to get houses, where deaths from tuberculosis occur, disinfected properly; but that movement is only in its infancy. I think there is a great necessity for a radical system of disinfection after deaths from tuberculosis. You have the tenement system aggravating the death rate to a very large extent by being the means not alone of lowering health generally, but by being the foci of tubercular infection. I believe this evil exists in Dublin to a greater extent than it does anywhere else on account of the crowded conditions which exist. With regard to deaths from drink my experience is this:—Dublin has less amusements than any other city in the world of the same size. It has no amusements for the poor, and the public-house is the only meeting-place for the poor. Thoy have no other place where they can converse in comfort. You must put into competition with the public-house something else if you want to prevent drinking. It is idle to blame the publicans. I tried very hard, indeed, to trace cases of death from drink to the giving of drink by publicans to persons already obviously under the influence of drink, and I have been able to trace clearly only one case in which a jury ought to say that the person's death was due to his having been supplied with drink by a publican while under the influence of drink. I myself, have believed in many cases that that was done, but the evidence was not conclusive. But, as a general rule, the evidence goes to show that he was not supplied with drink in public-houses, being already under the influence of drink. But there was illicit drinking going on over the city, and especially in the so-called clubs—workmen's clubs, which are really only drinking places of the worst character. I am strongly in favour of workmen's clubs. The workman wants his club more than anyone else, but it ought to be *bona fide*, and in a city like Dublin, unless you supply the people with something to compete with the public-house, drink will be constantly a factor as a death-producing power, and will keep up the high death rate. The people have no place else to go to. They cannot introduce their neighbours to talk to them in to their wretched dwellings. Their whole family life is in one apartment, that becomes vitiated before morning. The man's vitality is lowered by the conditions under which he has slept, and not unnaturally, he seeks for something that he can taste, and he will, unfortunately, take alcohol, under the erroneous idea that it will pull him up.

3806. Have you found an increasing proportion of cases in which there has been a relation between sudden death and the taking of drink in excess?—No.

3807. Dr. J. W. Moore.—You acted for several years as visiting surgeon to the North Dublin Union?—I did.

3808. Did you receive complaints of overcrowding?—Yes, of extreme overcrowding. I think there is an unduly large proportion of poor in the unions of Dublin, and they are the most unsuitable buildings that it is possible to imagine for the purpose to which they are applied. Theoretically, every person who enters the union is there to be in hospital. As a matter of fact, very large numbers are treated as hospital patients, and must be so treated owing to their broken-down condition. The unions are terrible *foci* for the diffusion of tuberculosis. When I went to the North Union first, there was neither any classification of disease, nor was there very much chance of being able to classify. I succeeded after a good deal of effort in producing a certain classification, so far as that I would not allow tubercular cases with other cases. But still the overcrowding was so great, and I had so many tubercular cases, that they had to go into other wards.

3809. They overflowed?—Yes.

3809A. Have you any idea of the cubic space allowed for, in fact?—I cannot recall the figures. I sent reports again and again to the Board, in reference to the deficient cubic space. Generally speaking, we managed to keep the overcrowding down to 300 cubic feet.

3810. Was it generally under that?—Generally speaking we manage to keep it down to that. That I regard as utterly insufficient for twenty persons sick and lying in bed.

3811. Are you aware that one-sixth of the deaths registered in Dublin occur in the two unions?—I was not aware of the exact proportion. But I know that under the heads of infantile mortality in the unions it is not as high as elsewhere. I thought, myself, that it must be higher because it is simply enormous, that is for children under two.

3812. What are the causes of death principally amongst infants in the workhouses?—I never had infants under my care. I never had children under two years of age.

3813. You have stated that since the use of the Royal Canal water was discontinued puerile diseases were much less prevalent than before?—Yes, they were amongst children of two years and upwards. My duties had reference to children from two to seven, and male adults from fourteen upwards. All who were within seven and fourteen were in Cabra, and those between two and seven were under my care—boys only, and male adults above fourteen. I, therefore, cannot answer you as to the causes of deaths amongst infants. But I understood that most numbers of them died from marasmus.

3814. Is it your opinion that the occupants of the tenement houses are very ill-educated as regards the management of their children?—I think they are.

3815. Have you met any cases of fatal scalds resulting from children, for instance, going to the kettle?—No; I have looked over all my records, and I cannot find one. I think there was one, but I was not able to find it. The usual history of a scald amongst the poor is this. A pot of water is taken off the fire where it has been used for cooking for the dinner; the child is playing about the floor and backs into the pot and sits into it. Another common way is that the child makes a grab at the table-cloth and spills over itself a cup of hot tea. Burns are far more due to the nature of tenement houses than scalds. Scalds may occur anywhere.

3816. Are there many cases of burns due to the intempersnce of the parents?—No, not many. You may take the history I have given as typical. I had a case the other day, and the evidence was this:—"I had no water nearer than the yard, which was about ten or fifteen yards away. I left the child and his brother in the room. The little one was in bed. I cautioned the other to mind him while I was away. I was only away while I walked the ten yards, and when I got back the infant's clothes were in flames."

3817. Are there many killed by overlaying?—Not many.

3818. Are those cases attributable to intemperance?—Not many. A woman was recently convicted of overlaying when she was distinctly drunk. Her husband was sober and she was very drunk, and the jury, on my recommendation, brought a verdict of manslaughter against her.

3819, I was greatly struck by two points in your evidence, and I may state that I thoroughly agree about them. These points are the danger to health resulting from the opening in autumn of houses closed during the absence of the families from town?—Might I give a very striking example of that. I attended a family in one of the squares on the north side of the city. The family had been three months away from the beginning of July. Within a week after they came back every child in the family had a sore throat, that we generally recognise as hospital sore throat. I recommended the head of family, who was greatly insulted by it, to look after his sewerage. He said it was as safe as the honour of his wife. But I induced him to look after it, and then I found that there was no ventilation to sewers. Next year he went away in exactly a similar way and shut up his house, and within a week after they came back every one of them had typhoid fever. Then I insisted that the sewerage must be bad. The place was ripped up, and it was found that he was living over a death trap. The sewage was leaking out from side issues up along the walls, and it was a perfect death trap.

3820. As a practical sanitarian you would recommend that before the house is occupied again it should be ventilated?—Freely ventilated, and fires lighted in every room.

3821. The other point is the greater prevalence of tuberculosis than the death returns warrant us in drawing conclusions about. I am sure that a great many convulsions cases are tubercular meningitis. I think your observations most valuable?—The *post-mortem* examinations show that it is tubercular meningitis. Where you cannot find the tubercle in the brain you find traces of mesenteric disease, or lung disease.

3822. Dr. R. L. Swan.—In your evidence in reference to the sanitation in tenement houses, you gave very good reasons why the water supply should be self-contained?—The tenement should be self-contained, and have a water supply in it.

3823. Did your observations go so far as to say that the sanitary accommodation should be also self-contained?—Certainly. If you are to have a water-closet it must be under the exclusive use and control of one tenant, so that you can make him accountable.

3824. What situation would you advocate?—There is no means in the majority of cases of providing them under the existing conditions. The only way would be by an off-set building. This was what was done at the North Dublin Union, an off-set being built in which a water-closet and bath were placed. That is the only way in which it could be done. There ought to be a little return. The deeper it is and the further away it is the better.

3825. Supposing that the front drawingroom was occupied, and also the back drawingroom, what arrangement would you make in such a case?—You have no means of making it then. You must set the two rooms as a single tenement.

3826. Would you not consider all other things being equal that an unclean water-closet inside the four walls of the house would be less sanitary than such an erection in the yard?—Certainly. If you are not to have them self-contained then you must have them in the yard. But the yards must be thoroughly reconstructed for the purpose. They must be all concreted. Steps must be taken so as not to allow percolation, and all sanitary precautions must be taken.

3827. But the chief object in having sanitary accommodation apportioned to each tenement occupier would be to fix the responsibility?—More than that. I think they have a right to it. I think, if you set your house to a tenant you have a right to give him the means of living in it. As an additional reason, you can never make him responsible unless he is in sole control of the apparatus. Otherwise you cannot fix the responsibility. He would say "It was not I did it at all; it was somebody else," and you cannot prove that it was he did it.

3828. Right Hon. Alderman Meade.—Supposing there was a block tenement could you not make the proprietor have a daily inspection and a daily cleansing of those water-closets, and make him responsible for their condition?—That even won't show you who did the damage.

3829. No matter so long as for Corporation purposes there is nothing unsanitary?—Certainly you can cure the unsanitary evil. But the tenement owner will say that he cannot go on repairing always.

3830. You would have to make him attend to that?—I agree that he must take the consequences. I would see the property owner protected as well as the tenant.

3831. Looking at the state of things that we are face to face with, that we have those houses amongst us and the people huddled in them, what I want to know is how we can keep them housed in them and keep them sanitary?—Constant inspection is the only thing at present; but I don't think it will be effective.

3832. And the owners responsible?—There ought to be means of making them primarily responsible. That only cures one of the evils; it does not cure the overcrowding. Not only is there overcrowding, but in point of sanitation every tenement house is getting worse and worse as time goes on, more and more affected with germs. Saturation with germs is almost universal, and must go on increasing under present conditions.

3833. Chairman.—Do you think that earth-closets could be used for tenement houses?—They could be used, but I have always heard it argued that they are too expensive. I think they are an ideal sort of closet for that purpose.

3834. Right Hon. Alderman Meade.—Where would you get the earth?—That is the question.

3835. Alderman Dowd.—And there would be the cost of removal?—That is a difficulty. But if you ask me the question do I approve of it, I certainly approve of it. I have heard it argued that the Corporation itself should not be the owner of tenement property. I don't agree with that. I only see one objection, and that is the enormous price the Corporation are charged, because they are a public authority, for the worthless ground that they take up for the purpose of buildings. The community is made to pay for its own good.

3836. If they could get agricultural land the conditions would be changed?—Yes, and it would cure that evil. Getting land outside the city would have the effect of bringing to reason those who have land inside the city on cleared areas.

3837. Are you in favour of closing schools in times of epidemic?—Yes; when it became an established fact, the Sanitary Authority ought to be able to go down and say, "Close your school."

3838. Do you know anything about the sanitary arrangements in the different day schools?—Not generally. I have seen one or two of them, and the old schools seem very bad.

3839. Not sufficient?—Totally insufficient. But I cannot speak about them with authority as I don't know of their conditions generally with sufficient accuracy.

3840. As to the cubic space?—I cannot say anything about that.

3841. You mentioned something about workmen's clubs. Are you aware that there are a great many bogus clubs?—These are what I refer to.

3842. These are done away with?—A great number of them. I am strongly in favour of workmen's clubs. My point about the bogus club is, that it is not a club. It was through my action that steps were first taken against them. A man was found hanging by the neck, and during the progress of the inquest it transpired that he had gone into a public-house close by the night before, and had been refused drink. He went to another with the same result, and his wife, in giving evidence, said that he went

down to the club afterwards. On being asked what club, she said that anyone could go in there with a jug, that the children were standing in rows there getting drink and taking it home, that that was where her husband had got the drink, and that he was not a member of the club at all. I made a report to the police, and they immediately took action.

3843. You are aware that there are genuine workmen's clubs?—Yes, and some of them are admirably managed—such as the one on Merchants'-quay and the Foresters' clubs.

3844. And the Trades Hall?—Yes, and the Trades Hall.

3845. Those are genuine clubs?—Yes, genuine clubs, which I would like to see multiplied. There is constant illicit drinking taking place, not only in clubs, but also in shebeens.

3846. Dr. J. W. Moore.—As the City Coroner, some members of the Committee would be glad to hear your opinion as to the Morgue. We have seen complaints as to its sanitary or unsanitary condition in the newspapers?—I cannot find language strong enough to describe it. It is a disgrace to the city. I don't think the Corporation are responsible. Their attention was only called to it since I came into office. It is in the most unsanitary condition. It is the most unsuitable building you could possibly imagine for such a purpose. I understand that the Corporation are taking very active steps, indeed, with regard to it. I am quite satisfied that the Corporation are going to do what is right in the matter.

3847. You have had reason to complain of its construction?—You have a dead body brought in from the river after having been in it fifteen or sixteen days, or a body found in a tenement house seven or eight days after death. The jury are sitting over that. The coroner is paid for going there, but the jury are not. The place is simply intolerable. There is no means of getting rid of the smell.

3848. The dead body is in a room underneath the Coroner's Court?—Yes.

3849. In the same building?—Under the same roof.

3850. And that *post-mortem* room ventilates into the Coroner's Court?—Yes, and over the entire premises. Very often I have thought that I ought to take a room in a public-house, as I have power to do; but I have not done so.

3851. Right Hon. Alderman Meade.—The Public Health Committee of the Corporationare looking out for a site for a new morgue, and as soon as they get it they will build one.

3852. *Witness.*—I know that they moved in the matter as soon as reports were forthcoming on the subject. With regard to deaths from heart disease, in a very large number of cases of sudden death it is found that where heart disease is the immediate cause of death, it is very largely associated with lung disease. The existence of unsuspected lung disease is very prevalent. A very large proportion of the poor are found to be suffering from tubercular disease of the lungs, in addition to heart disease.

3853. Dr. J. W. Moore.—I find in the minutes of evidence of the Royal Commission of 1879, a report as to the operations of the Public Health Committee of the Corporation of Dublin; and there is this paragraph (reading), "Mortuary-house, Morgue, and Coroner's Court.—Up to the year 1871 the only provision for receiving remains awaiting inquests, or for making *post-mortem* examinations, was a shed connected with a dairy yard. The means for removing such remains for interment were defective and disagreeable. In that year the Public Health Committee undertook the erection of a morgue, mortuary-house, and Coroner's court, at a cost of £1,200. They were completed in 1872." That is the existing establishment?—Yes.

3854. (Reading) "The number of remains annually deposited in the Morgue has averaged 93"?—The present average is about 200 or 250. With the exception of those held in the hospitals, all the inquests are held there.

3854a. (Reading) "In the accommodation offered by this establishment, and in the arrangements made for giving effect to its objects, it is considered to be inferior to no others in the United Kingdom." I that your opinion?—I was not Coroner then. It is not my opinion now.

3855. That is the opinion of the Secretary to the Public Health Committee, Mr. James Boyle?—Of course, Dr. Moore, there has been a great advance since 1872 in public opinion on these matters. In the case of many mortuaries in England, too, public opinion was not quite up to the mark. Most of them that I visited in London are very new buildings. They didn't strike me as being up for more than twenty years.

3856. From your opinion of the Morgue, are you not a striking example of the survival of the fittest?—I hope of among the fittest; but certainly an example of survival.

The Committee adjourned till the following day.

THIRTEENTH DAY.—THURSDAY, MARCH 1st, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Dr. KATHARINE MAGUIRE examined.

3857. Dr. J. W. MOORE.—You are appearing here, Dr. Maguire, on behalf of the Alexandra Guild Tenements' Company?—Yes.

3858. You have something to state in regard to the purchase of 7 and 8, Summerhill?—There is nothing really special to say about the purchase of 7 and 8, Summerhill, except the fact that we did purchase them. We formed our Company about a year and a-half ago, with the object of improving some of the tenement houses in Dublin. I hand in the prospectus (prospectus handed in). Then, about fifteen months ago, we purchased 7 and 8, Summerhill.

3859. The object of the Alexandra Guild Tenements Company is to provide better sanitary accommodation?—Not entirely. It was to try to improve the tenement houses, but, not necessarily to make them models; because we do not believe that they are capable of being made into model houses, but they are capable of being very much improved. It is with a view to improving some of the tenements that the Company was formed.

3860. Your object is to acquire house property and to let it out in rooms, and manage it on the system that has proved so successful under Miss Octavia Hill in London?—Yes, that is our object, and we have been doing that for fifteen months.

3861. What is the state of repair structurally of these houses?—The structural repair is exceedingly good. They were well-built houses, with large rooms. The sanitary accommodation is one closet, which was at that time accommodating thirteen families. The closet itself, I believe, had been of a fairly good pattern, but it was in an exceedingly filthy state. The drain was fairly good, but it leaked in many places. The important point about the drainage was, that the whole of the drainage of the yards went into the garden of the adjoining houses, into an old cess-pool, so that the soil of the garden was in a most unsanitary state, and when we began to put the drains in order we were obliged to have this soil removed and the cess-pool filled up. We deliberately made the yard common to the two houses, so that the Corporation might be able to prosecute our tenants if they failed—that is, if they did not keep the closets in good order. We have a certificate from the Sanitary Association for the house and the plan of the drains.

3862. You have spent a considerable sum of money on these houses?—Yes; we spent on the drainage of the two houses a sum of £74.

3863. You have been in occupation for a period of fifteen months?—Yes; but the drainage has not been in order for more than about a year, because it took time to put the large yard in order.

3864. What is your general experience of these fifteen months?—Our general experience is that it is exceedingly difficult to get the tenants to keep the sanitary accommodation clean. We have tried the experiment, and we cannot say that we are satisfied. Any tenant living in a house ought to be liable for damage done to the closet. I would like to speak in favour of the tenement landlords. Every landlord putting out a tenant, for non-payment of rent, say, is at the mercy of the tenant for three weeks, and at the end of that time we generally find the closets are "stopped." Some weeks these closets are kept in good order when the tenants are not going out, but that is a matter of chance.

3865. Summerhill is not the only part you have extended your work to?—No; I ought to say that, with regard to the cleaning of the houses there, the houses were not kept clean, but we have improved that very much. We have induced the tenants each to keep his or her part of the house clean, and the houses are, as a general rule, kept remarkably well. We find very little difficulty about that. Then we bought three houses in Grenville street, that is off Mountjoy-square.

3866. That is not far from Summerhill?—No; it is in the same district. These houses were well known to the sanitary authorities. The epidemic of small-pox began there some years ago. The houses had been closed for a short time by the sanitary authorities, and when we took them I could not exaggerate their condition.

3867. The sanitary engineer reported on the drainage?—Yes, practically there was no drainage.

3868. Is his report a long one?—Yes, it is some what long. There were fairly good drains to No. 26 and 27. The drainage of No. 27 ran into 26, and the drain in 28 was very bad. What was worse than the drains was the sanitary accommodation. The closets were so bad that you could not tell what pattern they were, with the exception of one which had been apparently of a fairly good pattern.

3869. Is it the case that these houses had been closed for a short time by the sanitary authorities?—Yes.

3870. On account of their condition?—Yes.

3871. They have been re-opened?—Yes, and without any real improvement. I believe some of the rooms had been whitewashed. They were quite awful when we took possession of them. They were very bad houses, and were let to a very poor class of tenants. The rents were exceedingly high, excessive we thought, and we could not ask the tenants conscientiously to pay them.

3872. What was the population?—There were ten families in each.

3873. That is thirty families in all?—Yes, and it is generally correct to count each family as four persons.

3874. Then these thirty families, would they give those three houses a population of about 120?—Yes; there must have been quite that. I think those were people who took in lodgers.

3875. How long have you been in occupation of those houses?—About eight months. They have, I think, been really put in order about two months. The rooms have not been in order long, but the drainage has.

3876. Your management extends back to the period when diarrhœa and measles were epidemic?—Yes.

3877. Had you many cases?—I do not think so; but I do not know that we always heard about the cases. However, so far as the experience of the rent collectors went, there was not a great deal of sickness. I must say that the death rate of the houses in Summer-hill was higher than the death rate of the houses in Grenville-street.

3878. Do you keep a record of the cases of death occurring amongst your tenants?—No; but I think we ought to. We did keep a very good record of the Summer-hill cases. Grenville-street tenants have only been in a very short time.

3879. Do you find very great difficulty in keeping your houses in order?—Yes; we are very anxious that it should be understood that we have only started a short time, and it is very difficult to counteract the habits of a generation in six months. We have no right to be discouraged.

3880. What is the great difficulty?—The sanitary accommodation. If we could get the closets kept in order, I should say the houses are very good indeed.

3881. Does your Guild take any means to educate the tenants in these matters?—No; we do not do that, and I hardly know whether we should be the right people to do so. I think the children ought to be taught that in the schools. I think Dr. O'Carroll suggested that in his evidence. I consider it would be an improvement if children were taught hygiene, because the children do a great deal of damage also.

3882. You have extensive practice as a physician?—Yes; I have a great deal of experience of tenement houses, because before we selected these houses we examined fully one hundred tenement houses, so that I have really a considerable knowledge of tenement houses in general.

3883. I think you are of opinion that the registration of these houses in three classes would be enough?—Yes.

3884. You are aware that is an ancient proposition?—Yes; but I know it is not being carried out.

3885. It was one of the recommendations of the Royal Commission in 1879?—Yes. It is rather disappointing that it has been so long without effect.

3886. Your proposed classification is tenement house fairly good, houses that are capable of being made good, and houses altogether unsuitable and incapable of being made suitable?—Yes. I think you will find that these houses naturally fall into those three classes. I say houses fairly good, because I think tenement houses are rarely the class of thing they ought to be.

3887. You are of opinion that the last class of houses—houses altogether unsuitable and incapable of being made suitable—should be closed?—Yes.

3888. Can you give just one example of such a house?—I give as an example a house that has no yard. There are lots of those houses in Dublin, especially at the corners of the streets. Of course they could be made suitable by putting in sanitary accommodation in some cases; but I should be slow to do that on a universal scale with Dublin tenement houses.

3889. So far as the property of the Guild is concerned what is your opinion as to the efficiency of the sanitary inspection?—I think it has been efficient so far as our own property is concerned, but I am not satisfied that it is equally efficient in other parts.

3890–1. Why should it be efficient only in your case?—Well, they know we are trying to do something, and they want to see what we are doing, and we are easily got at and the others cannot be easily got at.

3892. And your own present observation is?—That in a large number of cases the sanitary inspection may not be suitably carried out. I can tell you for a certain fact of a case where for the last three months twenty families have been throwing out their ashes in front of the back door because they had no ash-pit. The place in the middle of the yard was a morass, and was being filled up with the ashes. There is no ash-pit since the ash-pit was demolished before Christmas. What I believe is, that if there was good sanitary inspection, I cannot conceive that it would be possible that this should last such a long time.

3893. Has any complaint been made to the authorities?—Not that I am aware of. It is not my business to make complaints.

3894. I do not know about that; I think a physician practising in Dublin should do so?—Yes, perhaps I ought; but it is a rather invidious thing to go into any person's property for that purpose when you are not medical officer of health, and have no status.

3895. Still, a private intimation to Sir Charles Cameron would be attended to?—I am sure it would: but I was, I must also confess, waiting to see what would happen. I did not know that it was going on for so long.

3896. Do you think the existing bye-laws with regard to tenement houses are thoroughly enforced?—No, I do not think they are thoroughly enforced, especially the one about people sleeping and living in underground flagged cellars. I know cases where families were living in flagged cellars, which is contrary to the present bye-laws.

3897. Would you abolish underground cellars altogether?—I would if I could; but I do not think it would be practically possible in view of the present state of affairs. There are regulations about these matters; but I could not say as to the way they are carried out.

3898. You are aware the Public Health authorities have been abating the nuisance in these cellar dwellings to a very great extent?—Yes; but I would not be prepared to say that it would be right to close them all now, owing to the want of accommodation that exists for tenements in Dublin.

3899. You are of opinion that certain alterations in the bye-laws are desirable?—Yes.

3900. On what lines?—Especially for the prevention of overcrowding, because tenement landlords may accidentally allow overcrowding that they would not have if they knew how many people ought to be in each room. I think myself the rooms ought to be measured and a notice written up as to how many people ought to be allowed to lodge and sleep in them.

3901. You also suggest that there should be joint responsibility of tenants for the misuse of the sanitary accommodation and the water supply?—I think so. I notice in Dr. Hooper's evidence that each tenant in Liverpool was made responsible week about for the sanitary accommodation. We have been trying to do that in Summer hill with partially good results; but we found it difficult to continue the practice, because the tenants in other houses were not doing it. It is very difficult to enforce rules in one house when all the rest of Dublin is not following similar rules.

3902. You think that to prevent overcrowding it would be advisable to have a notice posted in each room?—Yes.

3903. Stating the number of inmates who may legally occupy it?—Yes; because it is very difficult for a landlord to know how many occupiers ought to occupy the rooms. Even if the notice was torn down, I think the landlord would know how many tenants should occupy a room, which would have an excellent effect.

3904. Do you possess a registrable qualification in Public Health under the Medical Act of 1886?—No.

3905. At all events you have devoted a good deal of attention to health questions—I have, certainly.

3906. I think your practice lies largely amongst children?—Yes.

3907. Have you formed any opinion as to the relative proportion of air-space that children would require in tenement houses?—I have not formed any

very definite opinion, but I think the proportion allowed is very low. I should think children ought to be allowed a larger proportion than is laid down under the proposed bye-laws.

3908. The bye-laws provide for children under ten years of age only half the cubic space allowed to adults?—Yes. I think that is a mistake. Infants in tenement houses never count—the people will tell you that. If you ever remonstrate when you find that the family is larger than you were informed by your incoming tenants, they will tell you "the infant does not count," and, I suppose it is very often in this way that the air space is diminished.

3909. With regard to complaining to the sanitary authorities about nuisances, you could do that in the course of your daily practice. I find section 121 of the Public Health (Ireland) Act bears on the question:—"Complaint may be made to a justice of the existence of a nuisance under this Act on any premises within the district of any sanitary authority by any person aggrieved thereby, or by any inhabitant of such district"?—But in many instances you might not be in the district. One may not live in it.

3910. You are living within the district of the Sanitary Authority of the city of Dublin?—I did not know that. I should like to say something about ash-bins, too. The first difficulty in our houses is that ash-bins are not cleared every day. We find it very difficult to prevent the inhabitants from throwing improper substances into the ash-pit. It is suggested that to counteract that each family should have an ash-bin of their own. I think that would be a very valuable thing, if it could be carried out—if the landlord, instead of providing one or two large ash-bins, had to provide small ash-bins for each family, it would be more suitable and prevent a great deal of destruction.

3911. You think there should be separate ash-bins for each family?—Yes.

3912. And that these ash-bins should be emptied daily?—Yes. At first it would give some trouble; but, I think, it would be quite worth it in the end.

3913. You also think it would fix the responsibility of keeping them clean on the heads of each family?—Yes; each ash-bin should be numbered according to the room, and there would be really no difficulty then.

3914. I think, Dr. Maguire, with regard to some dwellings you are probably referring, not to the bye-laws of the Corportaion, but to the Act itself?—Yes.

3915. Section 82 says "It shall not be lawful to let or occupy or suffer to be occupied separately as a dwelling any cellar (including for the purposes of this Act in that expression any vault or under-ground room), built or rebuilt, after the passing of this Act, or which is not lawfully so let or occupied at the time of the passing of the Act?"—There are rules about it, and the Corporation does not always enforce these rules. We know that from experience.

3916. Dr. T. Thomson.—Cellar dwellings are permissible under certain circumstances?—Yes; but cellars are allowed in Dublin which are not permissible. I know one which is allowed with a covered area.

3917. Can you give us actual illustrations?—May I mention the name of the street.

3918. Yes?—Well, 50, Rutland-street. The worst houses in Dublin are on the north side. Rutland-street is bad in many ways; but part of it—the Corporation buildings—is very good indeed.

3919. You have told us that you think there would be a great advantage to these tenement houses in each family having an ash-bin?—Yes.

3920. Which could be ear-marked?—Yes; it could be numbered quite easily.

3921. Suppose you had to deal with tenement houses, tenanted by sixteen families—that number is found not unfrequently?—Ten is quite the average number. There are some houses with sixteen families.

3922. Don't you think that the daily removal of the contents of these sixteen ash-bins would be a very serious undertaking for the authorities?—Yes; and I have suggested that it would be as well to have one large one, into which they should be subsequently emptied.

3923. Who would undertake that?—The tenants. If the tenants emptied their ash-bins into one large one it would be checked, because the inspectors could look at the bucket before it was brought down, and see that that was done.

3624. Does that imply that the tenants should bring their ash-bins down at the time the sanitary officers came?—Yes. The tenants should know beforehand what time the officers would come, and then they could bring down the buckets. Every tenant has to do so at present.

3925. But not in the presence of the sanitary officer?—You could not do that. I do not mean that the sanitary officer could see the bucket and the refuse in it. All sorts of *debris* are thrown into these buckets. Then people do not get up before 10 o'clock, and they have no ashes before 12. It is quite right that the buckets should be emptied early in the day; but I think you will find that these ashes are the ashes of the day before, and that the fresh supply would be kept until the following day. At present many of the tenants have no buckets intended for ashes alone, and they carry down their ashes, and rinse the bucket and bring up water in it, which is a frequent cause of disease. They invariably put improper substances in their ashes, which is a most dangerous practice. It would be a trifling expense to the landlord to have separate ash-bins.

3926. What views do you hold about the amount of sanitary conveniences at present provided in these tenement houses?—I think that there is sufficient if they were better kept; but I do not know that the increase of the amount of sanitary accommodation would make them better kept. We have not found that where there was a considerable number of closets they were necessarily cleaner than where there was one or two. We find that where the accommodation is very bad it demoralises the people, and they do not know how to appreciate good accommodation. That is the difficulty with our houses. We have very good accommodation, but small; but still it is good as far as it goes but people unused to good closets do not know how to treat them. Where we get a family out of a house where the sanitary accommodation was exceedingly bad, I should hardly expect that those people would, in a short time, find out how to treat good closets; but I do not know that increasing the closets for every twelve people would be at all suitable.

3927. You think that the water-closets should be in the yard?—I think if they are kept as they are they should be in the yard. If they were well kept it would be different. As they are kept at present it would be exceedingly dangerous to health.

3928. One witness suggested that a sort of annexe should be put up, and that for each floor there should be a separate closet, or one for each family on the floor?—I think that would be very good if it could be done; but it would drive a large number of the landlords bankrupt to provide that accommodation.

3929. What is your experience of the condition of tenement houses?—In some houses one rule is enforced that each tenant should keep his own part of the house clean. In some they are, in others they are not. In the houses visited the stairs of some were fairly clean, but we had very large accumulations of rubbish of the most offensive character in the basement. In Grenville-street the smell was so bad that if you passed the hall door you could feel it quite distinctly. We were told that this was due to the habits of the tenants; but we found that was not true, because as soon as the yard and the basement were cleaned the smell disappeared, although the tenants were no cleaner.

3930. Is your experience of the habits of the tenants variable?—Yes, it is; it varies very much, and we allow for it.

3931. How do you allow for it?—If we find the place is not clean the way we manage, living as we do on friendly terms with our tenants, is this—we say we are sorry and hope it will be better next time, and when the next time comes it will be better. We have no power to make them keep their rooms clean.

3932. Then you find that they are teachable?—Yes, decidedly. I think they would obey orders if universally enforced, but we find it impossible to make laws for houses that are not enforced in the city, especially in relation to the water-closets. We lost our best tenant because her husband did not like her to take her week in turn in keeping these matters in repair. The other tenants made fun of her and her husband would not stand it. With regard to the yard, I arranged it so that the Corporation should be able to come down on those who did not keep the closets in good order. At the same I think it is rather hard that our tenants should be prosecuted when all the rest of Dublin are left practically unprosecuted.

3933. Dr. Moore.—Your houses are in the fierce light that beats upon the throne?—Yes, we quite feel that. I think it is important that the Corporation should back up people trying to effect an improvement.

3934. Right Hon. Alderman Meade.—Is not the Corporation backing them up by seeing that the tenants are doing their work?—Yes, but it would be better if they did the same thing to others.

3935. I presume the Corporation rules are applicable to all the city?—Other tenants should be prosecuted as well as ours.

3936. Do you think the Corporation, without cause, prosecutes your tenants?—No; but the Corporation ought to prosecute, or at least they ought to get powers to prosecute, all who do not keep their places in proper order. They cannot prosecute tenants of single houses, but they ought to be able to do so. I am not in any way blaming the Corporation, except in so far as they do not prosecute others.

3937. The officials of the Corporation thought they were assisting you?—Yes, and we are quite anxious that they should. In fact we arranged the yard deliberately so that they could prosecute; but we know it is a hardship that our tenants should be prosecuted and that the others are not.

3938. If one set of tenants is prosecuted and another is not I think it is a hardship?—It is, certainly. In fact, for instance, the Grenville-street tenants keep their closets quite as dirty; but they cannot be prosecuted because we did not make the yards common.

3939. Alderman Dowd.—You had considerable difficulty with the tenants there when you asked the Corporation to prosecute them?—We did not ask the Corporation to prosecute, but we made the accommodation so that they could.

3940. Do you know Miss Bagley?—Yes.

3941. Did she ask the Secretary of the Public Health Committee to prosecute those tenants?—Not that I am aware of.

3942. I will read this letter:—

"October 16th, 1899.

"Sir,—I shall feel much obliged by your sending an inspector to remonstrate, and, if necessary, to prosecute the tenants of the houses Nos. 7 and 8, Summer-hill, for the dirty state in which they keep the two closets and the yard of No. 8, which the two houses have in common. I am the house rent collector of those houses for the Alexandra Guild Tenements Co., Ltd., and I have done my best to induce the tenants to keep them clean, but they were in a filthy state to-day. I do not think the Corporation supply the buckets often enough.

"Yours truly,

"Mary Bagley."

I did not know that that letter was written.

3943. You do not deny that they are not properly kept?—Yes; it is my fault that they are prosecuted, for I arranged the sanitary accommodation so that they could, but I think it is a hardship.

3944. But you think they ought to be?—Yes; but I think others should be prosecuted also. I do not think it improper to prosecute, but I think others should be prosecuted also.

3945. I am glad to see that you bear testimony to their teachability?—Yes; I think the tenants could be very much improved; but, of course, I think it will be very difficult, because they have been going on for generations without their sanitary accommodations.

3946. Generations ago there were no sanitary accommodations?—That is so. That is the reason why I suggest that children should be taught something about those matters in the schools; many of the adults are very difficult to deal with in all these things.

3947. Dr. J. W. Moore.—Do you require a reference from your tenants?—Yes; but we have a number of tenants that were in the houses originally, and we have not altered them.

3948. They remained on?—A good proportion of them remained on.

3949. That looks as if they were satisfied with the present state of things?—Yes. We did not lose any tenants by the prosecution; but we did lose tenants by trying to keep the sanitary accommodation clean.

3950. Your supervision is not exclusively philanthropic?—No; we hope to make it pay, and we would lay great stress on that. If it was felt that it could be made to pay the tenement landlord would improve very much. I would be sorry to make it entirely philanthropic.

3951. Your experience of this property is that this sort of thing—improving tenement houses in Dublin—could be made a financial success?—I believe it could.

3952. With regard to the class of tenants that occupy your houses it would naturally be very difficult for these poor people to produce the references you require?—If people cannot produce references it means that they are very badly-conducted people; you can always get references with well-conducted people.

3953. From the parish priest?—We never get references from clergymen; we get them from the former landlord or their employers. If they have not got references from their landlords it means that they have not paid the rent for some time, but if they can give an excuse we take it.

3954. Yesterday Dr. Kenny seemed to be of opinion that there was a very great immigration of labourers from the country. Can you imagine a case like that?—We have had no application from people of that kind, and in some cases such applications have not been *bona fide*. To prevent overcrowding we have forms to be filled up, stating the exact number of persons who intend to live in a room.

Witness then withdrew.

Dr. LUMSDEN examined.

3955. Dr. T. THOMSON.—You are a Doctor of Medicine, Dr. Lumsden?—Yes.

3956. And Physician to Mercer's Hospital?—Yes.

3957. And Chief Medical Officer of Guinness's Brewery?—Yes.

3958. You wish to lay before the Committee certain statistics with regard to the health of Guinness's employés?—Yes.

3959. Will you tell us what they are?—I really have not very much to say to you. In the first place I might just mention the number of people employed by Guinness and Co. Roughly speaking, there are between 2,000 and 3,000—to be quite accurate, 2,600—including labourers, tradesmen, and clerks. The labourers and tradesmen are about 1,900; coopers, 250; clerical staff, 450. Altogether there are dependent on the firm between 9,000 and 10,000 people, that is including families, there are generally three to the family, two-thirds of the men being married. As regards the distribution of their residences—Firstly, there is the Belview buildings entirely occupied by the employés and owned by the firm; there are about 70 rooms, and they are inhabited by about 300 people. The majority of them however live in the Artisans' dwellings and cottages, Rialto buildings, and cottages about Pimlico and the Coombe, Bow-lane buildings, Benburb-street buildings, and the buildings on the north side, near the Infirmary-road. There are also quite a number of people living in the tenement houses, I am sorry to say; but I am trying to discourage that as far as possible. The time lost through illness and the classification of diseases is shown in the first return I gave in which deals with the labourers. The second return deals with the mortality amongst the labourers, tradesmen, and pensioners, and you will see that our average is considerably less than that mentioned in the Registrar-General's report.

3960. Right Hon. Alderman MEADE.—What do you mean by pensioners?—There are 354 pensioners—113 male and 241 female—I have included them in this total.

3961. Dr. T. THOMSON.—What do you mean by labourers?—The labourers are men who are not tradesmen.

3962. What are tradesmen?—Tradesmen are tradesmen.

3963. But what sort of tradesmen?—Fitters, carpenters, plumbers, electricians, &c.

3964. And coopers, I suppose?—No, coopers do not count as tradesmen, and I personally have nothing to say about them.

3965. Right Hon. Alderman MEADE.—Are they many?—About 250. The tradesmen are fitters, carpenters, masons, tinsmiths, electricians, &c.

3966. Dr. T. THOMSON.—What do the labourers do?—They do all the work practically, except the expert work. All men employed by the firm, except tradesmen, are labourers, and the tradesmen are as I have already told you.

3967. Right Hon. Alderman MEADE.—What is the number of the tradesmen?—About 200, I should say. This return deals with the years 1892 to 1898. I am sorry I have not last year's return. The average percentage of full time lost per annum is 3·12 per man. The average number of days lost per man, out of the total number of working days, which, roughly speaking, is about 305, is 9·78; that is 9½ days lost per man—labourer and tradesmen in the year through sickness.

3968. This classification allows for the holidays given by the firm?—Yes.

3969. You allow four holidays?—Yes.

3970. That would give you about 306 working days to the year?—Yes, and the average number of days lost per man out of that is 9½. In the case of the clerks, less than seven days are lost per man in the year; and the average percentage of full time lost is 2·42. The average mortality for the years 1891 to 1895 is 1·566 per cent., or 15 per 1,000. The Registrar-General's returns are higher. The average percentage from 1878 to 1898 was 20 per 1,000, or 2·015 per cent. So that within the last few years the mortality per cent. is very much less than it was.

3971. Dr J. W. MOORE.—Is it not still further diminished in your total comparison with the Registrar-General's return?—Yes, it is. The last return shows that for the four years, 1892, 1893, 1894, and 1895, the average mortality is 1·014, in comparison with the Registrar-General's return of 1·559. I should say, however, that this annual mortality refers to cases between the ages of twenty and forty. The Registrar-General's returns include men and women, and the vicinity districts as well as the city. The occupations included in the returns are food supply trades, other trades, &c, draymen, vanmen, hawkers, porters, labourers, &c.

3972. Dr. T. THOMSON.—Do you consider that a fair standard of comparison?—No, not altogether; I have frequently endeavoured to compare our returns with others, and I find it very hard to get any returns that are really of very much use in that respect.

3973. Your standard of comparison is entirely favourable to your own institution, because the occupations on which the Registrar-General makes his calculations include a much lower class than any you have got in your brewery. Among "labourers" the Registrar-General's returns include much of the very poorest of the population?—Quite so; but that is discovered when the difference is so great.

3974. But you have to bear in mind that there is nothing that may be so misleading as statistics?—I know that. As regards the high death rate in 1899, in my experience it was largely due to the outbreak of broncho-pneumonia after measles, and cholerine in children during the summer months, the influenza complications and tuberculosis. Indeed, I might have put tuberculosis at the top of the list.

3975. Do you mean that tuberculosis was unusually prevalent in 1899?—No; but it has been in my experience, greatly on the increase. The death rate from phthisis and tubercular affections in the brewery is appallingly high. Of course I have some dispensary experience at Mercer's Hospital; but in comparison to the number of cases in the brewery it is small. I am also, to a certain extent, in touch with the people in the neighbourhood; I do not mean to say that we have more cases of tubercular disease relatively, but I mean that tuberculosis is very prevalent, and I am sorry to say my impression is that it is on the increase in Dublin.

3976. Do you consider that the amount of tuberculosis amongst the classes you are alluding to is higher than the amount of tuberculosis amongst persons of the same age over the whole of Dublin?—No, no; I should think it is about the same. I consider the returns of our employés in all other respects are very satisfactory. If I could give you the returns in connection with their families I do not think they should be much better than the returns all over the city. I was recently looking over some old blocks of death certificates and the number of cases in which certificates of death from phthisis was given within the last six months has been very great.

3977. Have you compared the death rate among your employés with that of similar institutions—with such breweries as Bass's at Burton?—No; I have never had an opportunity of comparing them with other breweries. I have tried to compare them with Harland and Wolff's. I wrote to them, and I have tried several breweries, but I have not been able to get any comparable figures.

3978. Were they afraid you would turn them to some evil use?—I do not know, but I was quite prepared to let them have my figures in return. I also found that tuberculosis is relatively higher in the

tenements. I think there is more urgent need for the isolation of incurable consumptives, as such cases are not suitable for the wards of a general hospital and cannot be got into consumptive institutions. They should be isolated, as otherwise they become centres of infection to the surrounding neighbourhood. I would rather favour the direct notification of phthisis and, failing that, I certainly think compulsory disinfection of the premises and bedding, &c , after a death from phthisis. Many of the old tenement houses in my experience are filthy, overcrowded and reeking with disease and infection of phthisis largely. I could tell you of cases where a patient died of pulmonary tuberculosis, and in a few months a family in perfect health with no family history whatever as regards the disease, came to live there, and after a short time one of them contracted tuberculosis and died, and a second one developed the disease and died, and I think another died also. The infection was produced very probably from the expectoration of the former tenant left behind, which in time infected the new tenants.

3979. What do you suggest as a remedy for that?—Pull down the houses. I do not know that anything else can be done in most cases, except to raze them to the ground, because I think they are all saturated with the disease.

3980. Right Hon. Alderman MEADE.—Supposing a case of tuberculosis broke out in artisans' dwellings and patients died what would you do then, you can not pull down houses built within the last few years?—I refer to the very old houses.

3981. That is old dilapidated houses?—Yes.

3982. Dr. T. THOMSON.—You do not extend your remarks to all tenement houses?—No, many of the existing ones might be improved—I refer to the very rotten ones. The ones that I know best are near the river, about Bridgefoot-street, Marrowbone-lane, Meath-street, and Francis-street; but, as I have said, the majority of our people live in artisans' dwellings. I would favour, if possible, the erection of artisans dwellings in the neighbourhood of the South Circular-road. It has been discussed from time to time the possibility of such dwellings being put up some miles out, say, at Raheny, or some distance away in the country. It was put forward that if there was a tram the working man would be prepared to pay his penny. I think they would be prepared if these dwellings were situated a reasonable distance away from the work, about a mile—but I think a great number of them would object to go a great distance away from their work, in other words they would be rather inclined to take rooms as near as possible to their work sooner than live at a great distance.

3983. Do you limit the distance to a mile?—About a mile.

3984. With a tram service a mile would mean very little?—Yes. I do not think many of them would take the tram.

3985. Not if there were special trams put on?—Perhaps, but I do not think they would go any very great distance.

3986. Do Irish operatives differ from English operatives in that respect?—The English operative prefers to be near his work, but large numbers generally avail themselves of the workmen's trains.

3987 Right Hon. Alderman MEADE.—But they never had those trains here?—Quite so; but I think myself they would, even with these cars, prefer to be within a mile from their work, and therefore would take these filthy tenements, if they were available, sooner than live at a distance.

3988. Alderman DOWD.—Are you aware that the representatives of the working classes have been agitating for dwellings outside the city?—I am very glad to hear it.

3989. Right Hon. Alderman MEADE.—The Tramway Company run a number of workmen's trams, but they are utterly insignificent, utterly out of proportion to what should be.

3990. Alderman DOWD. — And the Tramway Company are prepared to run workmen's trams if the dwellings were erected outside the city.

3991. *Witness.* — Which is the ideal thing if brought about.

3992. Alderman DOWD.—But the fact that this agitation arose, does it not show that there is a strong feeling that the present state of things should not exist?—It may be, but if houses erected far outside the city became popular with the men I should be agreeably surprised.

3993. Dr. J. W. MOORE.—What class of houses should be erected?—I think the cottages are the ideal thing. The best amongst the larger artisans' dwellings which I know are, I think, Guinness's Trust, in Bride-street. I do not like the Rialto buildings at all, nor Belview buildings.

3994. Right Hon. Alderman MEADE.—Do you think it possible to erect houses on the South Circular-road. How many people do you think it would be possible to have on the available land there?—I do not know what land is available. I said that the houses should be erected there if practicable.

3995. We have heard of large quantities of land available within the city other than the South Circular-road; I would be very anxious to know what it is?—I have heard of Raheny, which, of course, is outside the city. There may be other places; but, as I say, if they are far from the men's work they will not be largely availed of, I fear.

3996 Right Hon. Alderman MEADE.—We heard here of ground in the north-west of the city, out in Cabra direction.

3997. Alderman DOWD.—Are you aware that in Belfast where the houses are built for the working classes the men rush into them even when two or three miles out?—I did not hear that. Now as regards the scavenging of the back streets, I may say that although some witnesses here stated that the dust-bins were emptied about 10.30 or 11 o'clock in the morning, I have seen them emptied as late as between 11 and 12 o'clock about the regions of Meath-street, for instance.

3998 Right Hon. Alderman MEADE.—I think the evidence was that the work had been——?—My evidence is beyond all doubt. I have seen the ash-bins being emptied after 11 o'clock. They are often without lids and with holes in the sides. They often contain human filth, vegetable matter, pieces of meat, bones, &c., and I have seen them emptied into uncovered carts, the contents of which were flying all over the streets in windy weather. I have seen and heard of tubercular sputum being emptied into dust-bins; many of them get broken down, and when they do they should be done away with and new ones put in their places. I have seen some of them with the lids off on a windy day and the contents flying all over the place. I was the other day opposite the Gaiety Theatre, between 10 and 10.30 a.m., and I saw a cart with no cover, and heaped up with stuff about a foot over the edge of the top, and into this dust-bin contents was being emptied. It was rather windy, and the stuff was flying all over the place. I think those carts should be covered up.

3999. The Corporation have found considerable difficulty in covering the bins, because the lids are broken off?—Yes. I can quite appreciate that. The practice is not always the same; but I have seen those things knocked about on the street in a most scandalous fashion. As regards the milk supply, I have very constantly pointed out the great difficulty it is in the poorer quarters in obtaining a good supply, and although I have not analysed it, I have frequently tasted it, and it both smelt and tasted foul. The presence of so many dairies in back streets, where often the milk is exposed for sale in large basins, cannot but be attended with great risk to the consumer.

4000. Dr. T. THOMSON.—You say that the milk is unpleasant to taste and smell. What is that taste

or smell due to?—It is a rather disagreeable taste —sour, and distinctly unpleasant and sometimes offensive.

4001. How offensive. Is it a smell as if the milk were putrefying?—I should say the tendency was that way—disagreeable, putrefactive.

4002. Did you call the attention of the Sanitary Authority, who have control of milk supply, to its condition?—I never have. Milk is a frequent cause of infantile diarrhœa and enteritis in the summer months. I would favour the abolition of many of the small city dairies. Sterilization, if practical, would be of great benefit. Universal and compulsory sterilization especially in summer would be the ideal, condition, if it could be brought about. I saw last summer in Paris a system that struck me as being more or less ideal. Sterilized milk was sold in hermetically-sealed bottles, of one or two pints each, and by an ingenious device the cork was kept in position by atmospheric pressure, and when released the milk could be used as required, instead of being put into bowls.

4003. Right Hon. Alderman MEADE.—They have stoppered bottles for milk there, but I did not know that they were sterilized?—They said they were. I went into another dairy near the Eiffel Tower, and they said the milk there was sterilized also.

4004. Dr. T. THOMSON.—You suggest compulsory sterilization of milk. Who do you suggest should undertake it?—I do not say compulsory; but I say that is the ideal condition of affairs, if it could be brought about. I don't think the time has come when compulsion can be used—rather endeavour to educate the public first.

4005. Do you suggest that the sanitary authorities should set the example?—No; I do not say so. I think if the dairies should show the way, and that all the milk supplied, especially by the larger dairies, who have better means of dealing in a scientific way with the milk, dealt with it in this way it would be a good example.

4006. Right Hon. Alderman MEADE.—That is a vexed question?—Yes; but there is a great deal of disease brought about amongst children which this bad milk gives rise to, causing a number of deaths.

4007. Dr. J. W. MOORE.—You are in favour of notification of pulmonary consumption?—Yes.

4008. And you say that, failing the carrying into effect of notification, the compulsory disinfection of bedding, &c., after death from pulmonary consumption should be insisted upon?—Yes.

4009. What machinery do you propose to employ to obtain evidence of these deaths?—I should make it a notifiable disease.

4010. Following infection?—Well, I think that would have to be done by the medical officers—that is, dispensary medical officers—reporting cases to the Superintendent Medical Officer of Health.

4011. Would it not be possible for you to report to the sanitary authorities every case that occurred from pulmonary consumption?—Most certainly, and I would gladly do so.

4012. And you will do so to carry into effect your convictions?—Yes. I have not done so in the past, as I did not wish to interfere; but most certainly, if Sir Charles Cameron wishes it, I will report all such cases in future.

4013. I think I can speak for Sir Charles Cameron, that if he gets a notification from you that a death has occurred from pulmonary consumption, that he will have the place disinfected?

Sir *Charles Cameron*.—We always disinfect whenever we hear of a case.

4014. Dr. J. W. MOORE.—Your experience, as a physician of Mercer's Hospital, and as chief medical officer of Guinness's Brewery, is that there are a large number of tenement houses that ought to be abolished?—Undoubtedly.

4015. That they are nests of infectious affections? —Yes.

4016. And especially pulmonary consumption?—Yes.

4017. With regard to the housing of the artisans, will you just look at the map on the wall. Do you see the districts coloured yellow?—Yes.

4018. They are not within the city boundary—one on the north-west and the other on the south-west. Do you think those would be suitable districts for the housing of the Dublin labourers?—Is that Cabra?

4019. Cabra is on the north and Crumlin on the south?—I do.

4020. And the distance of Crumlin from your great brewery would not be a mile?—Crumlin town?

4031. No, to the near end of the district?—It is not.

4022. And the farthest point of Crumlin is within two miles of your brewery?—Yes; I think it is about that.

4023. If the Corporation wanted to extend their boundaries would not that be the direction in which they might very well do so. That is No Man's Land? —Yes; I think so.

4024. Those two great patches seem, as it were, to belong to Dublin?—I spoke about the district of Raheny.

4025. That is a long way off. Now, with regard to the condition of the milk in the city dairies, have you noticed that in some the top of the milk pails are very often covered with flies?—Yes, very often.

4026. Are you of opinion that these flies may possibly be carriers of infection into these milk pails? —Certainly.

4027. Is there anything to prevent these flies from coming from cases of small-pox or scarlatina, and taking a drink there?—No, nothing.

4028. You are aware medical opinion is leading in that direction?—Yes.

4029. That is the conveyance of disease by means of the common fly?—Yes.

4030. In the evidence laid before us some days ago by Rev. Gilbert Mahaffy, he stated that men employed in the production of liquor suffer tremendously from the trade in which they are engaged. Is that your experience?—No, quite the reverse.

4031. Or opinion?—It is not; I regard the brewerymen, as a class, satisfactory in that respect.

4032. He says that the average age at death of men employed in the trade, and in some Irish breweries not the least generous, with a well-equipped dispensary for sick relief in time of sickness—that in these breweries the average age at death is forty. Do your statistics bear out that?—Roughly speaking, about that; but I have no statistics by me as regards that point.

4033. You will agree with him that that is a very admirable description of Guinness's Brewery?—Yes.

4034. You have all those appliances?—Yes; I might mention the attendances at my dispensary last year were 29,000—that is including females; prescriptions compounded, 33,000; visits paid, about 3,000 at their homes.

4035. Your employés are very well looked after? —Yes, extremely liberally treated.

4036. Rev. Gilbert Mahaffy also says that the number of cases of disease in respiratory and digestive organs is much greater in men engaged in this trade than among ordinary workingmen. Do you think that is right?—The number of cases of phthisis even amongst workingmen is very great, but that is not my experience.

4037. There is another point I believe—employés in your brewery are allowed a certain quantity of porter per day?—Yes, two pints each, and in lieu of that they can get scrips, which means a penny a day. For those scrips, which are each equal to two pints of stout, they can get goods at the Co-operative Stores. The firm is extremely particular about alcoholism.

4038. Is it your experience that the scrips are extensively availed of?—Yes, and increasingly so.

4039. You are of opinion that it would be desirable that the men availed of those scrips rather than take the allowance of stout?—Yes, and they are encouraged to do so, as far as possible.

4040. Do you find amongst your employés erroneous views, as, for instance, that alcohol gives warmth?—I do not think so.

4041. You do not find the employés drinking in order to make themselves warm?—No.

4042. Right Hon. Alderman MEADE.—You said you had experience of the difficulty of getting workingmen to go into houses far from their work—that they preferred to go into an unsanitary house near at hand rather than a sanitary house far away. Now, Crumlin is not far from your brewery; but do you think that a large number of men employed at the mouth of the river would like to go to Crumlin or to the north-west?—There are some that might.

4043. Do you think that Crumlin district would suit your brewery?—Yes, admirably.

4044. It would not suit other parts of the city?—No, perhaps not. The south side for instance.

4045. If there was an extension you would like it to be an extension that ran from the centre of the city?—Yes.

4046. Dr. J. W. MOORE.—But surely you are aware the other districts are densely inhabited?—Yes.

4047. Cabra is not far from the brewery?—No, not very far. Cabra would suit people who at present are residing on the north side of the river.

4048. Right Hon. Alderman MEADE.—I think you consider two or three miles a maximum distance?—Yes, one or two.

Witness then withdrew.

Councillor KELLY examined.

4049. CHAIRMAN.—You wish to give evidence, Mr. Kelly, as to tenement houses in the city, and the condition in which the poor live?—Yes, I should like it to be understood that I have lived for the best portion of my life—I may say nearly all my life—in tenement houses, and whether I have much to say or little to say, whether my opinion is of any use or not, it possesses this merit—that I can speak from my own personal experience. The first great evil in connection with those tenement houses is congestion. My opinion is founded on the experience I gained from the time I first began to look into these matters twenty-two or twenty-three years ago. No matter how clean you may make the streets or how perfect the sewers, you will never get the public health of Dublin into a satisfactory condition until this terrible congestion is done away with. I speak for the poor, as I do not know anything about the other classes. In regard to the condition of these tenement houses, I may say a great deal more attention should be paid to the roofs. In many houses rain comes in continuously through the roofs, and while attention may be paid to the yards and closets, I think just as strict attention should be paid to this important matter.

4050. CHAIRMAN.—Does that affect all the storeys?—Yes. For instance I was in a house a short time since, and the rain came down to the very parlour from the roof through every room.

4051. Right Hon. Alderman MEADE.—In a tall house?—Yes, a house of four storeys; and every room, with the single exception of the parlour, had rain running down the walls. In one of the rooms was a sick, bed-ridden woman in a bed. In a bed on the other side was a basin to catch the water as it came down. No doubt there are many such cases. The closet accommodation in some of these houses is very unsatisfactory; many of them—I speak of them as dry closets—are kept in a bad state.

4052. Are they dry closets?—Yes.

4053. Dr. R. L. SWAN.—What do you mean—dry closets?—Yes; closets without flushing—with no water—and that in some of the worst portions of the city—mere earth-closets.

4054. Alderman DOWD.—Are those privies in connection with the ash-pits; are they earth closets, as they are known?—Yes.

4055. Are they privies?—Yes; they are simply privies. There is no flushing in them—no water. Regarding the dirt and general insanitary condition of these houses, I may say, on a general principle, that when these tenement houses are owned by decent men, I do not care what condition he lives in, such landlords usually try to do their duty; but when these insanitary tenement houses are owned by men whom I will call jobbers the fault lies principally with the landlord. I have heard it stated here by many witnesses that it is sometimes as much the fault of the landlord as the fault of the tenants. My experience is that if a decent man owns a house he generally gets it cleaned, and he is aided by his tenants in keeping it. On the other hand, if the landlord is a man who merely draws his rent, cares little about the tenants, and employs an agent who is somewhat unscrupulous, the houses are usually neglected, and that, I say, is the fault of the landlord. The Corporation has not power to deal with such men. In a certain street, not very far away, Stafford-street, I know there are houses there owned by such a class of man. I have been in them; on the very last occasion I was there I was in on business, and I had to go to the top of the house. The rain was coming in, and I could see through the roof as plain as I can see through that window. The matter was reported to the Corporation, and they summoned the man. Afterwards I went into the Public Health Department to see what was being done, and I was told that the police magistrate inspected the houses himself, and that he gave another fortnight to put them into proper order; but I do not suppose he likes to close them up because there is no place for the poor people to go to. My opinion is that the Corporation have not got the power they ought to have to deal with these places. They should be able to put the place into repair, and collect the money out of the rents until they are paid. That is the way to deal with this class of men. The magistrate does not like to close the houses because there is no place for the people to go. There is no other way of accommodating these people. The artisan has been accommodated; but I mean the very poor, the poor people who cannot afford to pay 5*s.* or 6*s.* a week, but who could afford to pay 2*s.* or 1*s.* 6*d.* Well, there is no mode of accommodating these poor people, and if they are put out there is nothing for them but to go into the worse congested districts to look for rooms. I may say on this point, in connection with the system of lodging-houses in this city, that I have inspected some lodging houses from time to time very recently. Now take, for instance, lodging-houses—places where you could get accommodation for the night at 6*d.* or 8*d.* or 1*s.*—entirely too much is charged. I was in one, and I dare say there were seventy people in it. It was kept very clean, however.

4056. The CHAIRMAN.—What size was the house?—It was a six-storey house, and the lodgers belonged to the city. The system with lodging-house keepers is to divide the rooms into pens. They divide the room by means of an old wooden partition with doors on it.

4057. The partition did not go up to the ceiling?—No.

4058. Dr. T. THOMSON.—Do you refer to a registered common lodging-house?—Yes.

4059. And were there more people in it than was permissible?—I should say so; but who is to check them. On my visit I saw a room ten people were allowed by the notice to sleep in; but I dare say there were seven beds in the room, and at least there were three persons in each bed, men, women, and children were there. I pitied the little children. Then in another case, which, I would say, was a rather indifferent lodging-house, registered also, it was inhabited by, I should say, between forty and fifty sleepers. I went there between 12 and 2 o'clock a.m. All sorts of lodgers were housed the same way. They were of both sexes. The third case was the worst I have ever been on in my life. It was only a two-storey house, containing a multitude of lodgers, all housed together like swine, with this difference—that clean straw is given to swine, but not to those people. How they lived or existed there I do not know.

4060. Right Hon. Alderman MEADE.—Was that a registered lodging-house?—I believe so. I did not see a notice of the registry: but I believe it is a registered lodging-house. I think they ought to have inscriptions over the door stating what they are. I should say that in many instances in these inferior houses, where poor people live, the beds are of the most wretched condition, mere straw palliasses. I think the Corporation should be able to replace those where the sanitary officer reported on them, instead of waiting until sickness broke out. To change the palliasses or mattresses might be expensive, but it might prevent sickness. Another matter in connection with these tenement houses is that in connection with the windows there is no bye-law for keeping them open. There should be one for that purpose. No doubt it is very hard to do so in winter weather where there are sick people in the room, but notwithstanding it ought to be done. It should be impressed upon the people the desirability of keeping their windows open in order to allow in fresh air. In hundreds of cases the windows are never opened. It may be that sombody is sick, or that there is some invalid there. In connection with diseases, it is my experience that consumption is the chief one among poor people, and is due to nursing not being properly attended to. If the men are not properly attended to, and they had not the proper means, they gradually get into a bad state of health, and finally into consumption. Typhoid fever is another very great cause of the high death rate amongst the poor, and of course measles as well, each in its own way. Poverty, no doubt, plays a great part in connection with those diseases; the people are very poor and in want of employment. I know the city, and it is always in a chronic state of poverty; no matter what time of the year, wherever you go you will find a number of men idle all over the city. I should say bad food is another element in the matter. There is very bad food sold in the low shops in Dublin. I do not think that is properly attended to. There is bad food and worse drink sold in these places. I do not mean what would be called respectable public-houses and spirits grocers' shops; but the shops situated in the very lowest portions of the city. I cannot speak on this matter from my own experience, as I do not drink; but from what I have heard very bad drink is sold in these places. In connection with intemperance, which, I am sorry to say, is another cause for the state of our city, I think some effort should be made to decrease the number of public-houses. I think the temptations to drink are entirely too great in this city.

4061. CHAIRMAN. — What remedy would you suggest?—Of course the proper remedy for dealing with this question of the tenement house system is that the Corporation should have proper powers, and that the Corporation should be allowed to extend the city boundaries. There are a number of people living in tenement houses who could afford to pay the rent that might be expected for a decent artisan's cottage.

4062. Right Hon. Alderman MEADE.—They do pay the rent already?—Sometimes.

4063. They pay a sum equal to the rent of a decent house?—Yes. Some poor people cannot pay more than 3*s*., others have to pay 5*s*. and 6*s*., and 7*s*. a week, what would pay for a decent cottage; but there is none to be got. Others, who live in very bad tenement houses, could live in decent houses if they did not spend their wages foolishly in drink. It was pointed out a few months ago, in connection with this matter, that in Bath-avenue, in Pembroke Township, there were hundreds of acres there that could be used as artisans' dwellings—hundreds of acres that there was not a single building on. That referred to Bath-avenue and Irishtown. That would be a convenient place, in my judgment, for the erection of splendid dwellings for workingmen, and it would relieve the congestion about the district. For instance, employés in the Gas Company, and along the quays up as far as Sir John's-quay, could be accommodated there. The sanitary staff is not sufficient, in my judgment, and I believe it ought to be increased very materially. I further think that they are not paid well enough for the responsible work they have to perform. I do not consider 30*s*. a week a sufficient wage for a sanitary officer. I believe they should be raised to the status of tradesmen, and have 36*s*. a week, raising to £2 2*s*. I further think that there ought to be at least four superintendents appointed over them, to see that they do their work. At present there is only one. With regard to lady sanitary officers, I think they do their work well; but I do not think they ought to be allowed to interfere with drains or sewers, as I do not think they are the proper persons for that work. If they would confine themselves to the rooms and other portions of the house, I think they would do the work a great deal better. Then I would strongly advocate the closing, no matter what the consequence, of those alleys and lanes that are at present infested with low-class tenement houses. I would close them up. There are alleys and lanes not very far from here, where, from a variety of causes, the fresh air or the sunlight never gets in through the windows. I would also say, regarding baths, that the Corporation should erect baths in various portions of the city. At present, of course, we know that there is only one.

4064. CHAIRMAN.—Do you mean baths and wash-houses?—Yes, all over the city. Another practical suggestion I heard here was in connection with the teaching of children in school an elementary knowledge of hygiene. I think that is a very good idea. I think the children ought to be taught in school the value of fresh air and sunlight, and all that sort of thing. At present there is no attempt made to teach them that, so far as I can ascertain. Then I think, as far as open spaces are concerned, I am not in love with the present open spaces. To my mind there are only two open spaces—that is, the Phœnix park and Merrion-square.

4065. Dr. J. W. MOORE.—What about St. Stephen's-green?—I do not look upon St. Stephen's-green as an open space—that is partly—because children are not allowed to run about on the grass.

4066. They do that there?—In certain portions of the year they are not allowed to roll in the clover. In summer they are allowed, but in spring and autumn they have to keep off it. That is not so in Merrion-square. The children of the richer people can romp about there from morning to night. The children of the poorer people have really no place where they can amuse themselves, except they go to the Phœnix park. There is St. Michan's-park, no doubt, where children may play themselves; but there is no grass there, and only for the ball-alley I do not think it would be a success. I remember Queen's-square before it was converted into an ornamental park, and whole multitudes of children used to play in it; scarcely one-tenth of them go into it now.

4067. CHAIRMAN.—Is it not a place like Queen's-square that you want?—No; a big green open space, I believe, would be of more advantage—a big green

space with a band-stand in the centre. These ornamentations and shrubberies, and flower-beds, and all that sort of thing are very nice, no doubt; but still, to my mind, it is not the sort of thing I would suggest in a congested neighbourhood.

4068. Right Hon. Alderman MEADE.—It is too nice to have shrubberies?—Yes.

4069. You should have covered places for them to run to when it was wet?—Yes, decidedly. In connection with that matter, I may mention to show how small the powers of the Corporation are, although I believe its charter was granted by Henry II., they have not got power to employ a band to play music in any of the parks, which seems strange. It was not until last summer that some little attempt was made, and the reason of that was, that there was a small surplus in connection with the School of Music, and the Committee thought that the best thing they could do was to employ a few bands to play in St. Michan's-park and Queen's-square. I went over to St. Michan's-park on the first Sunday, and I can assure you, that there were people brought out into that space that had not been brought out for weeks. There are a number of tenement houses there, and the windows were all open. Poor people came from all directions to the place. Now, I think, the Corporation ought to have the power—it is not very much in an ancient city like this—to apply a small sum for the payment of bands to play in the city parks once or twice a week. The principal Corporations throughout England have that power. I was always under the impression, until I got into the Corporation, that they neglected their duty. However, I have got to see their limited powers and the way they are hampered, and I cannot blame them. I have just sketched one little instance of the powers that they ought to have. I am strongly in favour, if it could possibly be brought about, of a convalescent home for the poor, on the same lines as the Hospital for Incurables in Donnybrook. My reason for this is that many cases come under my notice of poor people suffering and who afterwards died from consumption, and who had no place to go to. One case, a friend of mine, lived in Bride-street, and unfortunately contracted consumption. He was the sole support of his mother. He got ill and the mother had to go to work, charring, to keep the house. He was attended to at Mercer's Hospital for a long time, then he tried to get about three weeks in Miss La Touche's Home of Rest in Merrion. He was going about the city, and had no place to go to where he could stay. At the end he was walking through Peter-street, and he dropped down and threw up a lot of blood, and he died in the hall of the hospital there, where he was carried in. Well, he had no place to go to, and there are many like him who go about the city until they die as he died. Then, as to the spread of infections, there is no place for them to go to, as the poorhouse is obnoxious, and I would not advocate that they should go into it.

4070. Dr. T. THOMSON.—You told us about a common lodging-house that you visited, where you found more lodgers than you considered in accordance with the bye-laws of the Corporation. If I understood you aright, they were of opposite sexes?—Yes, husband and wife.

4071. Besides husband and wife, were there any adults, male or female, over the age of ten?—There were.

4072. That you are probably aware is not in accordance with the Corporation bye-laws?—Yes.

4073. The Corporation bye-laws make provision against that?—Yes; but who is to see whether those bye-laws are carried out.

4074. I am coming to that. The 4th bye-law in connection with this matter says, "The keeper of a registered lodging-house shall permit the several inspectors and officers or any officer properly authorised by the City Council, to at any time enter said lodging, and other registered rooms there, and examine and inquire into the manner in which such lodging-houses are kept." If the inspector had been there I suppose he would see how things were, and report the matter?—Yes.

4075 You think that control ought to be strictly enforced?—Yes; it is very arduous duty for the inspector, but it should be done.

4076. It is his ordinary duty to inspect common lodging-houses?—The three houses I alluded to were wretchedly bad, and the inspector should be called there because there was a very bad state of affairs.

4077. Right Hon. Alderman MEADE.—Do you refer to the building of libraries or places of resort for the working classes. Do you think the number of libraries in Dublin is sufficient?—No, I do not. There are only three public libraries and reading-rooms. There ought at least to be one in each ward.

4078. That is a meeting-house and reading-room?—Yes, I quite agree with you.

4079. Alderman DOWD.—Mr. Kelly, last year there were several convictions for overcrowding?—I am not aware. I have not taken any interest in that, I have taken no great interest in it until this inquiry.

4080. To be positive were seven convictions obtained last year?—I am not aware. Of course I am only just describing the thing as I saw it. I do not think Dublin people are dirty. Men generally live up to their surroundings. If their surroundings are clean they will be clean.

4081. Dr. J. W. MOORE.—You used the expression dry closets. Are we to take it that you mean by dry closets old-fashioned privies?—Yes.

4082. They are anything but dry. Do you know what I mean?

4083. I do not know; I thought it was possibly earth-closets. Do you approve of these privies?—Certainly not.

4084. You are aware that they are connected with large ash-pits?—Sometimes they are, and sometimes not.

4085. And that all sorts of abomination are thrown into these ash-pits and allowed to fester for months and months?—Yes.

4086. They may be cleaned only twice a year?—Yes.

4087. You spoke of a district in Pembroke Township as very suitable for artisans' dwellings. Who do you propose should build artisans' dwellings there?—The Corporation of Dublin.

4088. Are you aware that there is a very efficient municipal body controlling that district already?—Well; but they have not built any artisans' dwellings.

4089. Excuse me. Are you aware that the District Council of Pembroke have built very extensive artisans' dwellings, at the Dodder, near Donnybrook?—Yes; but that is not the district I mean.

4090. It is lower down the river; but if it is brought under their notice they will see their way to do so?—It ought to have been brought under their notice long ago. That space is lying there for twenty-seven years.

4091. But are you aware the Corporation have only within the last few years undertaken to build artisans' dwellings, and I venture to say as extensive a work is done in Pembroke in that period?—Yes, it is a very small thing.

4092. Those districts coloured yellow on the map—do you consider those would be wholesome for the congested population?—In some districts—the districts bordering and approaching them. There should be similar outlets all round the whole city.

4093. Are you aware that the prevalent winds blowing over those districts come from the country, that is the south-west and west winds?—I am not an authority on winds.

4094. Are you aware that that is very high ground that could be easily drained?—Yes.

4095. And that tram lines touch the corners of these districts in both cases. Dolphin's Barn tram line goes to the beginning of the yellow portion in one case and the North Circular tram line touches the other?—Yes, but it would be scarcely fair to ask men in the gas works to go to Crumlin to live.

4096. I know your point?—The same thing applies all over the whole city. You would scarcely ask men working at the North Wall to go out to the Phœnix-park; that would not be fair to the men that would have to be in at an early hour.

4097. Where would you put the North Wall men, would you put them on the land at the North Lotts?—No, there are outlets in Drumcondra and Clontarf.

4098. And very extensive buildings in both these districts?—Yes, but I question as to the class of houses

4099. They are artisans' largely in Drumcondra. Now in regard to open spaces I think you are not quite correct about St. Stephen's-green-park. The south eastern district, that is next Lower Leeson-street, is open for children all the year round to lie on the grass if they like, but not outside there—that is a park purely, and I think the reason they do not allow the children on the grass is a very prudent one. They would get ill; but in summer it is swarming with children?—I have been there very often of a Sunday afternoon, and when a band would be in it, and I have seen and remarked it, and pointed it to my friends that everywhere you saw notices, "Please keep off the grass" on the district you speak of.

4100. It is not where the band stand is, it is nearer the east?—I know it. I have seen the notice down in May, but it is removed in July.

4101. Might not those notices be only to prevent the exhaustion of the grass in certain patches?—The grass is not so very valuable.

4102. There is another thing—I am sure you will agree that what Lord Meath has done for the labourers ought not to be ignored. He has founded on the Coombe area several very efficient playgrounds for the children?—Yes, undoubtedly.

4103. That ought to be recorded?—Yes. I should also like to record some other matters.

4104. Dr. R. L. SWAN.—Regarding unsound food so commonly found in Dublin, are you of opinion that it is carefully watched?—It is not. I do not think the food is inferior.

4105. Because I see in the last report notices that there were 177 carcases, or 49,780 lbs. of beef seized; 38 carcases of cows, 44,072 lbs. of beef; 95 sheep, 10,528 lbs. of mutton; 11 lambs, 315 lbs.; 19 swine, 1,364 lbs. of pork; 28,768 lbs. of fish; 336 lbs. of vegetables; 1,018 lbs. of pieces of beef, in 1898?—Yes; but may I point out that there is not one pig's cheek in the whole lot, and that among the poor pig's cheek forms the staple article of food. I just point out that.

4106. You must admit they attended to the beef, pork, veal, and mutton?—Poor people very rarely get it.

Sir *Charles Cameron.*—I have several convictions for pigs' cheeks—for unsound pig's cheeks.

Witness.—They are not down there. A staple food amongst the poor, at any rate, is generally pigs' cheek. I speak of the very poor. I am not speaking of the artisan classes.

4107. But this shows activity on the part of the Corporation?—Yes. As I say, fifteen months ago I blamed the Corporation, but when I got into it, and saw the way they were cribbed and confined, I think they are doing all they can, especially considering the way they are hampered.

4108. It is fair to draw attention to these cases, because I think it might be thought that the duty was neglected?—They want to have the staff increased and to have their status increased.

Sir *Charles Cameron.*—I agree with that.

Witness.—I think very good work is done by the lady nurses of the St. Patrick's Home, and St. Lawrence's also. People will not send their cases to hospital. There is a deep-rooted prejudice amongst the poor against the hospital. They maintain that when they send the poor to the fever hospitals they will never see them again until the patients are dead.

4109. Do you take this view?—No. In my family there were some cases, and I know we had some difficulty in getting my mother to consent to have them sent to hospital. People, when they get sick, are kept for a very long time before they call in the doctor. Then, when the doctor comes in, he may take the disease for typhoid or scarlatina, and the sick-cab is sent for. In many cases I have seen great hardships inflicted in this way on people owning little shops. Some of the members of their family get ill, the doctor orders the patient to hospital, and the sick-cab arrives. Instantly there is a hubbub all round, and there is not a house in the whole street at which there are not people looking through the windows. Well, they will suffer in their business, because people will fear this fever in hospital. The fever patients' friends are not allowed to see them in hospital, and that militates very much against their sending them there. Very good work is done by those ladies to whom I allude. Then, there is such a lot of houses shut up, that it is a pity the Corporation have not power to deal with that. In many cases if they could turn their old deserted houses into cheap lodging-houses they could give a decent bed for a couple of pence each night, and, while it might not be a financial success, it would pay expenses, and keep the poor out of those terrible dens where they are sometimes obliged to go to. Then, being a teetotaller, I am earnestly in favour of wise and immediate temperance legislation. I know drink does a great deal of harm, and is one of the very chief causes of the high death rate, and I know that if a great many artisans put their wages to proper use they would not be living in the way described.

4110. Dr. J. W. MOORE.—You are a member of the Corporation?—Yes, for about twelve months.

4111. Are you a member of any of the Union Councils?—No.

4112. Are you familiar with the Dublin workhouses?—I was there a couple of times.

4113. Do you consider they are all they ought to be?—I could not say; I have not examined them critically, but I know the poorhouse is the last place in the world for the poor—I mean the respectable poor about whom there is so much talked. There is no real interest taken in those people, for we have not the same philanthropists here that they have in other large cities.

4114. You mentioned about the objection of the people to go to hospital. Have they? If their objection is so deep-rooted how is it that we all through the season have to make room over and over again for patients thronging into our hospital wards?—Yes; but the question is do you get all the patients?

4115. We could not get them all in. If you go to the Meath Hospital you will find people thronging to get into it. With regard to the nurses whom you allude to—those of the Queen Victoria's Jubilee Institute—you are aware that it is no part of their duty to attend infectious cases?—Yes.

4116. They generally attend typhoid fever cases?—Yes.

4117. Would you be of opinion if any emergency such as the last one arose that the Corporation should take steps to supply conjointly medical attendants?—Yes.

4118. Do you think that would be an admirable way out of the difficulty?—Yes. I might also mention that there are a number of artisans' dwellings on the South Circular-road district which are occupied by Jews (they were not intended, I presume, to be occupied by those people), and the tradesmen of the city have none.

Witness then retired.

4119. Sir *Charles Cameron.*—I wish to put in a map or diagram I have prepared which shows the condition of the sub-soil water in Dublin. One of the recommendations of the Typhoid Fever Inquiry Committee was the drainage of the sub-soil of the city. The presumption was that the lower portions of Dublin were water-logged, and especially the portions near the River Liffey. The statement had been made for years and years that the water came very near the surface. In order to show whether these recommendations of the Typhoid Fever Committee could be carried out, I thought the proper thing would be the ascertainment of the height of the sub-soil water, and I caused several experimental borings to be made, and kept them under observation until very recently. The map there shows that only about one-third is gravel, with a little alluvium, and the other portion, two-thirds of the whole area, and the higher part, consists of boulder clay.

4120. Dr. T. THOMSON.—As regards the alluvium, is it almost entirely gravel; are there patches of clay through it?—It is more or less clay with patches of limestone here and there through it, also gravel and carboniferous rocks. The gravel in some places is seventy feet deep.

4121. Is there no clay there?—There are small quantities here and there interspersed with the gravel.

4122. You cannot locate them?—There might be thousands of them, but they are small.

4123. As regards the boulder clay, it is said that there is no inconsiderable amount of gravel on it?—There is no gravel on the boulder clay, and that is proved by our borings.

4124. CHAIRMAN. — Where were your borings made?—Marrowbone-lane, rere of the Mansion House, Dawson-street, Fishamble-street, Hanover-quay, Essex-quay, Stanley-street, and Portland-row. Frequent examinations of the height of water in these wells have been made since 21st September, 1893. It is noteworthy that at Hanover-quay the least distance of the water from the surface of the ground has been 15 feet, and the greatest distance 16 feet 8 inches. During several months the movement of the water was only through a space of 20 inches. The surface of the ground at this point is 24 feet above the Ordnance datum (low tide). At Marrowbone-lane where the ground rises 68 feet above the Ordnance datum, the water in 1893 rose in the well to a height of 7 feet 3½ inches from the surface, and never sank lower than 7 feet 7¼ inches. In this case the fluctuations in the height of the ground water was limited to 3¾ inches. At Stanley-street well the greatest depth from the surface was 5 feet 10 inches, and the least 5 feet 7½ inches, a fluctuation of 2½ inches. Here the ground surface is 52 feet above the datum. At Fishamble-street, close to the river, about 30 feet over the datum, the water came to within 6 feet 10½ inches, and never sank lower than 7 feet 4 inches. At the Mansion House, above 40 feet above the datum, I think there is some alluvium in that place, the water rose to 8 feet 9 inches, and fell to 9 feet 5½ inches. At Portland-row the water came to within 8 feet 2 inches of the surface, but in November, 1893, the well, which was 12 feet deep, dried up. Here the ground is only 23 feet above the datum. These results, as far as they go, show that on the whole the water comes nearer the surface of the ground at the highest points of the city. This seems due to the fact that the clay prevails there, whilst the gravel lies low. Fishamble-street well, which is near the river, is in the clay. The well at Essex-quay was not sunk until late in December. The depth of its water from the surface was there about 10 feet. This well is in the gravel, and Essex-quay is 19½ feet above the datum line. The fluctuations in the height of the ground water were as follows:—Marrowbone-lane, 4¼ inches; Stanley-street, 2½ inches; Mansion House, 1 foot 4 inches; Fisbamble-street, 6 inches; Portland-row, 3 feet 10 inches; Hanover-quay, 1 foot 5 inches; Essex-quay, about 2 feet. There is no relation, whatever, between the height of water in the river and the depth of the water in the wells. The bed of the river is what the sailors would call taut. The broad fact, established by the investigation, was that the part of Dublin supposed to be water-logged viz., that lying nearest to the Liffey, was the driest part. At Essex-quay, which is only 19½ feet above the Ordnance datum line (the mean height of the sea), the ground water was 10 feet 2 inches from the surface at high water in the river on 4th May, 1894. This well is situated in the gravel; but at a few feet distance the water in the well at Fishamble-street, which is in the clay, stood at the depth of 6 feet 8 inches from the surface of the ground. Our investigations showed that typhoid fever prevails to a greater extent on the gravel soils than the clay soils of Dublin. This is remarkable, as the gravel soils require no drainage, their ground water never lying so low, whilst on the clays, where there there is less typhoid fever, the water comes close to the surface. Out of 4,000 enteric fever cases, over 50 per cent. more per 1,000 occurred on the gravel area, where the water lies low, than on the clay, where the water is high.

4125. Dr. T. THOMSON.—How did you get your populations?—From the Registrar-General. He and I were associated in the matter, and we published a joint report. The Registrar-General ascertained the figures.

4126. Your geological information does not tally with that of the Geological Survey of Ireland?—That information was supplied by Professor Hull.

4127. Mr. Nolan told us, as regarding the boulder clay area, that in some parts there is overlying gravel?—That is everywhere. I am talking of the main features, and the experimental wells proved that; because if it was gravel these wells would not have water within five feet.

4128 It does not follow that because wells are situated in particular places where there is no gravel that there is not gravel in other places?—I made extensive investigations with regard to the height of the water, and everywhere we have boulder clay the wells are near the surface; besides, the main drainage operations have confirmed that.

4129. Can you tell us any part of the area that lies outside the alluvial area of the city where there is sand or gravel overlying the boulder clay? Have you particular knowledge of patches of sand and gravel?—No, except the supposed knowledge of the existence of the sand and gravel.

4130. Dr. J. W. MOORE.—Is it not a fact that along the beds of the contributory systems there are local beds of gravel?—Yes.

4131. Dr. T. THOMSON.—It was suggested by the geological expert that there are considerable areas where gravel overlies the boulder clay?—He could not show where they were.

4132. No, and that is what I want to know from you?—I know that where the wells have been sunk it was in the clay.

4133. CHAIRMAN.—Not gravel?—As a rule not.

4134. Dr. T. THOMSON.—What I want to get is the position of the patches of sand and gravel overlying the boulder clay?—You would have to make hundreds of experimental borings to get that.

4135. You have no information as to that?—I have never seen gravel on the boulder clay in the high parts of the city, but, no doubt, there are places here and there where gravel may be found.

4136. Can you show us actual records?—No; I go by the broad main facts.

4137. CHAIRMAN.—Have you seen anything else—anything like turf—in your experiments?—Yes, I have seen something like peat.

4138. Dr. J. W. MOORE.—Many years ago I made an analysis of the sub-soil of the Synod House at Christ Church-place, and it burned like turf.

Witness.—Yes, it is well known that there is a small quantity of peat there.

4139. Dr. R. L. SWAN.—Does Dublin deserve the reputation of being a water-logged city?—It does, as far as these parts were believed not to be water-logged are concerned, and *vice versa*.

4140. You consider that if the wells were only six or seven feet deep, that part would be water-logged?—Five or six feet. I intend to make some more borings. The contractor of the main drainage told me that in some low-lying ground the water did not come within twelve feet of the surface.

4141. Do you consider the water-logged portions of the city are elevated because typhoid appears to occur in the parts where the water is deep?—That part would not be good for rheumatic patients.

4142. There is no malaria now?—No.

4143. I am told that Great Brunswick-street was once very malarious?—Yes, I remember people talking about being afflicted with ague in Dublin in the olden time.

Witness then retired.

Mr. P. J. DUNNE examined.

4144. CHAIRMAN.—You are prepared to give some explanation of the evidence that was given by Mr. Delany in regard to the Abattoir?—Yes.

4145. Will you kindly do so?—I was appointed Superintendent of the Abattoir through my technical and special qualifications. Mr. Delany was only in it once or twice to my knowledge with friends, having previously had confederates in the Abattoir with a knowledge of the time they were coming and ready at the moment to throw the place into confusion. Buckets and hooks were at once made away with and hidden in back houses. Some must have been taken away in vans. The Victuallers' Association prevailed on the Corporation to leave out a clause in the bye-laws which is in the bye-laws of every abattoir, granting permission to the superintendent to search vans or men going out to see if they had anything with them not belonging to them. All the victuallers of Dublin are not concerned in this matter. Fully four-fifths of them would not tolerate it, and have openly expressed their disapprobation of the methods of many of the men who run the Victuallers' Association. The principal cause of some victuallers' opposition to the Abattoir is to compel the Corporation to hand it over to them on lease. These men wanted to show that it was badly managed. Mr. Delany's establishment has been well known as one of the largest dealers in shady beef in the city. When Mr. Delany said he saw goods going into the Abattoir which would not be allowed into a private slaughter-house, he should have said some private slaughter-houses. During the past few years I have seen beef passing in Mr. Delany's vans along the North Circular-road which I considered of a shady character, and would be at least on the borderland of what I would have permitted to pass out of the Abattoir. He said he saw pigs going into the Abattoir which were quite black. It must have been the hair on the pigs he was looking at. As the returns will show, and as Sir Charles Cameron can testify, more meat was condemned in the Abattoir during my time than at any other, and, as the monthly returns will also prove, considerably more than in all the city. I had no interest in letting meat out of the Abattoir unfit for human food. Quite the contrary. As most of the loss which occurred pending the time which elapsed until the Abattoir could be placed on a proper working foundation was caused by goods that were poor or damaged, but not unfit for human food. With the exception of the portions that are bruised, bruised meat is not unfit for human food. And what is bruised is so visible that no butcher could dispose of it. The veriest tyro in the knowledge of meat would reject it. There are butchers in the city who dispose of nothing but first class meat, and any of them can testify that no matter what precaution they take at times when their cattle are dressed, they show an enormous quantity of bruises. Transit has something to do with it; but I have seen first class cattle that the owner took the precaution of sending to market by easy stages along the road, and they were bruised from head to tail. Some butchers, like Mr. Delany, who are interested in the suppression of the Abattoir, try to mystify the Corporation and the public by persuading them the Abattoir should be conducted as a butcher's shop, which is most absurd. An abattoir, if I might so describe it, is a surgery, into which good and bad goes, and only what is fit is allowed out. In his prejudice, Mr. Delany, for the once he was in the Abattoir in seven years, ventures to say he saw good meat hanging in close proximity to bad. He might have seen bruised meat under the condition I had described. We have a separate house for dressing suspect goods, and if without a doubt they are seen to be unfit for human food they are at once despatched to a house in which nothing is allowed but meat unfit for human food, and paraffin oil is poured on it, so that Mr. O'Keefe, when he receives it, could not sell it even for dogs' meat. Some owners of cattle are very unfortunate, and would sell anything, and when those goods were considered, gave a great deal of trouble, and afterwards would send no more to the Abattoir, but to private slaughter-houses. Others, and I am happy to say, the majority of those I have come in contact with, are satisfied to send their goods to the Abattoir, and if they are unfit for human food they are only too glad to bear the loss; but if sound and fit for food they expect every facility should be given them to procure the highest price for their goods. The dead meat market in the Abattoir affords the only means of making such a separation of the good from the bad. During my time I have had some trouble in dealing with dead carcases which had been carted round the city to several butchers who deal in this class of beef, and also with carcases which had lain dead in salesmasters' yards, and attempts being made to sell them there. Of course, when they were inspected in the Abattoir, after being dressed, they had to be condemned, and the owners were indignant at losing money, telling me the price they were offered at butchers and in salesmasters' yards for them, and which now had been lost. A certain amount of ill-will was naturally engendered against me. These people would not send any more; but spread a report everywhere they went that if they sent their goods to the Abattoir they would be robbed. I am of opinion meat like this would have a deleterious effect on the constitutions of the people, and would predispose them to disease. Many butchers have vans that are called hearses, which go out at night, to bring those dead animals to the city to private slaughter-houses. The men who deal in this manner are generally called jig butchers, and, like gambling, it has a fascination for them. They would, in my opinion, rather earn £1 in this manner than £5 by legitimate dealing, and give every trouble and opposition to the working of the Abattoir, and try to inflict what injury they can on those who patronise the Abattoir. To give you an example. For the year 1898, the Chairman of the Victuallers' Association was Chairman of the Markets Committee, which has charge of the Abattoir, and this gentleman always openly declared himself hostile to the Abattoir, either burning it, or handing it over to himself and his friends, was the only alternative with him. You can imagine my task was not a bed of roses during his year of office. He came to the Abbatoir and

said—cattle sound, but not fat, should be condemned. He said this in the hearing of many, with the consequence that the value of the goods was depreciated. On the other hand, a man who had been in the habit of dealing with one of those jig butchers sent goods to the Abattoir. The jig butcher who was in the habit of buying from this man followed one carcass on a Saturday evening into the Abattoir, and demanded me to sell it to him. I refused to do so, perceiving it might be unfit for human food. The following Monday morning it was in fact condemned. The Chairman of the Victuallers' Association being Chairman of the Markets Committee gave this jig butcher an opportunity of tormenting me. He wrote into the Markets Committee, making an allegation that I refused to sell him goods, and that eventually they went to loss. I explained the circumstances to the Committee ; but the action that was taken was sufficient to damage the Abattoir. The man who sent it in, and who could have sold it to this very man for money, and was quite satisfied if it was not fit for human food that he should be at the loss of it, was, I am told, frightened for nearly six months with letters from the Markets Committee, requesting him to come up before them to explain. He never sent any more to the Abattoir ; a private slaughter-house receives all now. During this year, what was never done before, night sittings were held of the Markets Committee, covering nearly the twelve months—a shorthand writer taking notes of it. The Chairman of the Victuallers' Association being Chairman of the Markets Committee, getting all possible hostile information outside, and everything that could worry being done to upset the Abattoir, and I was informed everything was done that could during this year to have me dismissed because I was working the Abattoir in a manner that was injurious to certain private slaughter-houses. The Superintendent should get every protection to discharge his duty fearlessly and impartially, particularly in a city like Dublin, where every means has been tried to boycott the Abattoir and worry the Superintendent and those who are inclined to patronise it. The principle of abattoir system should be the same everywhere. Yet each city has its own local peculiarities. Dublin, in my opinion, should be worked somewhat like Manchester. The principal abattoir in every city is the one next the market, as the cattle can be, without difficulty, driven into it, and accidents from cattle passing through the city avoided. Quickness of locomotion changes circumstances considerably from former years—the electric trams, &c. Once meat is loaded in vans it is immaterial whether they go one mile or five. Private slaughter-houses should be kept clean by owners, and no one allowed to kill in it but themselves. There should be no small abattoirs kept by private owners, as those are liable to be small meat markets for the sale of shady beef.

4145. CHAIRMAN.—I think you are going a little wide of the mark. The question is as to the correctness of Mr. Delany's evidence?—Mr. Delany's evidence is quite incorrect.

4146. CHAIRMAN.—Mr. Delany's evidence was that he saw carcases there that would not be allowed into any slaughter-house in Dublin, carcases that were repulsive-looking, and belonging to smothered animals.

4167. Mr. *John Clancy*, T.C.—When did Mr. Delany fix the time at.

4167A. CHAIRMAN.—He says three years ago, when they were preparing for the Winter Show.

4168. Mr. *Clancy*.—That is all altered now, because there is a strict injunction to the Superintendent that no cattle are to be exposed for sale unless those killed on the premises, and none are to be killed except those that can be exposed for sale. That is the present state of affairs, and Mr. Dunne may not be aware of it.

Witness.—I am aware of it ; but no cattle were ever exposed that were unfit for food.

4169. Mr. *Clancy*.—I saw some exposed there, and they were not fit for human food?—That was not in my time. Any meat we at all considered unfit for human food we sent for Sir C. Cameron to examine it.

Witness then withdrew.

The Commission adjourned until 4 o'clock, p.m., next day.

FOURTEENTH DAY.—FRIDAY, MARCH 2ND, 1900.

THE COMMITTEE MET AT 4 O'CLOCK, P.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C. J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England: PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

The Very Rev. Canon RYAN, P.P., examined.

4170. CHAIRMAN.—Canon Ryan, you wish to give some evidence regarding the insufficiency of medical attendance in Dublin. We would be glad to hear your views in your own words?—I think I can group under that head what I have to say. I want to speak of the dispensary system; it is a rather touchy subject. I do not want to speak of individuals or their work; but of the system as it applies to the north side, where I have lived for thirty years. The system is this—and it is one that I submit could be beneficially changed in the interests of the public health—there are eight medical gentleman, fully qualified, in charge of the north side of Dublin; that is, as to the exterior medical work, visiting the poor in their houses. I think that number should be cut down to four. The reason is these gentlemen are entirely underpaid.

4171. Mr. *P. J. Geoghegan*, President of the Dublin Victuallers' Association.—I beg your pardon, Canon. I would just intervene for a moment, gentlemen, to ask if the Committee will be good enough to allow three medical men to be examined on behalf of the association. Evidence has been given here about the city slaughter-houses which is absolutely untrue.

4172. The Right Hon. Alderman MEADE.—I do not think we can hear three medical men.

4173. Mr *Geoghegan*.—Well, if you will permit the evidence to be tendered we will be much obliged.

4174. CHAIRMAN.—If an abstract of the evidence you purpose giving is sent into us, the Committee will see about having the witnesses examined. We cannot take them earlier than a fortnight from this.

Rev. Canon RYAN's evidence resumed.

4175. CHAIRMAN.—You were mentioning, Canon, that the medical officers were underpaid?—Yes; according to the returns of the North Dublin Union, eight of the doctors are paid a fixed salary of £145. They have fees as medical officers of health of about £25, and there are other means of income, from vaccination and so on. But, as far as I know, no medical officer of health receives beyond £280, and I beg to say that is quite inadequate for any medical man to live on in Dublin. If the system were changed and the number reduced to four this would happen; at present these men are bound to seek private practice and other appointments. Who can blame them? But what effect has that on the poor. The priests often receive the complaints of the poor and have to listen to them, but the ground would be cut from those complaints if these eight gentlemen were cut down to four. It cannot be said that the work would be excessive, since the eight have much leisure for private practice. It would be much better if the whole district were given to four, and let them have the double salary, £500 or £600 a year, and I do not doubt but these gentlemen themselves would rather have that than the present precarious means supplementing what they get from the Union. This would be the result—these gentlemen would have their entire time to give to the poor, and they could be much oftener in the homes of the poor, and, going so often into these homes, would see more closely to the improvement of sanitary arrangements and the like. The strict condition should be that they accept no private practice whatever.

4176. Are you speaking now of the eight medical doctors on the north side?—Yes. My experience is entirely for the north side. They could also co-operate with the outdoor relief system and give proper assistance to convalescent patients, and improve the surrounding sanitary conditions.

4177. Right Hon. Alderman MEADE.—Are there eight on the north side?—Yes, eight in all.

4178. Your idea would be to have, instead of two, one for each sub-district?—Yes. Then let me say there is no regular system of nursing the poor. The Jubilee nurses, of course, are doing a good deal of excellent work. But as to a system of nursing there is practically none. Anyone will admit that to nurse the sick is important. I am not here to pick holes, but to suggest what would be the cure for these evils. I think one great cure for the defective nursing of the poor would be to train schoolgirls in nursing and cookery. I want to say that I am not making the smallest charge against the National Board of Education; but I do say that the system of teaching schoolgirls is cramped by the Treasury's method of dealing with the Board. There are six books or classes, and the children in the National schools have to go through these. The programme of studies must be carried out to the letter, and if a sum is paid for anything else the Treasury will surcharge the Board, and the teacher must make good what is so-called mis-spent. I beg to say that that ought to be changed. We have now this sort of thing—children in second class, very young, are spending their time learning off lines of poetry—a very nice thing of itself—girls of the fifth class learn about etymology, latitude, longitude, zones, compound proportion, Latin roots, and so on. What I contend is that half of that should be swept away. These are the children who are to be the wives and mothers of artisans, and in the name of common sense is that the training which ought to be given them—a training that enables them to know something about decimal fractions and nothing about cooking a chop? The Treasury should withdraw or modify its rules, and girls should be taught such matters as the value of ventilation and elementary hygiene, about water, food, cooking, sleep, exercise, the care of the house, its warming and lighting, nursing the sick, and so on. But these things need a qualified teacher, and can now only be taught to girls of the fifth or sixth class. Fully half the girls go out in the fourth class, and these subjects cannot be taught to them at all. The remedy I suggest is to teach these things from the beginning. Poetry is very nice, of course; but all these useful

things I mention could be put into their books and could be learned by heart just the same as they learn poetry.

4179. Dr. J. W. Moore.—You hold that it would be more beneficial to them in after life that they should learn something of hygiene rather than poetry?—Yes. To show how this could be, talking of the Jubilee nurses, one of them at the north side, Miss St. Clair, took, at my request, a number of these little girls to a hall I have in Nelson-street, to entertain them for an hour. She made up a bed, such a humble bed as you would see in a poor man's house, and got a doll to represent a sick person, and showed how the bed should be made without getting the sick person out of the bed, and she got a little spirit lamp, and cooked before the children—broths, jellies, and so on—and for an hour she gave them that class of instruction. I beg to contend, gentlemen, that that hour was better and more useful towards improving their social life in after years than if they were years reading about simple or compound proportion, and all the rest of it. These are the leading points I desired to mention. As to the public health, I think that more of the open spaces would be a great boon. Lord Ardilaun deserves the very deepest gratitude from the citizens for what he has done in opening Stephen's-green-park. To *Pearson's Magazine* also our thanks are due, for sending a considerable sum to this city to enable us to give excursions to several hundreds of children. There is a great deal said about drunkenness as to ill-health. I think it would be better if, instead of deploring so much the evils, people put themselves more to the discovery of remedies. I think that children and young people should have awakened in them better tastes. Classes of schoolboys and girls should be taken out, as they do be in England on Saturdays, to the Botanic Gardens or People's Gardens, and I am sure that Dr. Moore would gladly open his conservatories, and so these little ones could be shown the exquisite beauties of God's creation, and thus they would grow up more enlightened men and women. Another thing is that, in my opinion, we ought to have more of these well-conducted, cheap eating-houses. I remember seeing at Woolwich Arsenal the place for the workingmen, where for a few pence you could get a capital lunch of meat and potatoes, and bread. Nothing could be better. In a well-conducted public-house a man may get a sandwich, and I do not see any harm if he gets a good sandwich, when taking a glass of porter. These are all matters that enter into the question of the public health. Our school hours, again, in my opinion, are too long. I have a school of 500 boys some of them ragged and ill-fed, and I look round at the half-hour's time for play, and I see them sitting against the wall, too hungry to play, and then they go back for two other hours, and get slapped if they do not know all about orthography, &c. It would be better if we had the English system of morning and evening school. One of the evils in the city is that the mothers are drinking too much, and the cause of that is they are idle. The care is taken off their shoulders by their infant children being in school all day; so they go about idle, and the result is very bad. A young doctor told me he was attending a dispensary, filling another man's place, and he saw young babies with their arms caked with dirt. How could they be strong. One great thing would be, if we did all stop abusing each other, and see to the best means of remedying these evils. I am glad to say a grateful word to the Corporation. I owe them a great deal of gratitude, for they helped me to clear away White's-lane.

4180. Dr. R. L. Swan.—I have listened with great attention and interest to your evidence in reference to having insufficient medical care of the poor; is it your opinion that the dispensary doctors do not devote as much time to the service of the poor as they might?—No, they cannot.

4181. In consequence of their private practice?—No; in consequence of their bad pay.

4182. That is exactly the point—if you fill those appointments by young men, they cannot have much experience, and if they met with men of the first class and at the head of their profession, in consultations in following their private practice, do not you think they carry to the poor the advantages of skill and learning? To restrict them to practice amongst the poor would, I think, be injurious to progress, and you would not get a good class of man. Most men take dispensaries with a view of afterwards getting large practice in Dublin?—Well, I don't know about that, or how it would appear if they showed us their bank account. A fixed income of nearly £600 a year would not be precarious, and would, I think, induce a great many of our medical men of experience to come and take it. And, certainly, if they were tied down by the condition to accept no other work, they would be frequently in these tenement houses. It is not so much a question of individual care of the poor as the having the medical officer in touch with the sanitary officials—pointing out what is wrong and devising remedies.

4183. You expressed an opinion that the teaching of elementary hygiene was a matter of importance as bearing on the public health?—Yes; having learned something useful on the subject, the children would carry that knowledge into their own homes and be useful as nurses.

4184. I agree with every word of that. Is it your opinion that the children of the poor are kept in a very unwashed and dirty condition?—Yes; if you want to see this, see them during the holidays. They must come to school clean—that is one of the excellent things. They must come to school clean. They are not punished, but spoken to about it if they are not clean, and the effect is that they come clean. But during the holidays it is not so—they are as dirty as possible. The advantages of such instructions as I have been suggesting would, I am sure, be great, as instilling some useful principles of sanitary science into them. Lately the Board got permission to allow cookery to be taught, and I availed of it, and with excellent results.

4185. Dr. T. Thomson.—You do not approve of the present school hours?—No; the school roll is called at half-past ten. Literary work goes on until twelve, then half an hour for religious instruction, then half an hour for recreation, then work is resumed from one to three, and they must be always within the precincts. No provision is made for food. They bring in scraps of bread; half of them have none.

4186. None of them have a proper meal?—No, just scraps of bread.

4187. You would prefer the English system, with two hours between the morning school and the afternoon school?—Yes. The fathers of these children never see them almost for five days. Instead of that half-hour for recreation it would be better to send them home to dinner and let them come back from three to five. One of our crying wants is practically having no evening schools.

4188. We have had it stated in evidence that occupants of houses in which infectious diseases exist are in the habit of attending church whilst that disease is prevalent in their families, and it was suggested to us that this habit might aid in spreading the infection. Do you consider that the clergy of Dublin, who necessarily have great influence with households, might do something with a view to checking this source of danger if it exists as represented?—Every Roman Catholic is taught from their cradle that they must not come to public service if there is a serious inconvenience like that. What can you do if they come?

Rev. Canon CONLAN, P.P., examined.

4189. CHAIRMAN.—You are desirous of affording the Committee some information touching overcrowding, which has come under your observation?—Yes, in my parish there are 16,000 inhabitants. To illustrate what he said, he would take twenty houses out of one street, all of the same size and build. In these there were 518 tenants in 166 rooms. This would not appear very much; but take out of these the congested rooms, and there were 23 with 145 tenants—5 in seven rooms,6 in five, 7 in six, and as many as 8 in five rooms, an average of over 6 in each.

4190. Are these tenement houses?—Yes. As you go upstairs they get worse and worse. Then I take a street—the lower portions of the houses are mainly shops. There are thirty-four houses and about 178 different names or families, and 155 rooms, there being twenty-eight shops in which the people do not generally sleep. I find 21 rooms with five, 11 with six people, 7 rooms with seven, 1 with eight people, 1 with nine, making 237 in 41 rooms. Many of these people are very poor indeed. Some come up from the country thinking they will get something to do, and drift into their present surroundings. There are many of these houses that ought to be suppressed at once. By way of remedy I would think it advisable to close all houses unfit for habitation; many such were still in use, with roofs impossible to repair, floors out of level from the rottenness of the joists. The overcrowding is in many places added to by the bad practice of having hall doors without fastenings, so that at night vagrants crowded and slept in the halls and on the stairs. For houses, well built, which even until lately were in the occupation of respectable householders, but were now all let in tenements, the only remedy was to bring water to the different floors and likewise sanitary arrangements. This could only be done by building returns to each house—a costly undertaking, but less costly than building whole streets, as has been done. At present water and sanitary arrangements were only to be found in the yards of many tenement houses, with often eight families in a house. I have a very poor parish. There is one venerable house in it with the date 1725 on the outside of it, and I know two houses 200 years old, both are tottering and yet are filled with tenants. Some of these houses are in the possession of men of means, who have made improvements, and they bring in handsome revenues. Others, owners who are poor men, make no improvements whatever. A great many of the houses have high ground rents to pay. I have a connection with two in particular. I pay two ground rents of £24—£10 taxes—that is £34. If I got the rents I would get £57, which would leave a margin of £23. Then I made new drains at a cost of £50, repairing of a roof at a cost of £18, so I would be a long time waiting for a return. The houses are really not worth going to this expense. The question is one that can only be dealt with by degrees. All houses not worth spending any money on should be closed, without, of course, inflicting too much hardship on anyone.

4191. Dr. T. THOMSON.—You have given us very valuable and interesting evidence, Canon. Now, in these houses, where the numbers of occupants are so large—apart altogether from the question of cubic space for each individual—what is your experience as to the proper separation of the sexes that exists?—Well, I cannot say there is the separation we would wish; but I must say from all my long experience in Dublin, now extending over twenty-two years, and I am now speaking only of those rooms inhabited by families—that is by parents and their children—that the morality of the people of the lower classes is surprisingly good—so much so indeed that instances to the contrary are exceptional.

4192. In a family of nine or ten would there not be boys and girls who should not be sleeping in the same beds with their fathers and mothers?—No doubt. They generally have two or three beds, and I have only to repeat that, as I have said, I think the morality of these poor people is very wonderful.

4193. What is your opinion as to their cleanliness?—Well, I fear that a great many of our people have not a sufficient idea of cleanliness; but there was a good deal against them in this matter, the water supply and the sanitary accommodation of tenements being defective. I would give children attending schools facility to thoroughly wash themselves when coming into the schools. I would favour all girls being taught to cook and wash, and make the former subject a less expensive one to teach.

4194. Do you take the view that there ought to be a water supply on each floor?—Yes; but the cost, of course, would be very considerable. These tenement houses, as I have had already pointed out to you, were constructed for one family—now you have a family in each room—a thing that was never contemplated in the original arrangement or construction. Some of the houses of this class might be worth spending money on; but many of the houses I have been referring to would not be.

4195. What steps would you suggest with a view to remedying the habits of the people in so far as they are deficient in cleanliness?—Well, a good deal, as Canon Ryan said, can be done in the school. I would eliminate all useless teaching and give the children something useful instead, such as cooking and washing. They are more advanced in England, where such subjects as grammar and geography are optional, whilst here they are not, and our children have to learn such things as the height of the peaks of the Andes, or the length of the Chinese rivers. I would try to have all girls taught to cook and to wash.

4196. We have, however, a grown-up population; how would you deal with them?—I would close houses unfit for habitation, stop overcrowding, and have more active inspection.

The Rev. WILLIAM MURPHY, Adm., Westland-row, examined.

4197. CHAIRMAN.—The Committee will be glad to hear any evidence you will favour them with, Father Murphy?—My parish contains a Catholic population of 30,000, and I would briefly refer to the insufficiency of the accommodation for the poor of the parish of St. Andrew's. This necessarily leads to overcrowding. In the parish there are about twenty districts where the houses were so bad, dirty, dilapidated, and defective that they must be a prolific source of ill-health. There was bad ventilation; but he must say that the people also had a tendency not to open the windows. I suggest that there should be rigorous inspection as to ventilation. The houses I refer to are kept in a dirty state; but it was very hard to keep such houses clean. There are a great number of coal labourers, grain labourers, and the like. I think I saw it stated that workmen could have labourers' cottages outside; but it would be desirable that these men should have their places of residence near their place of work. A doctor in my district told me that he lost a few cases of consumption—which he tells me is contagious—through want of proper ventilation in the houses. That, I think, after all, could be ensured by close inspection. I believe workrooms are inspected, and the owners

severely called to account in cases where they transgress the laws of health. I agree with Canon Ryan that children should be taught in school the laws of health, and that it should be compulsory, and not voluntary. There is one place I would allude to down in Townsend-street, where there is a group of houses, cottages and tenement houses, and I think there must be sixty families there, and with three water-closets. Part of that yard is concreted, and part is not, and that, I think, must be very unwholesome as well as unpleasant. There are two water-closets there with but one entrance. The place for the males should be separate from the females. These places are dirty, but I do not think anybody could keep them clean. I do not think it is the fault of the people inherently, or even the fault of their training. We have a place called Power's-court, a thick settlement off Mount-street. It was very troublesome a number of years ago, and there were a number of sick calls there, and the houses were very dilapidated. A private individual bought up the ground by lease or purchase, and he has built ten new houses, and repaired seven others with the greatest advantage, whilst the others remain as they were—an object lesson as to what is and what ought to be. The new and improved ones are put into good sanitary condition under the inspection of the Corporation officials, and the plans were submitted to the engineer of Pembroke township, and the poor people pay no more than they used for the houses which preceded these, and which were so dirty. Drink was mentioned as a cause of sickness in this city, which it undoubtedly is. But the radical remedy is to try and better the homes and comforts of the people. If that were done I do not believe the dangerous places would be so attractive. I know one man who is a teetotaller, and a man who has a necessity to be one, and notwithstanding this he spends his evenings in the public-house and smokes his pipe, and takes his lemonade, and I consider he is on very slippery ground when he sits there, and that he is in danger. But he sits there because his own home is not habitable. At Leeson-lane there are houses that ought to be removed, and healthy commodious artisans' dwellings erected. That would prevent a good deal of sickness and death. As to the closing of schools during epidemics, I understand evidence was given that there should be power to close them.

4198. Dr. T. Thomson.—Power to close them if, in the opinion of the Sanitary Authority, it was desirable? —Yes. That is what I gathered. Well, I consider it would not be desirable to close them in the interest of the children who do not come from an infected area. Notification should be sent to the teacher of the area infected, so that he could exclude children coming from that area, and I think in this connection that teachers' grants should depend upon average attendances.

4199. I think I am right in saying that in England the grant is not affected when the school is closed at the instance of the sanitary authority? – I do not think that is so with us.

4200. Dr. J. W. Moore.—You attribute a good deal of disease to the vice of intemperance?—Yes.

4201. Is that vice very widely spread in Dublin? —I am afraid so. But I cannot speak with great authority as to that.

Rev. J. M. M'Swiney, C.C., examined.

4202. Chairman. — You desire to give some evidence as to the results of infectious diseases being treated in the city?—Yes. I believe the treating of contagious diseases in the city is a source of danger. I happen to be connected intimately with one of these hospitals — Cork-street — and though I have the greatest admiration for its working, I believe its presence in our locality militates against the public health. In its immediate neighbourhood is one of the largest National schools of the city, attended by between 900 and 1,000 children every day, five or six dairy yards and streets of the worst class of tenement houses, and a night refuge for 145 homeless women, dispersing every morning through the city. We have had in times of epidemic more small-pox in the neighbourhood of the hospital than in the rest of the parish. It seems hard on our people living in tenements that the Corporation should establish an isolation hospital within our boundaries, and should have a manure heap there, too, and, I think, a disinfecting chamber in Marrowbone-lane. It is hard on our district, a congested district in which the poor are very badly housed. You have heard a good deal of these houses, but to be thoroughly understood they should be seen—they beggar description. Talking about the want of sanitary accommodation, we, in our district, have six or seven or eight families living in houses with only one accommodation for them. Another most important thing is this, that there should be separate sanitary accommodation for little children. They cannot use what is only suited for adults, except with very undesirable results, and it follows that in their early years they do not acquire cleanly habits. I think our part of the city is very overcrowded. I know the difficulty there is of doing away with those tenement houses, for when they are closed where are you going to house the people.

4203. That is in the south-western district. The south-west. The Coombe area. My experience is that we meet sickness in over-crowded houses much more than we do elsewhere. Such houses should be inspected by competent authority, and registered for as many families as they can shelter under sanitary conditions; and though you may not be able now to put families out of them, yet when a family does go out the owner of the tenement house should not be permitted to take in another in its place. I have noticed that where the owner of the tenement house resides in it the house is generally very well kept; but that where he does not reside in it the houses are often in a filthy condition. In St. John's-lane there are three tenement houses with no back yards to them. They have one sanitary accommodation, which is under one of the houses—a water-closet of the worst form—and the stench from it comes right to the centre of the street. All the people have to come to it. There is no window in the backs of any of these houses, so that there is no proper ventilation. It is said that the poor are very dirty, and don't ventilate their houses; but my experience is that the means of ventilating them are very often inadequate or inconvenient.

4204. Dr. T. Thomson.—How many families are in the houses to which you refer, in which they have only one water-closet?– There are seven in one house, three in another, and certainly four, if not more, in another. We have one district, a square—in which the sanitary accommodation consists of three or four closets right in the centre of the square.

4205. Which square?—Neill's-court, off Marrowbone-lane. A fruitful source of unhealthiness is the condition of the yards. They are very often of a clayey nature, and retain surface water. From not having proper sanitary accommodation for the children very often these yards, in which the children play about, become soiled. I know that the Corporation officials do all they can; but it is very difficult to clean such yards. I suggest that they should all be concreted, and that accommodation which the little children could use should be provided. Another remark I should like to make is this—it has been said that the Dublin poor are very drunken, and that that is a source of their low vitality. Well, now, I think that is the language of exaggeration. True there is too much drinking in Dublin, but I do not believe it is the cause of our high death rate, but is due to the same cause as the high

death rate; the wretched condition in which the people are housed. My experience is that the people do not gravitate to the tenement houses so much because they have become drunken as because they cannot find house accommodation elsewhere; and then, on account of their wretched surroundings and the wretched companions they meet in those tenement houses, it becomes impossible for them to remain what they were, and they drift towards habits of drink. I don't think our people have a double dose of original sin in that way. It is said that the children have a low vitality in consequence of the drunken habits of their parents. My experience is—and I baptize a good many of them—that you cannot see finer specimens of humanity than they are when they start life. If they become sickly afterwards it is in consequence of their surroundings and other causes. I believe it would contribute a great deal towards the public health if the nurses who attend the poor in their homes were subsidised by the Corporation. The Corporation gives a great deal of money to the hospitals; but I know that the nurses who attend the people in their homes do a world of good in more ways than one. They should be supported. Our people don't care to go into the Union Workhouse hospitals; it is a great pity that those hospitals should have the stigma of the workhouse upon them.

4206. Dr. J. W. Moore.—Are you referring to Queen Victoria's Jubilee nurses?—Yes; and to Mrs. Brown's nurses and others. I am not particularising any. If subsidies were given to those institutions, and if they had offices or depots where the poor could easily apply for assistance a good deal of good would be done, and lives would be saved. The poor cling to their homes when they are sick; and very often with sickness comes poverty and mal-nutrition. Here the nurses come in directly to the advantage of the sick, and indirectly the people learn sanitary habits from them. I have seen much good done in that way. It would contribute a good deal towards the saving of valuable lives if something like what I suggest was done. With regard to the children—there is a great deal of poverty in our district, and very often the mothers have to go out to earn their bread, and leave their children in care of another child not many years older, or, as I know, very often to lock them up in their room. That doesn't occur very often: but it does occur, and it is injurious to the children's health. The day nurseries do a great deal of good. We have one which is not used so much as it might be, but it is used to some extent. I think that if more of those nurseries were established, and the use of them explained to the people, and they were not left so much to the management of certain philanthropic people, a deal of good could be done. The mothers could leave their children there; cleanliness would be taught to them by finding their children neat in the evening, in addition to having got wholesome food throughout the day. You have already heard so much about tenement houses that I don't think I need say any more about them except to state that what Canon Conlan has said of them in his district is equally true of their condition in ours.

4207. Mr. M'Swiney, with regard to Cork-street Fever Hospital, you think it a focus from which infection may be spread?—I am not a specialist, but that is my opinion.

4208. With regard to small-pox you are perfectly correct; but it is, perhaps, the only infectious fever. Perhaps so; but if we look back upon the history of Dublin we shall find that small-pox epidemics come at regular periods. We may be moving towards one now, and we should be prepared to meet it.

4209. There is a general consensus of opinion that we should have a small-pox hospital—there is no question about that. But it would be well to remove any misapprehension with regard to typhus—Typhus requires only six feet of space to render the poison perfectly inert; and the same thing applies to many other fevers.

4210. With regard to the Night Refuge in Cork street, by whom was it founded?—I think by Dr. Spratt.

4211. You are quite right—it was founded in 1861. Do you know when Cork-street Fever Hospital was founded?—It was founded sixty years previously. I am only dealing with things as they are at present.

4212. If any are to blame it is the people who put the Night Refuge at the side of the Fever Hospital. As to the importation of infectious disease from the suburbs, I agree with you that a large quantity of infection is brought into the city; but are you aware that a movement is on foot at present to establish an infectious hospital for Rathmines and Pembroke townships. *Witness*—I am glad to hear that there is. I have not heard of it.

4213. Yes, there is; and that gets rid of one of your objections to Cork-street Hospital?—Well, I have an objection to treating infectious diseases in the city, as has been done up to this.

4214. I suppose you are aware that the rule with regard to epidemics in Dublin is for them to spread from the city to the suburbs; they hardly ever originate in the suburbs?—I am not at all sure of that. I think we get a percentage from Rathmines. I have been impressed by the amount of infectious disease that came from Terenure, and parts of Rathmines.

4215. An epidemic of measles raged in the city in 1899 before it spread to the suburbs. I was greatly interested in your remarks about drunkenness; but with regard to the increase of disease and the mortality amongst children connected with drunkenness, is it not quite as much because they are badly fed and badly cared, as because they are born delicate?—Oh, I believe the children are born as healthy as any other children in the world.

4216. But their feeding is not up to the mark?—What I say about their unhealthiness is that a great deal of it is due to the wretched way in which the people are housed; and whatever has caused that condition of things is at the root of the evil; of course, many children are very badly fed.

4217. Don't you think that intemperate parents neglect their children and feed them badly?—Oh, yes, that is quite true.

4218. With regard to nursing, is it your opinion that it would be a good thing for the authorities to establish a system of nursing the sick poor in their own homes?—Yes, I am quite in favour of that.

4219. Would you not think that two or three trained nurses—fever nurses and ordinary nurses—attached to each dispensary, would be a very valuable aid to the public health? Yes, I am quite sure it would, as I have already suggested in my direct evidence.

Mr. J. J. Butterly examined.

4220. Chairman.—You wish to give us some evidence about the removal of manure and vegetables?—Yes; seeing the importance of this Commission, and living about six miles from Dublin, I thought it well to make a few remarks. I see a lot of farm produce and of milk supplies coming into the city in a very bad way in the summer-time—particularly the milk; and I wish to speak also of the vegetable supply system. I have been sending vegetables largely into Dublin, and I have found a very fluctuating market in fact, on the lines of a feast or a famine. The feast and superabundance beget disease, and filth, and decay. When there is a famine, so to speak, these elements may be absent, but only to show how contamination by the essence of disease is more certain. I attribute a great deal of this irregularity to the want of proper marketing and delivering of the vegetables. That's the point I want to come at.

4221. The first thing you say is, that the removing

of any sort of manure should not be allowed in carts which, on the same day or morning, had brought vegetables to market; is that the custom?—That is the custom, and I think it is very reprehensible to have the manure carts carting back the food stuffs without having been disinfected, or without the vegetables being packed in crates, so that they would be made more marketable.

4221A. Do you think that is a cause of disease?—I think it brings an enormous amount of filth and the germs of disease into close proximity with the houses of the poor specially.

4222. I don't quite understand your observation about the hawking of vegetables in perambulators?—That's a very offensive thing that you will see through the city. You will see an enormous number of poor women hawking vegetables in perambulators that possibly have had sick children in them. The people that these perambulators belong to use them for other dirty purposes.

4223. With regard to a proper system of marketing, which, you think, would have a healthy effect?—Yes; I see a practice about the vegetable market with regard to cabbage, for instance. I see it often brought into congested streets, and thrown out on the side of the street, into the sewer, to be then carried to the shop front by the farmer's carter. This pulverises all the scum and filth of the street and of the vegetables together, and they are then exposed in the shop fronts many days. Then, the more damaged these vegetables become the more likely they are to go to the homes of the poor.

4224. With regard to the milk and dairy carts from the country?—Well, I say that out in one district the dairy cars are used by all sorts of people. All sorts of people are allowed to sit up on the dairy cars coming back and forwards into the city. Last July I saw sitting amongst the milk cans on a cart a case of what afterwards proved to be typhoid fever, and the patient was three or four months in the Mater Hospital. I think there is no superintendence of the dairy interest out in the country during the summer months.

4225. Dr. T. Thomson.—I did not follow you when you spoke of the people sitting amongst the milk cans?—I saw on the cart a man infected with typhoid fever going to the Mater Hospital, where he was a patient for two or three months.

4226. Was he suffering from fever at that time?—He was. I did not know it until a week or two afterwards.

4227. Right Hon. Alderman Meade.—Was there milk on the cart?—Yes, £7 or £8 worth of milk.

4228. Chairman.—You say that the milking of the dairy cows is very neglected and barbarous; what do you mean by that?—I mean that the dairy servants half milk some cows; they don't have them properly tied if the cow is restive. They leave milk in the cow's udder for possibly two or three milkings afterwards. Then the spins of the udder go wrong, and that has an enormous tendency to initiate tuberculosis.

4229. Dr. J. W. Moore.—Doesn't the condition you speak of initiate abscesses, or an inflammatory condition of the udder, rather than tuberculosis?—Oh, I don't mean tuberculosis entirely in the animal, but how it acts afterwards when the milk is drunk in the city.

4230. You think it would be of low nutritive value?—By all means, because the cow's spin will go bad, and it is at that particular stage of inflammation that the danger is to the human being of contracting tuberculosis in some degree or other.

4231. Dr. R. L. Swan.—Do you think there is much adulteration of milk in your district?—No, I don't think there is much.

4232. You don't think it is watered down?—Not very much.

4233. Have you ever seen water conveyed from a neighbouring ditch for that purpose early in the morning?—Well, I never did; but I am conscious that a great deal of that sort of thing went on formerly, from heresay only did I know it.

4234. You would not consider that a sanitary proceeding?—No.

4235. Do you think it possible Mr. Butterly, for pure milk to be supplied at 6*d*. a gallon in the winter?—No; I think the price of milk is much too small. The contract price is much too small in order to get the milk pure.

4236. What do you think, as a practical man, is the lowest price that would pay a dairyman to sell pure milk in bulk per gallon?—I think to give it proper and due treatment—to take it purely from the cows, and supply it pure the price should be 10*d* agallon.

4237. Don't you think that the low price given for milk in charitable institutions is a great temptation to the adulteration of milk?—It certainly is.

4238. Do you think that the examination of milk is always a reliable test to detect adulteration?—No, I believe it is not. There is another point I wish to express myself on. I think the retaining of good milch cows, instead of taking the supplies from indifferent cattle that give any sort of milk, would be a good way of raising the standard of the milk.

4239. As to its nutritive quality?—Yes. Have I made myself clear about the vegetable market business?—A great deal of disease germs is propagated from the system we have in the new vegetable market; it is very reprehensible.

4240. In what way?—From not having the vegetables properly graded and brought in clean, and not in manure carts. It seems like cutting a stick to beat myself, being a farmer, but still, in aid of the public health, I would like a new system altogether.

4241. Are there absolutely no regulations in the market for such a course?—There are regulations, but they are not sufficient to preserve the vegetables that reach the homes of the poor.

4242. Have not the sanitary officers and sub-officers the control of the small greengrocers' shops throughout the city—because I see that there have been confiscations of vegetables as unfit for human food; I had a book before me yesterday?—Yes, but I think the way in which vegetables are pulverised and polluted is a matter on which an expression of opinion should come from this Commission. There should be an improvement in that respect.

4243. Where does this treatment of the vegetables happen—is it in the market or during conveyance from the market to the green-grocers' shops?—Well, in the case where the forestaller buys them in the market they are thrown out of the farm cart, and put by in the shop and retailed out again.

4244. Do you refer to the shop in the market?—To the shop in the market.

4245. Where they are auctioned?—Yes; they go after they are auctioned to the forestaller, and all the movement of the vegetables that takes place after that goes to pulverise the filth of the carts through them; and worse still, when the cart goes out through the city in the morning, after the vegetables are bought, the practice is to throw down the load on the side of the street—in the sewer at the side.

4246. Opposite to the shop?—Opposite to the shop, and then the farmer's carter carries it in; and it is not an acceptable thing for the farmers to have their horses kept so long by this tedious plan, for no good, but only to have disease spread from the practice.

4247. Would there be any objection to trimming the vegetables before they come into market?—That would be my idea.

4248. Because Sir Charles Cameron has stated that waste vegetable products create a considerable nuisance in the city, and these would be useful if kept by the farmer?—Of course they would. It is not moving in the right direction to be allowing them into the city. The practice is not economical, and wears out the horses, the carts, and the roads; and when all this offal is trimmed off in the city, with all the pollution about it that I speak of, it gets into the

dwellings of the poor and lies there, for possibly, twenty-four or twenty-six hours, giving off its gases.

4249. What remedy would you suggest for the proper bringing of that food to the tables of the poor?—That the vegetables should be packed in crates.

4250. In baskets?—In baskets when sent to market. It would enhance the value of the work in the country, and would relieve the congestion in the city, that I heard Canon Conlan speaking about, for he is in the parish where this market is going on, and the labour of doing all these things is practically supplied in his parish.

4251. Is not the waste portion of these vegetables of use to the farmer?—Yes, he brings it home the same day from the scavenging depot of the Corporation. It is a large ingredient in the manure that he gets back. It would make food for stock if kept at home in the first instance.

4252. CHAIRMAN.—I believe the Lord Mayor is willing to give us some evidence or information.

The Right Hon. the Lord Mayor of Dublin (Councillor THOMAS D. PILE), examined.

4253. CHAIRMAN.—My Lord Mayor, the Committee would be very glad to hear any information you can give in reference to the high death rate and any remedy for it.

4254. *The Lord Mayor.*—What I personally think, and I think it is the general opinion of the Corporation, that to a certain extent we are materially behind other English cities as regards our powers; in fact we are a great many years behind as regards the drastic powers they have. I have made out a list of different amended powers which we ought to have, and which we believe would be of material advantage to the Corporation, and which are absolutely necessary to deal with the question of the health of the city in a more comprehensive manner. We think first of all that we ought to have powers which will enable us to deal properly with tenement houses, so as to ensure that no house can be used as such unless it has proper and sufficient sanitary accommodation for each family and proper water supply for each family, and which will enable us to enforce the observance of cleanliness by the occupiers of each dwelling. It is quite true we have new draft bye-laws intended to deal with those questions in part; but, frankly, we are not at all certain that they will stand the test of enforcement in the law courts. This should be put beyond doubt by clear legal enactment. That is one of the points that we wish to put before this Commission. With regard to that, what we ought to have is the power to limit the number of inhabitants in a house. We ought to be able to say that this house is registered for so many inhabitants and no more shall occupy it. We think that every tenement house should have in every separate room separate sanitary accommodation; certainly every landing ought to have separate sanitary accommodation. I don't think sanitary accommodation ought to be fixed in the yards, for many reasons, because the high tenement houses of Dublin were rarely or ever originally intended for the accommodation of separate families, but for that of one family. Of course there is another difficulty, that if you put sanitary accommodation in each landing that difficulty could not be met unless we had power to compel every tenement owner to build an annexe to his house by which the sanitary accommodation of the house could be kept clear from the house altogether. We have great difficulty as regards dealing with the owners of tenement houses in Dublin—there is such a multitude of ways in which they can get out of their responsibility, or give us information regarding it. There are many houses in Dublin—a very large class of men take a house from a landlord for a certain number of years—ten, fifteen, or twenty years—at a certain rental, and those men let it out in small tenements, in order to make a profit. But as this class of owner nears the end of his period of undertaking it is directly to his disadvantage to spend any money on the house; and we have had cases where we have, and do get, magistrates' orders to spend a large sum repairing the house, and where the unfortunate owner had only a couple of years to run. The ground landlord, or whoever derives the benefit out of the house, pays no proportion of that benefit in repairs, and we are unable to levy against the different interests the amount of expenditure that is necessary to put that house in a sanitary condition. All persons obtaining rent out of premises should be responsible for sanitary works in proportion to their interests in the premises, and the rent they receive. We feel very strongly as regards the licensing of houses. We think all tenement houses should be licensed annually, and we should have power to refuse to license any premises not suitable for the purposes required by the bye-laws, persons using unlicensed premises to be amenable to the law, both occupiers and owners. At present we have a system of registration of tenement houses; but that implies very little—only the keeping of lists of premises and owners' names, to ensure that the sanitary department should be cognisant of the existence of all tenement houses, whereas the fact of a premises being licensed would indicate that the premises licensed, though perhaps at first unsuitable, had been put into a fit condition to be used as a tenement house, and that such premises would, as a consequence, be more easily kept up to the standard required by the bye-laws. The present system of registration of tenement houses means only that they are so as a registered house; but it does not imply that the house has been inspected, and the question of how much accommodation or sanitary accommodation it has. It only implies that it is registered, and we ought to have very drastic powers in dealing with it. There is no question about it there ought to be water on every landing.

4255. CHAIRMAN.—If there were to be annual licences I presume you would have a house inspected and licensed before the licence would be renewed?—Quite so. So that, I think, it ought to be half-yearly. It should imply that the house is in perfect condition and has proper sanitary accommodation before the licence is granted, or the Corporation should say, "We won't grant the licence at all until it is put into a proper sanitary state, and the question is, whether we will give it or renew it or will not." The section of the Public Health Acts Amendment Act, 1890, relating to sanitary accommodation used in common by occupiers of two or more separate dwelling-houses should be amended, so as to make it apply to the occupiers of a single tenement house. This could be done by giving the words "separate dwelling-house" the same meaning as in the Franchise Acts At present there is a difficulty, and I tell you why. We are met very often by a yard in common to two houses with only single sanitary accommodation. The sanitary accommodation only comes under the present Act if the premises are dirty or filthy or damaged. When there is a common closet for two houses we cannot make the tenants of either house liable for dirtying the closet under the present Act. The tenants of both houses should be made summarily liable before the magistrates.

4256. You would desire to have a local Act of your own?—Yes.

4257. You know there is a difference between that and an amending Act?—I am not quite sure about that, and I cannot express an opinion upon it. We think the owners of tenement houses should be compelled to appoint a person in each house a kind of *concierge* who will be responsible for certain duties requiring immediate action, such as the removal of filth,

cleansing of a choked water-closet, and drain, &c., and who should occupy with respect to these duties the position of owner, under the Public Health Acts. We should be enabled to bring this person at once before the court, which should have power to fine him, as well as to make an order. By such a system much time would be saved, and could be utilised by the officer in making further inspections. A somewhat similar plan has worked very well in Edinburgh, and the difficulty we have is the difficulty of getting at the owner, for in Dublin a great many of the tenement houses have an agent for each, and who the agent is we have very great difficulty in finding out, and we are continuously delayed and impeded by reason of the fact that we are unable to locate the owner at all. The system is in operation in Edinburgh and in other towns in England, and I see no difficulty whatever in having it in operation in Dublin. Some person should be appointed, and there would be no hardship if some tenant or other person was appointed by the landlord, who would be the person on whom we could serve notice to compel him to keep the place in proper sanitary condition. As regards simplification and acceleration of procedure in the police courts, frankly speaking, the magistrates are too lenient in dealing with this question. They seem to think that if they make an order for a thing to be done in six weeks that it is all right, even though the person against whom the order is made fails to do it for six months, quite forgetting that during that period the house is in that state that it is a danger to the city. That is not carrying out the magistrate's order in any sense of the word, and while it would be very difficult to say how long the magistrate ought to give the order for, the system by which they are allowed to be dragged on by technicalities, in many cases for five or six months and longer, and then the landlord escapes by simply doing the work, is not satisfactory.

4258. Right Hon. Alderman MEADE.—Ought not there be a special magistrate for such cases?—I think there ought to be a special magistrate or one day each week for such cases. That would save our work a great deal. I think in Liverpool they have a system of "special prosecuting sanitary officers." That is a system that would work well here, because our men lose a lot of time in the police courts.

4259. CHAIRMAN.—We have had very clear evidence of that?—The magistrates should be more strict and fine more severely, and the purpose of the law should not be considered to be fulfilled if by repeated proceedings we get the work done months later than the date of the original summons. As regards derelict premises we should have similar powers to those of Glasgow for acquiring condemned and derelict premises after a certain period, by a simple method, at the value of the ground. I think you have had evidence before you showing that we ought to have the power of dealing with this question made very drastic. I think they have such powers in England. That is where property becomes dangerous or unsanitary the Corporation ought to have the power by which they can compel an owner to put a house into a perfect sanitary condition at once, or within a certain time, and if he did not do it to remove the house altogether.

4260. I think we have the same powers as regards general law; but, of course, in England they have strong local Acts?—In England the Borough Engineer comes along and condemns the house as unsatisfactory; but he gives the owner three or four weeks to make it good, and if that is not done he then proceeds to do it himself, or take down the whole house, or they can even sell the house on giving a certain notice. We are all pretty well agreed that we require to be put in a better position to provide houses for the poorer classes, both as regards money and as regards sites outside our present city area. Personally, I think strongly that, owing to the way Dublin is situated, it is absolutely necessary to get as large areas as possible from the surrounding districts for this purpose. We, in Dublin, have got much larger proportions of the very poor than any city in the United Kingdom. I should say the average earning power of our working classes is not anything like the same ratio as the average earning powers of English cities, or even of Belfast, and, therefore, we have a great many more men of the 16*s.* a week class than of the 30*s.* a week. I think I speak for the Corporation when I say that we would like to build ourselves or see others building a large number of cottage houses for the working classes which would be let at rents of 3*s.* or 3*s.* 6*d.* a week. On the outskirts of the city—not in any one particular place, but all around the city—we have a magnificent system of trams, the service of which would be availed of by the better paid working classes getting, say, 30*s.* a week, who would like to live in respectable houses outside the city, and we would then have only to deal with the men who earned only 16*s.* a week, and with the pest of unsanitary tenement houses, when the Corporation would be in a better position to deal with the very poorer classes.

4261. What do you mean by saying you would be in a better position as regards the poorer classes?—As we at present stand we have not enough money to build artizans' dwellings, for our borrowing powers will soon become exhausted. In all the English towns, and even in Rathmines, any money spent by the Corporation is not charged against the borrowing powers.

4262. That is in local Acts?—It is in the English Acts. Our borrowing powers should be extended for remunerative works at any rate.

4263. I quite agree with you that the borrowing powers should be extended for remunerative works.

4264. Right Hon. Alderman MEADE.—For reproductive works.—Yes; reproductive works.

4265. Dr. T. THOMSON.—You have to ask for it before you get it?—We asked for it a few years ago and we were not successful.

4266. Did the borough apply for that in their Bill?—It did.

4267. Perhaps there may have been some other contentious subject introduced in the Bill?—Perhaps so.

4268. CHAIRMAN.—You did get power to extend your waterworks?—We did last year, but not for building artisans' dwellings.

4269. You did not ask for it, and perhaps it would not be refused?—I think we ought to get the full amount for all remunerative works we require.

4270. They are not always as remunerative as you think?—I don't think a municipality can supply without the aid of the rates dwellings at 1*s.* or 1*s.* 6*d.* a week. I don't think it is feasible or possible to do it; therefore, I say, the rates must suffer to a certain extent. We should also have power to tax for municipal purposes all persons receiving rent out of premises as half of every rent is rateable to poor rates where the occupier is exempt. We should have power to appoint more sanitary officers under section 11 of the Public Health (Ireland) Act, 1878. I think we really want more ladies as sanitary inspectors. Perhaps it may be said we have enough of them as compared with other cities of similar populations; but the answer to that is this: we have a greater number of poor in our population than any other city I know of. While it might be quite accurate that we have as many sanitary inspectors as other cities of our population, they are not sufficient to cover the number of our people.

4271. Right Hon. Alderman MEADE.—You want the sanitary staff to be increased?—I think so. The term sanitary sub-officer should have a wider interpretation than that given to it by the Local Government Board (*see* Vanston, page 873), and we should be recouped in the case of every officer engaged in *bona fide* sanitary work. We could thus do much more, as we would have much more money at our command for the administration of the sanitary laws.

At the present moment, under the Sanitary Acts, the work is limited solely to the present sanitary staff, and does not cover the men who are dealing with disinfection or the notification of diseases, or plumbers' work, or slaughter-houses, or dairy inspectors, or the men who are engaged watching small-pox patients. In all those things we cannot get any recoupment whatever, and I think we should have recoupment on the same basis as obtains in English towns. We think that sanitary sub-officers should be better paid, so as to attract men with special technical training.

4272. What would you do with your present staff? —That is a difficult question to deal with.

4273. I think it would be quite possible to deal with the sanitary sub-officers by seeing that they were eligible?—That would be a step in the right direction, and perhaps there should be a sub division of the department.

4274. Alderman DOWD.—Two or three superintendents?—We would have to recast the whole staff. In regard to slaughter-houses we should have the power to close them compulsorily by compensating persons using slaughter-houses for their own business.

4275. Right Hon. Alderman MEADE.—We have the power?—Yes; but then again there is the difficulty of dealing with the owner. It should be the licensee or the owner. As far as I can understand it is the person in whose name the licence is, and he may not have any interest at all in it. We had a very awkward case some time ago, where a man who was the licensee had no interest in the place, and we could not get the owner at all, and so we could not close the place. We should have power to license dairy yards from year to year, and make the granting of such licence conditional on full compliance with our bye-laws. I would add to that that we ought to have power of withdrawal of licences of dairy yards at any time. We ought have further increased power of supervision of food supplies, especially milk, and the inspection of outside dairy yards supplying the city. I think very strongly about that because to my knowledge near where I live at Rathgar—on the very boundaries of it, within 130 yards—is the town of Terenure, and that whole town is a mass of lanes and alleys, and in it are five or six dairies, all supplying milk both to the city and Rathgar. The actual facts are that there is no inspection of those dairies. The sanitary staff go out and look at them, but they have no power to do so, and the proprietors can order them out of the yards if they so desire. Yet those people send any milk they like either into Rathgar or Dublin, and we cannot say one single word against that practice.

4276. Dr. J. W. MOORE.—Is Terenure portion of Rathmines?—No; it is in the County Dublin.

4277. CHAIRMAN.—Would it not be well for one sanitary inspector to inspect the milk coming into Dublin from such a place?—I don't know that it would be sufficient; because we ought to have some way of inspecting the dairy yards that were supplying milk to Dublin from the country.

4278. You can examine the milk when it comes into the city?—I don't know that we can successfully.

4279. Dr. T. THOMSON.—But could you not obtain, by a local Act, such a power as you are suggesting here. Has Dublin asked for it in a local Act?—It is a thing we would like to see the Commission recommend.

4280. Right Hon. Alderman MEADE.—Such things as you put before us ought to be obtained by the Corporation by a local Act, if possible, and, if not possible, by a public Act. It would be a great difficulty in the inspection of food or milk supplies coming into the city; because if you had not power to inspect the dairies you have to revert to the Continental way of having a house on each bridge?—Well, I don't know; I think it really would be done in a local Act, but it could be done only by licensing a certain dairy to supply milk to the city, as the case may be, and giving them such licences after you have inspected their dairies and satisfied yourself as regards them.

4280. Dr. T. THOMSON.—But you are not the licensing party?—No; but we ought to be the licensing party for what is supplied inside our boundaries.

4281. Your bye-laws are not for outside dairies, and if you made a bye-law to inspect dairies outside, you would be going beyond your powers?—But I think we ought to have the power.

4282. CHAIRMAN.—What you wish for is that you shall have the power to license a particular dairy from outside for the purpose of supplying the city, not dealing with it otherwise, and then you would probably announce that you would not allow milk to be supplied to the city without the dairy being licensed?—We ought to have the power of prosecuting such people. All my evidence is more with the object of asking the Commission to strengthen our hands, than anything else. The sterilization of milk is a question that may be worthy of consideration, but whether it is feasible is another question. With regard to the registration and inspection of ice cream manufacture, in addition to registering and inspecting the vendors, which we can do under the Dublin Corporation Act of 1890, we ought to have the power of inspecting their manufacture. At present we have no power whatever of inspecting the manufacture of ice creams, &c., and that is a matter that really, in my opinion, is absolutely necessary, especially in view of the fact that they are now becoming so numerous.

4283. Dr. J. W. MOORE.—Have you not got a bacteriological laboratory?—We have not.

4284. You recommend they should?—I do strongly, especially to test milk and other things.

4285. And that there should be a trained bacteriologist in charge of it?—I do.

4286. Would you propose to allow the citizens to have their samples examined free of charge?—I would, decidedly.

4287. It is done in every large town?—I would decidedly be in favour of it in all cases. We ought to have power to have the Notification of Infectious Diseases Acts vigorously enforced in the surrounding sanitary townships, as well as in Dublin. I think it is really a monstrous thing for any authority to have the power, alongside a large district like ours, where the Act is adopted, of saying, "We will not adopt the Notification of Infectious Diseases Act." It ought to be compulsory on every authority to enforce the Act.

4288. CHAIRMAN.—It is in England and Scotland now—the townships around Dublin can send us in any amount of disease and we have no power of checking it, and I think it would be better in many ways if the Act was made compulsory in all districts. Medical doctors might give us much greater assistance than they do by the notification of diseases. I know that generally they are not as careful to notify as they might be.

4289. Dr. J. W. MOORE.—You are strongly of opinion that compulsory notification should be extended all over Ireland?—All over Ireland. We should also have power to compel the closing of schools I would go a great deal further with reference to the question of schools, because we have in Dublin in many cases houses taken up by a person and they start a school in it, but it was never contemplated originally that it would be used for a school. It has no sanitary accommodation more than what an ordinary family requires, and if the attendance increases to forty or fifty children they are crowded in this house with wretched sanitary accommodation and of course naturally it must affect the health of the children who in there for some hours. Very many of the large schools also have not got anything like sufficient sanitary accommodation,

4290. Dr. T. THOMSON.—But you can compel them to provide sufficient sanitary accommodation?—I am not aware.

4291. Oh, yes; a school is a house, and you can insist on sufficient accommodation?—Can we limit the number of scholars?

4292. Oh, no; I thought you were talking about sanitary conveniences. Under the Public Health Act of 1878, you can compel provision of sufficient sanitary accommodation?—But a school grows; when first started the sanitary accommodation might be sufficient; but as it gradually grows, unless there is inspection and registration of it, there is no means of knowing whether there is proper sanitary accommodation in the school or not.

4293. You don't want registration; your inspector can go to the school, and judge of the state of the sanitary accommodation. There is no objection to a sanitary inspector going to look after the sanitary accommodation of a school.

4294. Right Hon. Alderman MEADE.—There is no difficulty about sanitary accommodation; but there is about limiting the number of pupils.

4295. Dr. T. THOMSON.—If you find the sanitary accommodation is not sufficient, you can bring the matter before a magistrate?—But then, take the accommodation of the schools.

4296. Dublin is just in the same position as other places. Other places deal with this matter, not to perfection, but to the best of their ability?—Does it cover a case like this: I know a school in Dublin of 300 or 400 children crowded into where there is no more room than to pack them into it together.

4297. Have you tried to deal with them under the existing law?—I understood we had no powers to be able to do it.

4298. What is your opinion with regard to the closing of schools during an epidemic?—I would be in favour of it; but I am inclined to think that what we want is to have the schools inspected as to ventilation, the number of pupils, &c. I believe if this were done we would find that more than half of the schools of Dublin were greatly overcrowded.

4299. What do you say about the hospital accommodation for infectious diseases?—With regard to an infectious diseases hospital, I think I might say the Corporation would be prepared to face the expenditure of erecting an isolation hospital in a proper position, provided we could, in some way or other, control the other hospitals, viz., prevent them from taking in infectious cases, and compelling such cases to be sent to the isolation hospital. We think the citizens' money would be unwisely spent if the other hospitals were still allowed to have wards where they take in infectious cases, and where the doctors go in and give lectures, and come out afterwards without giving the same care to disinfection as they would in a large central hospital specially adapted for such cases.

4300. Dr. J. W. MOORE.—Have you any information as to any of the doctors attending those hospitals bringing out infection with him?—I have not; but I have heard of a case where a nurse carried it out. I could not speak for myself; I only heard of it. If you take Berlin, for instance, the hospitals in that city have no infectious cases in them—such cases are all sent to an infectious diseases hospital outside the city; and the greatest possible precautions are taken to prevent both the doctors' and nurses' infection. It is to all intents and purposes worked as a prison; no one can go out from it without disinfecting their clothes and everything else. We recognise the difficulty in the way of doing what I have said, because these hospitals are used for teaching purposes.

4301. You are aware it would revolutionise medical teaching in Dublin?—It might; but I don't know that it would injure it. I have had discussions with doctors about it. I don't think it would injure the medical teaching. But even if it did revolutionise medical teaching, I think the public health is of far greater importance.

4302. CHAIRMAN.—What about the notification of tuberculous diseases?—That is a very large and difficult question.

4303. Or about the Corporation providing an hospital for them?—I don't think I could say what we would be prepared to do.

4304. Right Hon. Alderman MEADE.—With regard to infectious cases, would you not be in favour of having a number of convalescent hospitals outside the city, to which the patients might be sent during the period of convalescence?—I think that would be of material benefit. At present they are kept in the city hospitals during that time.

4305. They are kept for six weeks or more, and other patients cannot be admitted in consequence?—Yes.

4305A. Dr. J. W. MOORE.—You are aware that the Corporation had full power, since 1878, to construct these convalescent homes?—Yes. But, speaking personally, I am altogether against having any hospital taking in infectious cases in the city. We know that, as to Cork-street Hospital during an epidemic, the surrounding area is always infected by it. Statistics show it.

4306. I don't know about statistics; in small-pox epidemics I would say "Yes," but in no other infectious disease that I know of would the infection spread over an area. Small-pox infects large areas, but no other disease?—You are a better authority than I am on that point.

4307. I am strongly of opinion we should have a small-pox hospital outside the city? But you are not satisfied that we should have any infectious cases treated in the city?—No.

4308. Dr. T. THOMSON.—A Royal Commission, eighteen years ago, dealt with this question. There was no evidence given before that Commission to show that a properly-administered and properly-constructed fever hospital is the slightest source of danger to the public, even when planted in a thickly-populated district; that is as regards fever, but as regards small-pox it is a danger.

Witness.—But as regards doctors or nurses taking out the infection with them—that was what I spoke of.

4309. I said a "properly-administered" hospital?—Very well.

Right Hon. Alderman MEADE.—We will always have doctors going to private patients, and treating them in their own houses; I don't know where we would stop. I believe, also, that to remove an infected patient for a distance is often most injurious.

Dr. J. W. MOORE.—That is quite true.

Right Hon. Alderman MEADE.—Especially in scarlet fever.

Dr. J. W. MOORE.—In certain cases it would be probably fatal.

Right Hon. Alderman MEADE.—When we extend our boundaries we will be able to do all we want.

The *Lord Mayor.*—I hope we will have some reforms before that.

4310–6. Dr. T. THOMSON.—Is the Corporation in favour of the compulsory notification of phthisis?—I am in favour of it, and I think the other members are. It is an infectious disease, and every infectious disease ought to be notified to the Public Health Authority. We cannot be responsible for the public health if we have not got notification of all infectious cases.

4317. Right Hon. Alderman MEADE.—Suppose that in an artisan's family some of the children were suffering from phthisis, would you say it was the duty of the father to say, "I have got phthisis in my house"?—No; I think it ought to be the duty of the doctor to do that. Out of kindness the doctor will often keep back from telling a person that he is in the last stage of consumption. I think in all such cases the doctor ought to notify.

4318. Dr. T. THOMSON.—The Corporation would not object to pay the doctors the half-crowns in the cases you refer to?—They would not.

4319. CHAIRMAN.—What about the Corporation taking over the private lanes?—It is desirable to take over the private lanes; but there is a difficulty in the matter which meets us almost immediately—it may be only a legal difficulty. If the Corporation took over the lanes and alleys, of which there are some 200, the cost of doing so would be £10,000 or £15,000, and it strikes me that if we did so the Auditor would come down and surcharge us—make the gentlemen who ordered it pay for it.

4320. Right Hon. Alderman MEADE.—We would only want about two-thirds of that £15,000; we would get contributions from the private owners?—We might not get anything from them. We ought to have power to charge portion of the cost on every property abutting on the lane-way; and in this matter we are met with another difficulty. We had a case in point—that of the lane at the back of Brunswick-street—the College lane-way—and we found that we were utterly unable to do anything with it, because Trinity College said they would not pay a farthing to it. The Auditor surcharges us if we do not enforce the 28th section of the Public Health Act of 1878 by recovering the expenses incurred; and then the Local Government Board cuts down the amount we ought to recover, although we proceed in accordance with the 28th section of Act of 1878, and the schedule to the Act of 1896. When a lane-way adjoins an owner's property, and the Corporation put it in order, the owner ought to be compelled to pay for it. There is another case in point I can mention. We took up a lane-way near Richmond-street about ten months ago; we served all the notices on the owners, and dealt with the lane-way in strict accordance with the law, charging the owners of the property only their proper share, which they refused to pay. They (the owners) appealed to the Local Government Board, and that Board reduced the amount by one-half.

CHAIRMAN.—That was because there was a great deal of unnecessary work done.

Right Hon. Alderman MEADE.—That portion of the Act is a dead letter.

The *Lord Mayor*.—I did not know, Mr. Cotton, you were mixed up with it. We were only carrying out the law.

4321–4. CHAIRMAN.—I think you did a great deal more than carry out the law?—I don't know whether you had any evidence whether the medical officers of health should be more in our hands.

4325. We had not?—These officers are appointed by the Guardians, and paid £25 a year each by us. We have no control over them—we cannot appoint or dismiss them—but we have to pay the money. They are the servants of the Guardians; and, in most cases, the only work they do in the capacity of medical officers of health is what comes under their notice as dispensary officers. In my opinion it would be better that we had nothing to do with them, and give them over to the Guardians; and that we should take the money we pay them—£400 a year in all—and appoint a properly qualified doctor of our own for the north side of the city, and another for the south side.

4326. CHAIRMAN.—You cannot do that now?—No; but we have to pay the money all the same.

4327. Dr. J. W. MOORE.—It is under the Act of 1878 the medical officer of health acts for his district?—Yes.

4328. And the absurd arrangement you refer to has been brought about by the operation of the Local Government Act?—Yes.

4329. Previous to that Act these gentlemen were not connected with the Corporation, but now they are?—That is so. The pittance is small, and so the doctors think it is not worth bothering their heads about. The next matter I would touch upon is that of the burial of the pauper dead. The Guardians are seeking to put that expense upon us. The South Dublin Union say they are not responsible, and that it is our duty to do so. However, we are going to fight them over the question, and we will settle the matter in that way. I would like to say a word or two as to legislation on the question of paupers and lunatics, to enable us to send them to their native places, instead of having the cost borne by the citizens of Dublin.

4330. Right Hon. Alderman MEADE.—That is the Law of Settlement?—Yes. Dr. Thomson may not know about it, but I can tell him that it hits Dublin very much.

4331. England or Scotland can send us over the decrepit Irish poor, and we cannot send them back theirs?—That is the case.

4332. Dr. Thomson thinks there is no such thing as a decrepit Scotchman?—I don't know about that. We have a number of English and Scotch people in our lunatic asylums. They come over here to get work, and they get insane, and we have to keep them.

4333. We always have them with us, and we keep them?—It puts an enormous additional cost on us, both as regards lunatics and the poor. The position taken up by the Government as regards the latter is—even in the case of soldiers—when they become parish charges, to bring them over, land them on our quays from any part of England or Scotland, and we have to take them. Whether these people originally belonged to Belfast or Galway they are sent over to our quays, and we have to take them. I say that we ought to have power to remedy that grievance, and we ought to be given authority to send these people to wherever they belong.

4334. Dr. J. W. MOORE.—You think there ought to be reciprocity?—Yes; and this remark applies to other parts of Ireland, as well as to England and Scotland. We ought to be able to send people out of Dublin—the destitute poor and lunatics—to the districts in Ireland that they may belong to, and not have them chargeable to the citizens of Dublin. Very nearly one-half of the hospitals of Ireland are situated in Dublin—I think I am about accurate in that—and the sick and invalided come up here if they can get here.

Right Hon. Alderman MEADE.—Except the Union hospitals.

Dr. J. W. MOORE.—And there are also the county infirmaries—they are excepted also.

The *Lord Mayor*.—Then, as to infant life insurance, I say that it should be controlled by us, and under our supervision. In its present state it is a dreadful incentive to neglect, and even worse, on the part of parents in the poorer classes.

4335–7. CHAIRMAN.—Is that the case in any other town that you know of?—I don't think so.

4338. You cannot say whether they control it or not in any other town?—I cannot say.

4339. Right Hon. Alderman MEADE.—It is a cause of complaint in every town?—It is a crying evil in Dublin, I know.

4340. About the Dublin Tramways Company you have something to say?—Dr. Moore said something about snow, and said the Tramways Company were not compelled to clear the snow off the lines.

4341. Dr. J. W. MOORE.—No; but what I complained of was the throwing of salt on the snow?—We watched over that matter this year, and they did not put salt on the snow.

4342. I suppose that was owing to the electrical traction?—We got a clause inserted in the Electrical Power Act dealing with it.

4343. Right Hon. Alderman MEADE.—I think they salted the lines in the Pembroke township?—I know they did. There is just another point that

I would refer to, and that is, making liable to pay taxes, for municipal purposes, all persons who receive rent out of premises. Charitable institutions and Government lettings are exempt from any taxes. We had a case about six months ago, where the Government took some premises (in Nassau-street, I think) for £150 a year, and the landlord served notice on the Corporation that he would pay no taxes, as Government premises were exempt. Now I think a case of that kind is a great hardship.

4344. CHAIRMAN.—That is what is known as the case of "half annual rents"?—Yes. I think we should have power to make the ground landlord pay half the municipal rate—just the same as in the case of the poor rate.

4345. These "half annual rents" are only assessable for poor law purposes?—Yes; but we ought to get our rates from someone; they ought to be assessable for municipal purposes, too.

4345A. Get it all if you can?—I would go further, and go right down to the ground landlord, and make him liable for the municipal rate in cases of this kind.

4346. Dr. J. W. MOORE.—Dealing with the medical officers of health, don't you think the dispensary medical officers give value for the £25 per annum that they get for acting as medical officers of health for their dispensary districts?—I am sure they do; but the sum is so miserable that they have no incentive to do much work. I think the arrangement ought to be abandoned, and that we (the Corporation) could get more effective work done for the total sum we pay by having two officers of our own.

Dr. J. W. MOORE.—I strongly opposed this matter twenty-two years ago, and I still oppose it after a long experience. It has destroyed the sanitation in Ireland.

4347. Right Hon. Alderman MEADE.—Is that £25 all the doctor gets?

Dr. J. W. MOORE.—It is all he gets for this work.

Right Hon. Alderman MEADE.—But he gets £250 more for his dispensary, and £30 or £40 under the Notification Act.

4348. Dr. J. W. MOORE.—Not so much. Do you think it is fair that a dispensary doctor should be paid only 1*s.* for every notification, while a private practitioner is paid 2*s.* 6*d.*—is that an incentive to the dispensary medical officer?

The *Lord Mayor.*—That is not the fault of the Corporation.

Dr. J. W. MOORE.—It is not the fault of the Corporation; it is the fault of the Act.

The *Lord Mayor.*—I think the Act recognised that in the case of the dispensary doctor it was a public work.

Dr. J. W. MOORE.—I think the one notification is as good as the other; and if one is paid at the rate of 2*s.* 6*d.*, so should the other.

CHAIRMAN (to the Lord Mayor).—Thank you very much. I have now to state that the Committee are going to adjourn for about a fortnight. The exact date cannot be fixed at the present moment, but the date for resuming will be advertised, and notice of same will be sent to those on our list of witnesses.

FIFTEENTH DAY—TUESDAY, MARCH 20TH, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst.C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President, Royal College of Surgeons, Ireland; THEODORE THOMSON, M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Mr. JOHN COOKE, M.A., examined.

4349. Dr. J. W. MOORE.—You are the Honorary Secretary of the National Society for the Prevention of Cruelty to Children?—Yes.

4350. The Dublin branch?—Yes.

4351. This Society is incorporated by Royal Charter?—Yes.

4352. How long has it been working in Dublin?—Since the end of 1889—Eleven years.

4353. Eleven years?—Yes; we are now in our eleventh year.

4354. You are prepared to give some evidence as to the condition in which your Society has found children living?—Yes.

4355. Perhaps you will favour the Committee with any observations that you wish to make on the subject. How many inspectors are employed by the Dublin branch?—We started with one in 1889, in 1884 we added another, in 1896 we engaged a third, and we have just appointed a fourth.

4356. Four inspectors?—Yes—at present; and I think the staff quite inadequate for the work that is to be done.

4357. Are they working only in the city of Dublin?—We take care of cases in Dublin and neighbourhood. We also go as far down as Drogheda; Dublin and the adjoining counties. In the eleven years we dealt with 3,725 cases, involving the welfare of 11,158 children. Last year—of course, I could give a full statement of all the cases classified, but I will confine myself to the particulars of the last year—the number of cases in 1899 was 976. The total number of children in that year was 2,659; the number of offenders 1,098; the number of offenders who were wage-earning was 804. The average weekly earnings was 24*s.* 8*d.*—an important point, showing that our work is not confined to the proletarian class. Of the children 1,113 were insured. There is a much larger percentage of insured children in Dublin than people are generally aware of.

4358. Remind me of the total number of children?—2,659. In addition to the actual dealing with cases by the inspectors, without either a warning or bringing into court, there are other cases which remain on our books, and we attach the greatest importance to the constant visiting of all cases by our inspectors until we are perfectly satisfied that the children are properly treated. Last year they paid 3,822 visits. As to the conditions under which the children are found: they are generally in tenement houses, and the overwhelming majority—I have not the classification—but I may safely say the overwhelming majority are confined to one room. The rent varies from just a few shillings—2*s.*, 2*s.* 6*d.*, sometimes 3*s.*

4359. Per week?—Per week.

4360. Per room?—Per room. Probably, the average is about a couple of shillings. Well, now, we are very particular in inquiring as to the cases of neglect and cruelty to children; and from my own experience, and from that of the officers, I say it is an undoubted fact, that drink is the cause of nine-tenths of it.

4361. Drink?—Drink—the direct cause. The condition in which we find the children is one of extreme dirt and unsanitary surroundings; the room is invariably unfurnished, often terribly filthy, as I will give you an instance of presently—that is of one that came under our notice within the last few days. The children are ill clad; often with only a single garment, often with nothing. Although it is not our special business to clothe children, we had within the past few weeks forty or fifty children in this condition, and we clothed them. We take the children at times into our own shelter.

4362. At 20, Molesworth-street?—Yes.

4363. How many does it accommodate?—Eight to ten. We generally have from three to five children. We don't keep them very long. The first thing that has to be done is getting the clothing off and burning it. The hair has to be cut, and the children are put into a hot bath. They are often covered with vermin, and altogether in a state of neglect. The women are very often in a similar condition of general ill health, and ill clad. The other morning a woman told me she had been without food for twenty-four hours and she was trying to suckle her baby. They eat very irregularly. Most of the children are anæmic, and when they die the evidence of the doctors is that marasmus is the cause of death.

4364. Wasting?—Wasting. Though it is extremely difficult to prove the true cause of this, I believe that death is due as much to bad feeding and irregular feeding as to anything else. Owing to the conditions under which they live, the surroundings, and the bad food, and irregular food, it is quite true that large numbers of these people—the fathers and mothers—fly to drink.

4365. Fly to drink?—Fly to drink. In fact they often take drink in preference to food.

4366. As a result of bad housing?—Yes; and the irregular conditions of life. When they get food it is not properly cooked. It is not attractive, and they take to drink. They sink then into the lowest class of tenement houses. An instance of that recently came under our notice, which will illustrate what I have said. A man and his wife and three children in one part of the room; a man and his wife and three other children in another part of the room. They joined to pay the common rent. They brought in a lodger, and whatever the man paid for his night's lodging the other men joined him in drinking.

4367. Do you know the dimensions of that room?—No; but our inspector could give the information as to its size if necessary. I have here two cases, and if the Commission would care to have these special cases to illustrate what is constantly under our notice, I shall with pleasure read them.

4368. It does not involve calling another witness?—No; I had the reports handed to me just an hour ago. On the 15th and 19th of this month our inspector visited a top back room in Back-lane. He says:—"The room is in a frightfully dilapidated state. The boards have been almost entirely torn up for firing, and going

through it they have to step from joist to joist. A great portion of the roof is open, admitting rain and cold. The room in front is a complete wreck, and almost roofless. In moving about, the place is rather shaky, and is quite a danger to habitation. The room occupied by the occupant was in a most filthy state; and from its appearance it did not appear to have been cleaned up for years. The furniture consisted of an old table and dressing table; a pot and basin, the only vessels in the room, were both filled with filthy liquid, which appeared to have been in them for some time. The man was lying at the time of my visit—1.30 p.m. —on a few filthy rags in the corner of the room, and the boy, who was in a dirty state, hiding behind the door. The smell in the place was simply intolerable." The other case was on the 16th instant in St. Mary's abbey. The weekly earnings of the man was 25*s*. a week. He gave 17*s*. a week to his wife. This was the condition of the room. I may say there are three children, aged eight years, five years, and three years, respectively. The inspector says:—"In consequence of a complaint I visited the rooms at 12 noon on 16th inst. I knocked, and after a few minutes I was admitted. The rooms comprise a front parlour, off which is a small bedroom. In the front parlour I found about a quarter of a stone of straw spread over the floor. On this two of the children were sitting absolutely naked, but were partly sheltered by an old cotton quilt, which was black with dirt. The girl's clothing consisted of a little dirty frock. Her hair was matted. All the children were dirty, and did not appear to have been washed for some time. There was neither food, nor fire, nor fuel in the rooms. I found some burned straw in the grate There was no furniture of any description—not even a stool to sit upon. The cooking utensils consisted of a small pan and a little kettle without a lid; a bowl and saucer were lying on the floor, and a few plates on the window sill. The floors were black with dirt. The room off the parlour was used as a w.c. In it I found a bucket containing urine and excrement. A quantity of the latter was also on the floor. The children were shivering with the cold. I procured some bread, butter, and hot coffee for them, which they ate up ravenously. The mother, who had been out, returned at 1 p.m. I drew her attention to the state of the rooms and the children. She made no statement. She appeared to have drink taken. The father returned about 1.15 p.m. I brought the state of the rooms and the children under his notice also. He said that it was his wife's fault, as she had done away with everything. He also said that he earned 25*s*. a week, out of which he allowed his wife 17*s*." The mother was the cause of this, and has been arrested. The husband asserted in court that she did away with everything—squandered everything, and reduced him and the children into that condition. That is the invariable state of things in the cases we deal with. The constant condition of children is such as I state. I won't say that every case is as bad as these; but the large majority is as bad.

4369. You are prepared to submit tables as to the average wages?—Yes. I have already mentioned that for 1899 the average was 24*s*. 8*d*.

4370. We shall be glad to have these. You have not told us as to the number of insured children within the last few years—you can submit a table?—I can.

4371. Is it your opinion that this insurance is a danger to health?—I unhesitatingly say so.

4372. Let us not mince matters. The parents have a direct financial interest in the death of the child?—Yes.

4373. Are those lives examined by medical officers before being insured—have you any knowledge of that?—I have no knowledge of it.

4374 My opinion is that they are not; and are you aware that these insurances are very often disputed?—I had that from the late Registrar-General. He took a keen interest in the matter.

4375. Right Hon. Alderman MEADE. — What table is it that you propose to give us?—Of the number of children that we deal with, and the total that have been insured.

4375a. Have you told us how many you dealt with?—2,659.

4376. And of those how many were insured?—1,113.

4377. Dr J. W. MOORE.—You are aware that these insurance offices require a medical certificate of the cause of death?—Yes.

4378. I don't know whether this came within your cognisance, but I should like to know whether there is a great tendency to falsify the ages of the children?—That has not come directly under my notice.

4379. And that the duration of their lives is wrongly stated?—Yes. I am aware.

4380. Is it your opinion that this insurance of children is not only dangerous to the public health but also immoral?—I unhesitatingly say so.

4381. Can you compare it with any other towns?—No

4382. Right Hon. Alderman MEADE. — Your experience is confined to Dublin?—Yes.

4383. Dr. J. W. MOORE.—At the beginning of your evidence you made this statement—that you believed drink was the foundation of nine-tenths of the cases that are brought to the notice of your society?—Yes.

4384. How?—Poverty and drink. I give it as an explanation. If one is hunting for an explanation I can quite conceive that people reduced to one room, bad surroundings, the general bad condition of the neighbourhood—that under such conditions both men and women will fly to drink.

4385. Cause and effect. Your opinion is that in a certain number of cases poverty comes first?—I would not say that.

4386. Because I have always been of opinion that drink is the cause of poverty with a large number of our fellow-citizens?—Yes, for, as a rule, we find that the men start well, have good employment, have been earning a good wage, and that they sink down into only occasional wage-earning in consequence of drink. That is the invariable result with a man whom we call the occasional wage-earner.

4387. Do your inspectors—when they find these unsanitary rooms—do they report to the authorities?—Immediately. I should say that we get nothing but the greatest courtesy and help from the officials. Sir Charles Cameron is always desirous to give help and advice. And Mr. Eyre has always been most kind in all cases in his department in connection with the industrial schools

4388. You have a ladies' committee in connection with the society?—Yes.

4389. And it is absolutely undenominational?—The whole society is absolutely undenominational.

4390. Do these ladies visit the children?—No. They deal with the children in the Shelter, and help in providing clothes, and things for their comfort and amusement.

4391. Have you any machinery for improving the condition of the rooms in connection with your society?—No; beyond what I say, that our inspectors act the part, not exactly of sanitary inspectors; but they see that the children are kept in a proper way, and that if the man and his wife allow the same conditions to arise again we deal with them very sharply.

4392. Do you find that obtaining punishment for these erring parents is afterwards visited on the children?—Not one per cent. of the court cases do we deal with a second time.

4393. That is most important?—That is most important. And I should say that the percentage is from 10 to 20 per cent. of the total. Our great work is not in the courts, but in advising, warning, and helping.

4394. Dr. R. L. SWAN.—Of course, there are a great many cases verging upon the condition of what might be called neglect of children with which your

inspectors don't deem it necessary to deal—for instance, uncleanliness and dirt—I suppose that is not regarded as cruelty?—No. But if we come across a case of that kind we advise. We tell the people not to keep the children in that condition.

4395. Is not it most usual to find them in a very dirty condition?—Quite usual.

4396. I see a great many of the children brought to hospital, and they are invariably unwashed. They will tell you they wash them; but they look as if they had not been washed for a month?—That is our experience.

4397. There is also a condition of filth encouraged by mothers—evacuations being made about the apartments and stairs?—Quite so. The cases I have given show that.

4398. There is also a sort of want of knowledge of the ordinary decencies of life—at least a disregard of it?—The poor of this city seem to want a thorough change of habits, and a thorough knowledge and instruction with regard to the common decent conditions of life.

4399. There are some striking exceptions, as we saw yesterday in visiting the slums?—That is so.

4400. Alderman P. Down.—Have you thought out any scheme that could be put forward instead of the present system of insurance?—The other extreme is that money should be given when the child reaches a certain age. The encouragement should be to make the child live, and not that the child should die.

4401. But children will die?—Yes, but there should not be a temptation to allow them to die.

4402. Dr. T. Thomson.—People are anxious to give their children, if they die, a decent burial; and if they are poor people how can they do it?—I cannot help that. In dealing with these things you must take morals as the foundation.

4403. Right Hon. Alderman Meade.—But what about the feelings of the people; is it not natural that poor people should desire that their children, if they die, should get a decent interment?—Yes, but I cannot help that either.

4404. Where is the immorality?—Putting the temptation in the way.

4405 But on the other hand you have the fact hat in the case of accident to the child the parents wish to give it decent burial?—But the temptation in child life insurance is immoral.

4406. Have you any tables to show the number of children who die that are insured?—No; I have not. I should say that the number of children who die in cases that come under our notice is small, because we generally manage to get information before the death stage is reached, and we are able to prevent it in a large number of cases by taking the child, either to our own shelter or having it removed by warrant to the hospital. That is a power that our inspectors have, and that your sanitary inspectors don't appear to have. We get the doctor in. He states the nature of the case. The inspector goes to the court immediately. In a couple of hours the whole place is cleared out. As I understand the sanitary laws are extremely dilatory.

4407. Chairman.—Is there any evidence to prove that the percentage of deaths among insured children is larger than among other children who are not insured?—I believe that is so. The central body in London collected a large amount of evidence on the point.

4408. Right Hon. Alderman Meade.—In England?—In England. But that would be no use to us in Dublin?—No.

4410. Dr. T. Thomson. — Is it not a fact that the children who are the subject of insurance are just the class of children amongst whom in any case the death rate must naturally be expected to be higher than in the case of other children?—Yes.

4411. On your suggestion to do away with insurance, and considering that you would thus deprive people who desire decent burial for their children of the means of doing so, can you suggest some other means of doing so?—Well, I could not say. I have not considered the subject sufficiently.

4412. Suppose evidence of neglect on the part of the parents were sufficient to prevent their receiving the insurance money—how would that answer?—If it could be made effective, which I doubt.

4413. Why do you doubt that?—In the extreme difficulty we have in getting medical evidence which convicts. Where the general belief is, that it is from want of food and neglect, we get marasmus, which will never convict in court.

Mr. Richard Grant Pilkington, Solicitor, examined.

4414–15. Dr. T. Thomson.—You are a solicitor and land agent?—Yes, and owner of property in Dublin.

4416. And ex-inspector of rates?—Yes.

4417.—You have had experience not only in Dublin but in Liverpool?—Yes—since I was eighteen years of age, in the former.

4418. And in your capacity as agent for house property you have had considerable experience of slum property in Dublin?—A great deal.

4419. You wish to tell the Committee, I understand, your views as regards the increasing taxation in Dublin?—Well, the effect of removing a slum—I will take the first I had to deal with—the Coombe area. It is a very large one. I suppose that it contained at least 500 families. It cost to remove I think—it cost the Corporation—£45,000. It is now twenty years ago or more. That is the Coombe area. Well, that was let then to the Artisans' Dwelling Company at £200 a year to build cottages on, so that the ratepayers lost £40,000 on this area. 500 families, all of the very poorest class, were turned out. (I knew the whole place personally very well indeed at the time). Those families had to go away, and no provision was made as to where they would be housed. They had to find their accommodation anywhere they could. They were of the very poorest class—some of them even as low as 6*d.* a room. Their small employments were destroyed by removal, and numbers were made paupers.

4420. Right Hon. Alderman Meade.—In the old slums?—Yes. Gibraltar-court, Pimlico, Upper Coombe, and other places. These were all removed, and the occupiers who were poorest driven to the north side of the city, where the chief slums now exist. The effect of that was that the poor rate which, in the south side was previously always higher than in the north side, fell from 2*s.* 10*d.* to as low as 1*s.* 4*d.* in 1887. It went down very much in the south side, and immediately rose in the north from 2*s.* 2*d.* to its highest in 1885 at 3*s.* per £. Of course those families had to find accommodation somewhere, and had to crowd together; the result was an increase of overcrowding in the north side of the town, where they removed to.

4421. What do you suggest in the way of remedy?—The artisans' dwellings are no use for the poorer classes. Perhaps about 150 families got accommodation where the 500 left. The class of people who rent artisans' dwellings ranges from 4*s.* 6*d.* to 7*s.* 6*d.* That is a class we don't want to protect at all. They can protect themselves. But the very people that you want to protect cannot be accommodated at a profit on the present system. In Liverpool the Corporation rates are 3*s.* 3¼*d.* On small houses under £13 valuation, in Liverpool they get off half the rates. That is, they have to pay 1*s.* 7½*d.* where we have to pay 6*s.* Corporation rates in Dublin. That prevents people from building houses on speculation in Dublin at all. In Liverpool you will see twenty or thirty acres, perhaps, built on in a couple of years.

4422. Dr. T. THOMSON.—I do not understand you?—You cannot build a house with profit in Dublin. You would turn your sovereigns into half-sovereigns; I mean, if you lay out £1,000 on buildings, it won't be worth more than £500; by the time you pay rents, repairs, sanitary works, and cost of the ground and building, it costs about twice as much as in Liverpool—Dublin is the dearest place for building.

4423. What remedy do you propose for that?—The great thing is to reduce the taxes.

4424. How do you propose to reduce the taxes?—Of course, if you want artisans' dwellings built, there are two ways of doing it. Either tax the citizens, in which case you either tax in doing so many very poor people that are hardly able to pay the present taxes; or reduce the taxes on houses—say—below £8 valuation.

4425. Do I understand you to suggest that the incidence of taxation should be changed so that the poorer class of property should pay less and the better class of property more?—That is what they do in Liverpool. If I build a house that has a valuation of £20 now, I immediately create a taxation on that £20—I immediately create a taxation of nearly £10 a year. And if I cannot, in building that house, get the necessary taxes out of it and a profit, I won't build it.

4426. Is not there a rebate of 25 per cent. on certain classes of property?—The way the rebate is given in Dublin hardly benefits the poorer class. It benefits the Artizans' Buildings Company, but it does not benefit the ordinary owner—they have to pay this in one sum in advance; and supposing the rest of the year the house is vacant, they don't get any rebate back for vacancy, so that the reduction of 25 per cent. swallows up the benefit of it.

4427. Do you suggest that there should be a rebate for poor property?—Certainly—what I would aim at would be to encourage the building of a cheap class of houses. I would hold out inducements to build them.

4428. What sort of inducements?—Reducing the expense on that class of property.

4429. In what way?—Taxes.

4430. Is not that what I asked you, whether you suggest there should be a rebate on poor property?—I suggest that on all new property built now that you should make a reduction. No builders will build now, as they would lose.

4431. Do you mean that every new house under a certain rental should by virtue of the fact that it is under a certain rental get a rebate of taxes?—Certainly.

4432. Would you make that rebate irrespective of the sanitary condition of the premises?—I would put as few restrictions as possible to encourage cheap building, the architects can see about proper building, and sanitary officers look well after their sanitary condition.

4433. But in the course of a few years might not these houses become unsanitary?—That class of tenants—they wear out a house in twenty years, and you must provide for the loss of capital as well as for income.

4434. Do you take the view that if a house were in an unsanitary condition the rebate should be allowed?—The more conditions you put on the more difficulties to cheap building.

4435. Would you put that condition on?—I would be inclined to put as few conditions on as possible.

4436. Would you put that condition on?—I would not put on any condition that would discourage builders from building. If you put on conditions you immediately put on expense.

4437. But suppose the houses do in a few years become unsanitary?—I know your point.

4438. But you don't think there should be any such conditions?—I think you might put in conditions once you give a rebate; but the more conditions you put on the greater the difficulty you create. Of course you raise the price if you put on conditions.

4439. And would you apply this rebate to other houses than houses constructed, we will say, after to-day?—What you want now is to build houses of a cheaper class than the present houses.

4440. Will you answer my question. Would you allow a rebate on existing houses, or only on houses that are built after to-day?—I would be in favour of allowing it for the purpose of encouraging an increase of property of a certain class—to get increased accommodation.

4441. Would you allow this rebate to existing houses?—Yes, to a certain extent, but I would advise a very liberal rebate on new houses which would also give employment in building.

4442. With regard to existing houses, would you make it a condition that they should be in a sanitary condition?—Yes; but my idea would be to encourage the building of new houses.

4443. Then, as regards new buildings, your suggestion is that there should be a fair profit on them?—The builder won't build unless he can get a profit. If he wants people to lend money to him, people won't lend money on that property if they see that it won't give a profit. In England people lend money on tenement property up to two-thirds, and often up to three-fourths of its value, and even higher.

4444. What do you consider a fair profit?—A fair profit will soon find its level.

4445. What do you consider a fair profit?—On tenement property?

4446. I am talking about new house property?—I am not talking of ordinary private property, but of tenement property of small valuation.

4447. Whether it is tenement property or not, do I understand that your position is that it is desirable that private persons should be encouraged to build houses for the working classes?—Yes.

4448. What do you consider a fair profit?—In Dublin I suspect builders won't build unless they get about 10 per cent. They might build at a less profit; but ordinary tenement property in Dublin, people won't buy at less than 30 per cent. it is so much depreciated as an investment.

4449. Right Hon. Alderman MEADE.—Three years' purchase on the rent?—Yes. There are no purchasers at present for tenement property at all.

4450. Dr. T. THOMSON.—Have you anything else you wish to tell the Committee?—At the present moment we are suffering from overcrowding in the city to an awful extent, and the more you clear away the more houses you will want. It is not only insanitary accommodation you are suffering from, but you are suffering from the want of accommodation altogether. The suffering is among the very poor—those under 2*s.* 6*d.* a week. If you clear away 100 families and only build accommodation for twenty-five; and if the houses you build for those twenty-five are for people who are willing to pay good rents, 7*s.* 6*d.* and 5*s* a week, you don't build houses for the class you turn out at all; then you don't know where they go to; you don't build for them at all, but for another class who are able to pay 5*s.* or 7*s.* 6*d.* a week, and the 2*s* 6*d.* class are left without houses altogether.

4451. Right Hon. Alderman MEADE.—What becomes of them?—If you could remove them with the slums of Dublin it would be right; but you only house a part of those removed, and the poor people only move elsewhere and pay a higher rent for worse sanitary accommodation.

4452. Dr. T. THOMSON.—Do you suggest that they should be supplied with houses on the old area?—Either on the old area or on another area. The great aim ought to be to leave an area which costs so much to clear, and let it gradually relieve itself, and build on other places. There is a great deal of space that you could build on.

4453. Within the city walls?—Yes. I see places where there are first-class houses that could be remodelled to suit the working classes, and make comfortable dwellings at a very small rate of cost in comparison to building.

4454. Where is that?—I see a district that would be very suitable for working men at the North Wall, and down between Talbot-street and Gloucester-street, and Summer-hill and Britain-street. There is a very large district there that is mostly unbuilt on.

4455. Right Hon. Alderman MEADE.—Where?—Lying between Talbot-street and Gloucester-street, and Summer-hill and Britain-street.

4456 .Ground?—Ground.

4457. How much?—Two or three acres easily, probably 10 or 20 acres.

4458. Dr. T. THOMSON –How many people would you put on two or three acres?—In Liverpool they put as many as a dozen houses on 300 yards square.

4459. How many houses to an acre?—Well, that would be 600 houses per acre.

4460. On the acre?—It is a simple calculation.

4461. Do you allow for streets, &c.?—They do it in Liverpool.

4462. Six hundred houses to the acre?—300 square yards is the space of an ordinary small house in Dublin. I was amused at an advertisement in Liverpool stating the number of square yards (300 yards with twelve houses), as if it was a temptation to buying. They build a great deal smaller houses than here.

4463. Right Hon. Alderman MEADE. — Two thousand seven hundred feet; 225 feet per house; that would give nine feet frontage by twenty-five feet deep. I have heard a good deal about the vacant spaces in Dublin on which houses could be built, and I wanted to see if I could get the places?—Yes. Of course there is no use in building houses unless the position is convenient for the working classes. There is a great deal of ground for houses along the back of the North Circular-road, in the Grangegorman direction, and behind where the Lunatic Asylum is, the Cabra-road, and near the Botanic Gardens.

4464. Close to the city?—Yes.

4465. Not in the city?—Yes.

4466. Dr. T. THOMSON.—In a place near that which you have been describing to us—do you think it practicable for a person to build houses for the working classes and let them at the rental of 1*s.* 6*d.* a week, and get 10 per cent. profit?—Yes, if you tax them very lightly. You could not do it with taxes of 10*s.* in the pound, as they are in Dublin. The taxes in Dublin are about double what they are in other places. Corporation rate in Liverpool on £13 valuations and under is 1*s.* 7½*d.* per £, and other rates 10*d.*—total 2*s.* 5½*d.*

4467. With the taxes as they are, could you do it?—It could not be done with the taxes as they are. An offer to charge no taxes for ten years might do it. The question is can you get private persons to build who can tender cheaper than public bodies Public bodies are under greater expense in building than private persons.

4468. Have you anything else to tell us?—No, except the lanes in Dublin.

4469. Right Hon. Alderman MEADE.—The state of the lanes?—Yes.

4469A. Would not that add to the taxes?—Yes, it would. The taxes are virtually 10*s.* in the pound, and if they take up all things that are proposed the taxes would be more. Owners of property have to do a great deal in Dublin that they have not to do in other cities; and the taxes would be higher if done at the expense of the rates.

4470. What have you to do?—The expense they put owners to is a great deal more than elsewhere. The mere laying of a sewer in Dublin is twice as much as in any other city. The ordinary sewer runs up to £40 or £50, and you cannot guarantee a sewer for ten years, and if the sewer in every house was taken up and examined every ten years you would have the streets always ripped up.

4471. Don't you think if a sewer was constructed properly it would not want to be taken up in ten years?—I have seen a sewer which was laid down under the superintendence of the City Engineer—laid down in the best way by one of our best contractors, and in fourteen days it had been stopped. The system is very complicated.

4472. What was the cause of the stoppage?—Just the ordinary thing.

4473. Two or three soda-water bottles?—I am now talking of a private house. It was the scullery trap. It always does stop the sewers.

4474. Dr. T. THOMSON.—Do you take the view that the restrictions imposed by the Corporation department over buildings are excessive?—They are, as compared with other cities.

4475. In what respect?—The restrictions on the plans. They are very strict about the plans. In other cities you can build a great deal lighter buildings than in Dublin.

4476. Do I understand you to mean that the building bye-laws in Dublin are more stringent than in any of the other large towns?—No. I have never compared them. But the way they are applied.

4477. Do the Corporation go beyond their bye-laws?—No, I have not read their bye-laws.

4478. If they don't go beyond their bye-laws, how are they over strict?—I see the houses here. I see the structures that are put up; and I see houses that are put up in other places.

4479. Which other places?—Liverpool.

4480. Are the building bye-laws more stringent here than in Liverpool?—I don't know the bye-laws.

4481. Do you say that the Liverpool people don't carry out their bye-laws, and that here they do?—I cannot tell you. I only see the buildings themselves.

4482. Right Hon. Alderman MEADE.—You have seen houses built in Liverpool, and you have seen houses built in Dublin, and in Dublin they insist on a certain class of houses—on the walls being thicker?—Yes.

4483. A 9-inch wall in Liverpool, and 14 inches in Dublin?—Yes. A concrete wall of 4½ inches can be built now just as strong as a 9-inch wall could be built fifteen years ago, and much cheaper.

4484. Dr. T. THOMSON.—Nevertheless, your bye-laws ought to be carried out. Are not they carried out?—It is the stringency I allude to.

4485. Either you consider the bye-laws are too stringent or you consider the Corporation go beyond them?—I am not talking about the bye-laws. I am talking of the difficulty of getting the class of buildings you want.

4486. Do you say the bye-laws are too severe, or is it that you consider that the Corporation go beyond the bye-laws?—I am only talking about the way buildings are built in Dublin. Dr. Meade has put it very clearly—if you want cheap buildings you must have light buildings.

4487. But you are merely reiterating your original statement. These houses are either built in accordance with the bye-laws, or they are not. Do you consider the bye-laws too stringent, or do you consider that the Corporation go beyond them—that is a question you can answer perfectly straight?—I have not read the bye-laws, and I don't express an opinion on the subject. All I can suggest is that if these bye-laws require these restrictions to be carried out they ought to be amended.

4488. Right Hon. Alderman MEADE.—You think that if the bye-laws authorise these restrictions the bye-laws are too strict?—Yes.

4489. And that they should be amended so as to encourage the erection of a lighter class of houses?—Yes.

4490. Dr. J. W. MOORE.—On several occasions you mentioned Liverpool and compared it with Dublin?—Yes

4491. You have an interest in Liverpool?—Yes.

4492. You own property there?—Yes.

4493. Are you personally an owner of tenement property in Dublin?—I used to have a good deal to say to it, but I cleared out of it gradually. No gentleman could now have anything to say to tenement property in Dublin. There was formerly a first-class set of people who owned these houses, kept them in good repair, and made a substantial income

Now a man could not do that. People of good position used to own tenement property. There was one family—a very good family—there were three generations of them—who owned a large number of tenement houses over all Dublin. Once one of them told me that if he rented 400 houses, and made even £1 a year out of each, he would make an income of £400 a year; now, no man in his senses would say that he could manage more than fifty or sixty of these houses.

4494. So that you have gradually withdrawn from the holding of tenement property?—I never did personally own it. Dr. Meade has some that he re-built recently that a near relative of mine owned. There were thirteen houses with about sixty families, behind Merrion-square; I took them up at one time and put a manager over them, and I directed him to put the houses into a state that would satisfy the sanitary authorities; but I found such difficulties that after six months I set them to a man who dealt entirely in tenement houses.

4495. Right Hon. Alderman Meade.—They were pulled down and cleared out of existence?—Yes, but the poor tenants were left unhoused.

4496. Dr. J. W. Moore.—It has been suggested that there is a great deal of difficulty in getting at the owners of tenement property in Dublin—there are so many owners, one under the other?—Your difficulty is there are now very few solvent owners. I recollect one man that used to pay me £300 a year for tenement houses only under leases, in the good times. The difficulties about tenement property commenced: and he for the purpose of getting out of his liabilities transferred them to his son—the latter continued for a couple of years. The property did not pay. The son went to Australia. The houses were thrown on the landlord's hands. There was a large loss of income. That was about eighteen or twenty years ago; the gentleman disappeared. Within the last few years I met him. He is now a magistrate in Tipperary. He used to have a large amount of weekly property in Dublin. He had a large staff, and was up at 6 o'clock in the morning looking after his property and workmen. He was a great loss to the city.

4497. What has become of his property—did he sell it?—He abandoned it as it was valueless.

4498. What became of it?—The houses are there still, but much of it is vacant and out of repair.

4499. Right Hon. Alderman Meade.—He was a middleman—not the landlord?—The landlord did nothing to the houses. Everyone is a middleman—more or less.

4500. It was the time when the middleman collected all the money he could get and did nothing to the houses?—The more he kept them in order the more he got. This man always made a large expenditure.

4501. He was not the landlord in the ordinary sense?—He was the middleman as all landlords are to some extent.

4502. Dr. J. W. Moore.—Why was it that the value of this property decreased?—The expense, and the difficulties of bad tenants—the sanitary expenses.

4503. That is what I want to come at. Did this man yield before the advancing tide of sanitation?—Certainly, to a great extent.

4504. Right Hon. Alderman Meade.—There was no room for the middleman?—No.

4505. Dr. J. W. Moore.—You seem to attribute a good deal of the high death rate to the poverty of the working classes?—Yes.

4506. And the state in which they keep their rooms?—Yes.

4507. You have personal knowledge of that?—Yes.

4508. What are the causes of this poverty?—Drunkenness is the great cause of it.

4509. You have mentioned three in your evidence—I want you to mention them?—Sickness, indolence, drink, strikes, and so forth.

4510. Strikes have never been mentioned?—We had the Dalkey granite, the best stone in the world; and now we get our materials from England.

4511. What was the cause of that?—Strikes; and the architects won't have granite put in contracts on that account.

4512. Are strikes more prevalent in Dublin than in other large cities?—No. But if there are strikes the best people leave Dublin, and the poorer class remain.

4513. You spoke of indolence as a cause?—Poverty and drunkenness produce indolence.

4514. Are you aware that an enormous amount of employment has been given within the last few years?—There is a great deal of public employment. There is very little private employment. By public employment you increase the taxes. The poorer people suffer—it prevents them from giving employment. One first class working man is, say, able to look after half-a-dozen or a dozen workmen, only the best of their class are employed on public works.

4515. The works to which I allude shortly are the main drainage works and the relaying of the tram lines. I have put up for years with these nuisances on the ground that they were benefiting the city. It did not benefit the city so much as you would expect. Country people came in and took part in the work and private employment stopped.

4516. You suggest that dwellings for the poor should be provided outside the city—how do you suggest that is to be done?—If houses can be built at a profit you will get houses built. At present you cannot get houses built in Dublin with taxes 10s. in the pound. If you charge no taxes for ten years, you will get the class of houses built that are wanted.

4517. Do you anticipate that if the Corporation get their extension Bill the taxation will fall materially?—I don't see how it can fall under the present system.

4518. Right Hon. Alderman Meade.—You referred to stone cutting in Dublin as having been driven out of it by strikes?—I won't contradict you on that, but that is what I have heard.

4519. You referred to the Dalkey granite?—Yes.

4520. Are you aware that the reason is that the landlords peremptorily closed up the quarries in the district and have refused to allow fresh quarries to be opened—are you aware of that?—No; and I cannot understand it. I have lived for years in the district.

4521. Nor anyone else?—I know that the stone is there in plenty.

4522. I knew ten quarries to be closed up and 300 men turned out of employment?—That would not have been done if the owners had been making a sufficient profit.

4523. Certainly they were?—It is against human nature.

4524. I am sure you will be glad to hear that there is a large amount of stone-cutting done at present in Dublin?—I am, indeed, and hope it will continue.

Mr. T. Picton Bradshaw examined.

4525. Right Hon. Alderman Meade.—You are desirous of giving assistance to the Committee?—Yes.

4526. As an owner of property?—Yes.

4527. Tenement property?—I own tenement property, and am also an agent for some, beside a very large amount of better class property. We have found that it is extremely difficult and troublesome to manage it, on account of the extreme filth and dirt of the tenants and their mode of living; the sanitary laws, though stringent enough on some landlords, are not stringent enough on others, and in no way stringent on the tenants. I have taken every precaution to improve the property. About two years ago I spent over £300 on one house. I had it fitted up with new sewerage, w.c.'s, the rooms and house thoroughly

papered, painted, ventilated and fit for any gentleman's family to reside in. Inside a month you would not know it, the paper was torn off, and the Corporation issued notices to whitewash it, and recently I received another sanitary notice to paper it. The hall doors are left open. It is absolutely impossible to keep them closed, tenants break off latches and locks. The woodwork was torn up, and fires were actually lighted on the staircase, halls, and lobbies, and we had no redress against these tenants; they regularly tear up the floors and burn them, pull down walls, smash windows, damage sewers, cut away w.c. lead and copper pipes and fittings, which they sell for a few pence and spend it in the nearest public-house.

4528. What would you suggest?—I think there should be some stringent laws on tenants, that when once they get rooms in good order they should be compelled to keep them in order during their tenancy with reasonable wear and tear.

4529. How would you compel them?—By law.

4530. Suppose they have no means?—There should be some way of doing it by holding them responsible.

4531. I suppose we agree on that, but how would you provide for it—suppose you get a bad tenant, and he pulls the banisters out of the staircase and uses them for firing, what can you do with him—you can only get rid of them?—That is very troublesome.

4532. It takes some time?—It sometimes takes six weeks, and in the meantime he does more damage, day after day makes things worse.

4533. Dr. J. W. Moore.—Could they not be prosecuted?—I don't think so.

4534. Isn't it robbery?—It is very hard to prove.

4535. Right Hon. Alderman Meade.—I suppose it points to the fact that stringent legislation is required to deal with a certain class of tenants?—There is no doubt of it, very stringent legislation is required with tenants.

4536. How would you do it. Suppose you get one of the very poorest class—the people that are living from hand to mouth, perhaps a day's work in the week—and that they get into a room, and treat it in that way, what means have you of getting from that family to compensate for the damage?—I don't know of any means unless there is a law to punish them for doing it. It is purely wanton damage.

4537. The alternative would be that they should be treated to imprisonment instead of a fine?—I think something of that kind; for instance, sanitary accommodation—they don't use them. Well, they won't use them. They use them as ash-pits, and then they smash them.

4538. That is not the usual practice with tenants, I hope?—I am sorry to say it is with the large majority of tenements, and even in better class houses. I know of one family in a house at £42 a year. The sewer was stopped, and the bath-room was used as a hen house, and there was about two inches of filth on the floor from the hens.

4539. That is a private house?—A private house.

4540. The sanitary authority have no right to go into it?—I suppose not.

4541. Dr. T. Thomson.—Did you lodge a complaint with the Sanitary Authority?—No, we did not. I think that while the sanitary authorities do everything they can—I think they act very stringently on landlords who they know will do everything they request them to do—the trouble they have with their tenants they ignore it altogether.

4542. It might not be a case of ignoring, but of difficulty in carrying it out?—That might be. I know that within the last couple of months we have had one case, and we received six notices to repair one closet—a broken pan. There were two notices to repair it. After the work was done, the door had to be closed to let the cement settle. We got another notice from another sanitary officer to provide sanitary accommodation for the house, although it was closed only for about three hours.

4543. That was rather sharp practice?—It was extremely sharp. The slightest little defect they give us notice, and often where we find it is not necessary at all.

4544. You think that legislation is necessary with a view to dealing with a certain class of tenants?—I do, sir.

Mr. James Collins, examined by Mr. Swan.

4545. You are the Chief Inspector of Dairies in Dublin?—Yes.

4546. And you were Inspector of Dairies for the district of the North Dublin Union?—Yes; that was what I was originally appointed.

4547. And you were taken over in 1886 to devote four days to the inspectorial work in the city?—Yes; the northern portion of the district which I held under the Union—that is the portion within the city.

4548. In 1880 the number of dairy yards and cow sheds registered in the north side of Dublin was 225?—Yes.

4549. And the number of cattle registered?—2,780.

4550. In 1886, at the time of the transfer to the Corporation, the number of sheds and yards registered was?—125.

4551. And the number of cattle occupying them 1,729?—Yes.

4552. Are the sheds and yards in this enumeration—are they enumerated separately?—They are, separately; there may be a cow shed and there may be a yard.

4553. The whole of them would be?—125 in 1886.

4554. And 1,729 cattle?—Yes.

4555. One hundred and twenty-five sheds and yards?—Yes.

4556. The number of sheds now on the register?—On the north side of the city?—84.

4557. And the number of cattle?—About 1,250.

4558. Have they diminished?—Oh, yes. In the north side in 1880 there were 225. That has gone down to 84.

4559. What has been the cause?—When I was appointed inspector, when the Dairies Order came into operation in 1879, there were no restrictions placed on the registration of cow sheds or dairy yards. You went up to the North Dublin Union, you stated you wanted to register and it was put on the register without any inspection whatever. Within a year 226 places were so registered. As soon as I got into the position of inspector and got a chance, I commenced to weed them out. Many were entirely unfit for the purpose. Some of them were stables, others the backs of houses in Dorset-row, the backs of houses in Mountjoy-square and Rutland-square.

4560. What procedure did you adopt?—At that time there was a great difficulty in doing what was required. Pleuro-pneumonia was rife. That was in 1879, and on to 1882. The result was that the places were locked up. We kept on the restrictions until they were weeded out. I then went on summoning them, and put pressure on them within the law. Two or three years ago there was a wholesale sweep of about twenty dairy yards in Mahony's-lane, near the hospital.

4561. Dr. J. W. Moore.—The Richmond Hospital?—Yes.

4562. Dr. R. L. Swan.—What about the present condition of things?—The present condition of things would need a good deal of improvement, as many of the dairy yards are in very congested districts.

4563. They are 226 in number at present?—Yes.

4564. And you say they are in very congested districts?—Numbers of them are, and I am afraid they will always be a source of trouble to the officials,

and they won't improve the health of the neighbourhood.

4565. Enumerate any of the districts that you mean by congested districts?—Up round by Francis-street and Meath-street. Then there are a number near Nerney's-court.

4566. That is near Temple-street?—That is about to be closed up; and that will get rid of it in that district. In the north side the congestion is not so great. There are some near the hospital in Church-street.

4567. Have you any dairies near the backs of good houses. The back of Mount-street?—There are a couple of dairy yards in Mount-street. A gentleman let the stable and yard at rere of his houses there for cow yards, but the Public Health Committee would not give a certificate for same. Another gentleman wanted to do it at the back of a house in Harcourt-street, but the Committee objected.

4568. Have you any control over extra city dairies?—The Public Health Committee made an order last year that all persons coming into the city with milk should be registered and get a number. I went to Rathmines and Pembroke, and saw the places, and I would not register them till they would get proper dairies. The consequence is that an improvement has taken place.

4569. With regard to the milk shops—are they under you?—There are four inspectors appointed. I supervise their work. The milk shops and dairy-yards are under their control.

4570. Is care taken to see that they are not alone in proper places, but that they are kept in a sanitary state?—I pay particular attention to that, and, especially as to communication with sleeping apartments. Some weeks ago a very pretty dairy was opened in the city—a marble counter, and everything nice and clean; but when I went in to inspect for purpose of registration, I found a bed in a back part of the shop. I gave them three hours to take the bed and fittings away. It was done when I went back. We pay very strict attention to that.

4571. Are there frequent visits paid—surprise visits?—Yes; where we have suspicion.

4572. To see that they are kept clean?—Yes.

4573. Milk vendors?—Yes. We have had some prosecutions where the employés have been prosecuted instead of the owner.

4574. Are you talking now of the dairy shops?—The milkers. Hitherto it was the employers who were summoned. Two cases have been decided, and the magistrates have inflicted fines on the employés.

4575. Tell us the condition of the dairy yards at present in a general sense in Dublin?—The condition of the dairy yards now as compared with their condition ten or twelve years ago is immensely better.

4576. Immensely better?—Yes. A few years ago the sheds were very low as a general rule; the floor was either earth or lime concrete; the channel course was very bad. A regulation was passed, and the standard height was raised, and proper cow beds made; the floors were made concrete; but as a rule the interest of the dairyman in the dairy yard is very small indeed. They are only monthly tenants as a rule, and the landlord will not allow them anything for any improvements they may make, and I cannot deal with the landlord.

4577. You consider there is some defect in the administration in that way—would you place the responsibility on the landlord?—I would. The system in Scotland is that the landlord fits up the place as a regular cow byre. I would like to see adopted the system existing in Scotland as to registration. The registration in 1879 has held good up to the present time. When the Corporation got charge of the dairy yards in 1886 it was believed at the time that they would require to be re-registered. The matter was referred to the law agent. The law agent at the time was the late Mr. M'Sheehy, and after some time it was decided that the Corporation should take over the registration as it then existed. One of our regulations is that each year the dairyman is to give a return and fill up a form so that the registration may be kept in order. If any change takes place he must re-register; but if no change takes place there is no registry.

4578. What change?—A change of ownership, or if the man has more cattle. If he has less it is not necessary to re-register. I think if it was possible to change the system of registration to a system of licensing of dairy yards from year to year it would do a great deal of good. In Scotland if there are three complaints against a man for not keeping his yards in order his licence is not renewed. That is more effective than a small fine—fining him five or ten shillings. If you took his licence away it would deprive him of his livelihood. I understand this is done by the Veterinary Department of the Privy Council. Another thing is the registration of cattle lairs—the Corporation has no control over them—lairs for the housing of cattle that are for export and market from May to November.

4579. From November to May?—From November to May. The Privy Council authorities reserve to themselves the right of withdrawing the licence if the terms and conditions are not complied with. I would go farther and would say—Sir Charles suggested it some years ago, and I would say it myself—that no dairy yard should be allowed within forty feet of a dwelling-house. At present, no matter how congested a district may be, I cannot refuse to register. It is time that this should be stopped, and allow no more byres to be registered in the city.

4580. Is there not a regulation of that kind in existence in reference to pigs?—I am not aware of it.

4581. Is there not a bye-law to that effect?—Perhaps Sir Charles Cameron will tell you.

Sir *Charles Cameron*.—There is. It is fifty feet.

4582. Dr. R. L. Swan.—You would apply the same to cows?—Yes.

4583. What general facts could you give us in reference to the registration of dairies?—It is only within the last two years I had control. When an application is made for the registration of premises I go, and see if the rules are complied with in the matter of lighting and ventilation and drainage, and if not I refuse to register.

4584. Ventilation, drainage, and cubic space?—Yes. There are only two in the last five years—one in St. Ignatius-road, and a place in Great Britain-street: and I found it right in both cases. As a general rule the sheds are open sheds.

4585. What is your experience in reference to the removal of the manure?—That is a very important question. There are about 4,000 cattle housed in the city from November to May. I have calculated that each animal makes five loads of manure during six months. That means that 20,000 loads of manure have to be removed from the dairy yards in the six months. The system in Dublin is that the dairyman sets his yard to the farmer by contract to remove the manure. The farmer, as a general rule, removes twice a week—generally Tuesday and Saturday, which are the two market days. He sends in a load of hay or straw, and loads his carts, and brings them back again, with manure. There are a few instances where a market gardener may remove more frequently; but the dairyman has to depend on the farmer. In bad weather they won't send in, and when the horses are engaged on the land, and that is also a difficulty; and I think if the Corporation would see its way to cleanse the yards in the same way as they do the other manure there would be more chance of keeping the yards clean. We summons the man and he is fined.

4586. It must be deduced from that that the dairy yards are not kept in a proper state?—They are not. We are sometimes blocked by what I have stated—that the farmer won't send in.

4587. Evidence was given before that those vegetable carts were reloaded with manure and taken to the market gardens, and refilled with vegetables for the following days?—Sir Charles sent me some weeks ago with some of the staff to check that. We found an immense number of carts with vegetables in the morning, with manure adhering to the carts.

4588. Lime-washing has been mentioned?—That means a thorough cleansing of the place. I think it has done a great deal of good.

4589. Is sufficient attention paid to the flooring of the sheds?—Not the flooring of the sheds—the flooring of the cow yards. But don't you think the flooring of the cow bed requires some attention, even supposing it is not very good even as regards surface—don't you think it requires something more than a mere sweeping—a disinfectant, perhaps?—That was done during the time of the foot-and-mouth disease and pleuro-pneumonia; but we have no power under our regulations to have done.

4590. It would not be difficult to apply a solution of carbolic acid or lime-wash?—If it was done once a month on a particular day, so that the officer could be there and see the bed thoroughly scraped.

4591. Have you had many prosecutions?—Sixteen this year, and we have had convictions in all the cases.

4592. The difficulty appears to be that there is no permanent punishment—it is merely a fine?—Merely a fine.

4593. You cannot threaten them with the withdrawal of the licence?—No.

4594. Do you think it would be better to abolish dairy yards in the city?—In congested districts; but the question of milk coming from the country is a very important one. Take the surroundings in some places. I have inspected in the country, and bad as the city is, some in the country are worse. I don't blame anyone for it. There was one or two things that struck me, and that was that where cattle have been kept in the city, where all provision has been made for a good water supply and good drainage—that when cattle go to grass for six months there is great danger of milk being contaminated with the drinking water of the cattle. I don't know how it could be grappled with if the new Agricultural Board would not take steps for the purpose of regulating the water supply on lands that are used as milking farms. In the city we cannot deal with it in a month hence, and I don't think we have 150 cattle in the city from May to November.

4595. I see there is precaution taken with reference to the notification of infectious disease?—Yes. That is a very important department. There is a book kept; and each morning this book is examined to see if there is any notification from any dairy, and action is taken. But while we can deal with the dairyman there is no chance of getting at the employé. You know the class of men and where they live. There is great danger of their bringing in contamination—great danger of its being brought in by them to the dairy. The employers could assist us by supplying a list of the places where their employés reside. We could then go at once to the dairy premises, and notify to the employer that there is disease where the man lives, and that would do some good.

4596. That accentuates the necessity of having this Notification of Diseases Act universal over the townships as well as in the city?—Certainly. For I think the great danger is of persons carrying it there, of which the dairyman knows nothing whatever. We would know the men coming from the districts.

4597. You have prevented four premises from being registered within the city within the last four months? Yes. One was near an hospital, and it was prevented by using the provisions of the regulations.

4598. Is there still, in your opinion, a probability of diminishing the existing number of dairy yards?—There is, sir. I should hope that by this time twelve months the dairy yards will be fifty less than they are at present.

4599. Right Hon. Alderman MEADE.—Why?—By insisting on proper yards being made.

4600. Penalise them?—Yes.

4601. Dr. R. L. SWAN.—Then they must go elsewhere—out of the city?—What else are you to do? In some places in the city, where the manure is heaped up, the places are unfit for the purpose.

4602. But still you are not in favour of the complete removal of the dairy yards out of the city?—No. In the city you have got a good supply of Vartry water.

4603. Supposing there was ample room for such a course, would you recommend the erection of dairy yards in open spaces, such as Kilmainham?—I would. I would go farther. I think if a dairyman has to put his premises in order the State should step in and assist the man, and help him in providing proper provision, just as it advances money for the erection of hay barns—if he gives ample security.

4604. It is an expensive construction—a dairy yard?—It is.

4605. By the time you concrete the floors and provide buildings?—I think the State should step in and assist them if they submit a plan.

4606. Right Hon. Alderman MEADE.—You mentioned hay barns—does the State give money to farmers to erect hay barns?—Under the Board of Works.

4607. They lend money?—Yes.

4608. I was under the impression that what you meant was that the State was giving the money—You think they ought to do more for dairy yards?—I do.

4609. You don't think the profit that is made by supplying good milk is sufficient to enable them to do that themselves?—The people with good means do that. It is the small person that struggles that cannot do it.

4610. Dr. R. L. SWAN.—What do you think is a reasonable price for milk provided in dairy yards by artificial feeding. Do you think the downward competition in the price of milk is an advantage to the public health?—I do not. During the last three months an incident came under my notice which perhaps would enable you to form an opinion on the matter. I stopped a man on the street delivering buttermilk. I inquired where he got it, and I went to a certain place and learned that the separated milk in the country districts was being imported into the city. The wholesale price was 2*d.* a gallon. The suspected man was what we call a shebeen dairy. He was getting this milk, mixing it with the milk of a few cows, and selling it at a low price to beat down the fair trader. He was able to sell it at 8*d.* a gallon, whereas the dairyman was not able to sell it under 1*s.* That has been put a stop to. The Public Health Committee has grappled with him

4611. But I observed in the public papers estimates for public institutions offering milk at 6½*d.* to 9*d.* or 10*d.* a gallon. Do you think it is possible with a profit to supply pure milk at that price?—The wholesale makes a difference of about 3*d.* a gallon. It means no bad debts. It does not mean knocking about delivering from door to door. It means only delivering at a certain time of the day. All these differences must be taken into account on the question supplying the milk at 9*d.* to a public institution, when you get your milk at 1*s.*

4612. Dr. J. W. MOORE.—In your heads of evidence you are described as chief inspector of dairy sheds and milk shops—should that be dairy yards and cow-sheds?—Yes—dairy yards; but the staff are four under me. Of these four three are new hands. They are not six months on the staff; and I have been made chief inspector to see that the new system is carried out.

4613. You are aware that a notice has to be put on the registered dairy yards?—Yes.

4614. Where?—The notice is to be on the gate. The number of cattle, the name of the person registered, and the words "Dairy yard," are affixed. But I suggest that on each particular shed there should be the number for each particular shed.

4615. You state that the employés have been prosecuted for want of cleanliness?—Yes.

4616. How long has that been going on?—Only four months.

4617. Since you took up?—No. It was a moot question whether it should be the employés or the employers that ought to be prosecuted.

4618. Have such prosecutions been going on for four months?—Yes.

4619. It is only quite recently that I have seen it in the newspapers?—Some of them have not been published.

4620. Don't you think it is very necessary that they should be published?—Yes.

4621. Is not the object not merely to punish the offender but to deter others?—I believe that the order is that they are to be sent to the newspapers.

4622. Would it not be possible to furnish the reports?

Sir Charles Cameron.—We furnish it, but we don't get it in always.

4623. Dr. J. W. MOORE.—You have mentioned about monthly tenants?—Some of them are only weekly.

4624. Is it your opinion that that is a dangerous state of things—that a man who has only a weekly or even a monthly interest should be allowed to be a dairyman?—I don't see how you could prevent that.

4625. You told us that the landlord refused to have certain alterations made to make the dairy yards and cow sheds sanitary because his tenant was only a monthly tenant; now you say that in some cases they are weekly—do you think that that adds to making the supply of milk safe?—It does not add to it. There is a place up in Thomas-street. I think Mr. Power is the ground landlord. These men are quite willing to make improvements, but they cannot get a lease. The matter is in Chancery. This is the one that I have insisted on getting a lease or the place being closed up.

4626. It appears that if they are weekly tenants or monthly tenants we have no guarantee that they will keep the place clean—is that your opinion?—No. They keep their places as a general rule tidy; but it is not what I would like to have them.

4627. I was struck by what you said about the Vartry water—of course that is for the purpose of cleanliness, and not for the purpose of diluting the milk—you seem to think that the Vartry water would render the milk less dangerous to health?—I am only quoting Dr. Grimshaw.

4628. Right Hon. Alderman MEADE.—As to keeping the cows and the dairy yards in the immediate neighbourhood of the city you object to that because of want of control and want of inspection—have you had any cases before you in consequence of the vessels used having been cleansed with impure water?—No; only that when I went round the districts outside the city I saw there was just that danger.

4629. Did you ever see milk cans being washed at a dyke or at the end of the field?—No.

4630. I suppose that is where the cows would get the water when they want to drink?—Sometimes they do.

4631. Dr. T. THOMSON.—You have told us that the number of dairy yards in the city has diminished owing to the requirements of the Corporation?—Yes.

4632. And that the enforcement of the bye-laws has made a great improvement?—Immense. The cow sheds used to be thatched. That is done away with. Now they are tiled.

4633. How does it happen that that has reduced the number of dairy yards?—I don't understand you.

4634. How does it happen that the improvement caused by the requirements of the Corporation has reduced the number of dairy yards?—By their being closed up and disused.

4635. Tell me what happened when a dairy yard was shut up. How did that come about?—There were a number of stables attached to private dwellings used as cow yards, and these were registered. I found that the manure pit would not be in a proper place, and I would object to that. They could not provide a manure pit to satisfy me.

4636. What happened then?—It was closed then.

4637. How did they close it?—The people ceased to use it.

4638. But what right had you to close it?—I had no right to close it.

4639. How did they cease to be in use?—To use a phrase that we had in this country, by "using pressure within the law."

4640. You threatened to prosecute them if they did not comply with the requirements?—Yes.

4641. What is the condition of the dairy-yards that are not shut up?—The present ones are being improved day by day where they can be improved. I talked of the ones that could not be improved. The dairy yards are being improved daily.

4642. What do you do at present as regards a cow shed. If you find that the bye-laws are not being complied with what do you do?—I get an inspector to take immediate action. I generally take up the matter myself and report it to the committee. If the inspector does not do his duty I report it to the committee. In one case a man has been dismissed.

4643. What do you say to Dr. Hope's evidence. He said there was one case near New-street in which "the cubic space for each cow was something under 250 feet. It was a crowded cow shed." How was that allowed?—I made inquiries myself.

4644. When?—I visited the place on the 24th.

4645. Not before?—Not before. I asked the officer to explain why this cubic space was so small?—The reply he gave me was that a few weeks before that, in consequence of the cold weather, they nailed on the boards in front of this cow shed and had not taken them down. The boards have been taken down since.

4646. So that it has been an open cow shed since?—Yes.

4647. How was it registered as to cubic space?—The officer gave me the cubic measurement quite sufficient for each beast.

4648. As regards the particular one referred to by Dr. Hope?—I don't know which one he means; but the other place, the boards have been removed.

4649. Is that the only cow shed in Dublin in which the cubic space is insufficient?—I have had to report several, and have the cattle removed.

4650. Do you mean to say that there is not another cow-shed in Dublin in which the cubic space is insufficient?—I could not say that. The officer has his instructions; and he should go and examine them.

4651. But you are the chief inspector of dairies?—I am. But I am only three days in the week for the Corporation. After next month I will be the whole of the week.

4652. Aren't you responsible for the whole?—No. I am only three days in the week; and it would be physically impossible for me to be responsible.

4653. Dr. Hope told us, amongst other things that the paving of these cow sheds and dairy yards was very unsatisfactory, and not in accordance with the bye-laws and regulations. What do you say to that. If you look at the regulation it states that "every yard in connection with a cow shed shall be constructed in such a manner and shall be paved, asphalted, or macadamised, so as to have a uniform surface, and provided with properly constructed drains to the satisfaction of the medical officer of health. In the case of macadamising a dairy yard, the place for at least two feet in front of the cow shed shall be concreted, asphalted, or flagged when so required by the medical officer of health."—Are these dairy yards paved,

asphalted, or concreted so as to have a uniform surface?—As a general rule; but I am against macadamising. With the heavy loads of manure they get into ruts. They should be paved. It is very unsatisfactory as it is at present.

4654. You would prefer to do one of the three, but, whether paved, asphalted, or macadamised, have they a uniform surface?—As a general rule.

4655. What do you do with the ones that are not uniformly paved?—A notice is served by the officer, and he takes practical steps to have it remedied.

4656. As to those things that Dr. Hope mentioned why did not you take proceedings sooner?—My attention was only called to it then.

4657. Dr. Hope also told us that the regulation with regard to ventilation is not carried out, and he gave us one or two instances where the ventilation is very bad, and the places are badly lighted—how does that happen?—Dr. Hope—I brought him at once to the yards.

4658. To what yards?—To the yards that he wished to see, and I asked the officer in charge of the district why he did not attend to it. There is this reason to be given—that the officer who was in charge of that district has been removed off my staff, and the man appointed lately is a new hand. I had to report the man in charge of the district, and he has been dismissed.

4659. You spoke about the periodical removal of the manure. Dr. Hope seemed to think that that was not properly done?—I have explained to you the difficulty; and when they are brought to the Police Office mere nominal fines are put on of 2*s.* 6*d.* or so; and until the Corporation make arrangements for some means of removing the manure I am afraid we will have the same difficulty.

4660. But in other large towns that is not done by the Corporation, and they have the same difficulties of weather just as you have here—why should you find more difficulty here than elsewhere?—I have always found it a difficulty. To show you how the manure has gone down, ten or fifteen years ago the dairymen got at that time £1 an animal for the manure, and the farmer supplied the bedding. It is now about 2*s.* a load. Manure was then worth 6*s.* a load. That is due to the pressure.

4661. That is precisely what has happened in other towns. Do you prosecute in all cases where you find that manure is not removed?—Yes.

4662. How many prosecutions had you last year?—I think five.

4663. Do you mean to say there were only five?—Of course you will understand this—I was appointed chief inspector, and the sanitary staff up to a year ago had charge of the removal of manures. I hadn't it.

4664. Right Hon. Alderman MEADE.—When were you appointed in charge of the manure as well as the other?—About six or eight months ago.

4665. Dr. T. THOMSON.—So it has been under your direction for six months, and it is during those six months you have had the five prosecutions referred to?—Yes.

4666 And there have been no others?—I have three pending myself.

4667. That brings them up to seven or eight?—Yes.

4668. Do you think that satisfactory?—On the whole I think the manure has been removed satisfactorily.

4669. Dr. Hope does not agree with you?—If Dr. Hope was here and dealing with it——

The Committee then adjourned to the following day.

SIXTEENTH DAY—WEDNESDAY, MARCH 21ST, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK, A.M.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Mr. *Geoghegan* (Chairman Victuallers' Association).—I only received notice last night from Mr. Wilson that you were willing to receive evidence from *one* of our medical witnesses. It was impossible to communicate with anyone until this morning. I went to Dr. Redmond, but failed to see him, and left word for him, and await his reply. I certainly think it is hardly fair we should be confined to *one* witness.

Right Hon. Alderman MEADE.—We think we have allowed you great latitude in allowing you one having regard to the number of applicants who have sent forward applications to be heard.

Mr. *Geoghegan*.—Well, bearing in mind that one of the great causes of the high death rate is attributed to the existence of slaughter-houses, you can hardly consider the evidence we propose to give as irrelevant, and I fail to see where the "latitude comes in."

Dr. T. THOMSON.—We have had one member of your association—Mr. Delany.

Right Hon. Alderman MEADE.—And we think one medical officer sufficient as a witness on your behalf.

Mr. *Geoghegan*.—The present medical officer, Dr. O'Sullivan, is only working for a year and a half, and his predecessor, Dr. Merrin, worked for a similar period. The doctor before him was Dr. Redmond, who was several years in office, and it was in order that evidence should be given covering a considerable period that we asked to have three doctors examined.

Right Hon. Alderman MEADE.—We will gladly take the evidence of any one witness you nominate.

4670. Dr. J. W. MOORE.—Which of the three will you elect to examine?

Mr. *Geoghegan*.—If we prove that certain things are *not* the cause of the high death rate it narrows your consideration as to what *is* the cause, and we butchers are confident that slaughter-houses are *not* the cause.

4671. Right Hon. Alderman MEADE.—Are there any of these gentlemen in attendance?

Mr. *Geoghegan*.—No, not now. I was anxious myself to bring forward a matter of some importance in my own personal experience.

4672. Right Hon. Alderman MEADE.—Apropos of what?

Mr. *Geoghegan*.—Of slaughter-houses.

4673. Right Hon. Alderman MEADE.—If you put down on paper anything you are anxious to put forward we will carefully consider it.

Mr. *Geoghegan*.—It is with reference to the attitude of landlords towards the tenants of slaughter-houses. I think it is a very important thing. It is hardly fair to hold us responsible if the condition of some of them is not all that is desirable.

4674. Right Hon. Alderman MEADE.—We know there are some that are not as they ought to be.

Mr. *Geoghegan*.—That may be, but suppose it is not the occupier's fault. Now I have a short lease from a Mr. T. C. Townsend, of South Frederick-street. The place was in a bad way. I asked him to sell it, but he would not; he said he was satisfied to leave things as they were. I asked him would he give me an extension of lease and a reduction of rent. I asked for both in the hope that he would give one. But he would not. I offered to lay out £50 on it. He asked what I proposed to do I did not think it necessary to employ an architect; but stated I would give documentary evidence to show that I would spend this £50 on permanent and substantial improvements. He wrote back that I should give specifications as to the nature of the improvements. I said I could not specify; that in fact there were too many things, and then I said I would lay out £100. But he still refused and kept it so.

4675. Right Hon. Alderman MEADE.—Well; but that is a matter between you and your landlord. That is no excuse and no reason for having an unsanitary slaughter-house. That is no excuse whatever, if you cannot make terms with your landlord. You might have got an architect whose fee would be from £2 to £5 and you wouldn't. But is that any reason to bring before the Commission for having the place in an improper condition?

Mr. *Geoghegan*.—I have not admitted my place was in an *unsanitary* condition. Landlords should not be allowed to stand in the way of progress. I see no reason why the public authorities should not be in a position to rectify that.

4676. Right Hon. Alderman MEADE.—But there is no such power in law.

Mr. *Geoghegan*.—Well, I submit the point is worth considering, and there should be.

4677. Right Hon. Alderman MEADE.—Yes, by the butchers, but not, so far as I can see, by the Public Health Committee. They have nothing to say to it, except to see that you keep your premises in proper sanitary order.

Mr. *Geoghegan*.—With reference to killing in a public abattoir, at a long distance from the butcher's premises, I think it a serious danger to the public health, because when the distance is great men cannot be expected to walk, and a twenty minutes' drive in an open van after slaughtering and sweating is highly dangerous. When I killed in the Abattoir, my men (during the winter months) had colds continually. My premises are two miles from the Abattoir, and the consequent waste of time was ridiculous. The surplus wear and tear, too, was considerable, and the want of accommodation for horses and vehicles waiting was most objectionable and unfair.

4678. Right Hon. Alderman MEADE.—You consider this an injustice to the butchers; but why not provide the men with proper coverings? If they were men in my employment I would see that they had proper coverings and protection from the weather. I suppose after all, the point is, you consider there should be an abattoir at the south as well as the north side?

Mr *Geoghegan*.—If we will have abattoirs—one, two or three—they should undoubtedly be in such a position as not to be half a mile away from any man's premises. But even then it would be a comparative injustice.

4678A. Right Hon. Alderman MEADE.—Your idea is, that the slaughter-houses should be near the butchers' shops?—My idea is that it is perfectly possible to have them immediately in connection with the butchers' premises, and yet safeguard the

public against any danger that might arise from a neglected slaughter-house.

4679. Dr. J. W. Moore.—May I ask is the driver of the dead meat van the executioner, if I may use the term—is the driver and the man who slaughters the same person?—No, very seldom.

4680. How does the driver get heated?—He has no idle time.

4680A. Right Hon. Alderman Meade.—You see to that?—Well, what we complain of, too, is just the fact that if that work were done adjoining the premises, it would be easier to have it properly superintended.

4681. Do you really contend that this has any effect on the public health or death rate that a man should be sent from your establishment to the Abattoir at the North Circular-road, twenty minutes' drive?—Certainly; if you sit up on a cold day after hard work, in which you get heated, it is ten to one you will catch cold.

4682. Dr. J. W. Moore.—Is it not a fact that this great liability to cold is rather against your argument that slaughter-houses are not prejudicial to health?—The liability arises from getting into a heat, and then getting chilled while returning from work.

4683. But really that applies to everyone. My coachman may catch cold.

4684. Right Hon. Alderman Meade.—Your contention is that properly-equipped slaughter-houses in connection with the butchers' shops would be the best system?—Yes.

4685. You disapprove of unsanitary slaughter-houses and slaughter-houses not kept in proper condition and regularly cleansed?—Yes, by all means.

4686. And that if public abattoirs are considered to be advantageous, you think that in the interests of the public health there ought to be more than one—one on the south as well as on the north?—Yes. But I do not consider they are necessary at all for the public health. If the floor of a slaughter-house is properly concreted and the place made impervious to wet, it would be all right. I think it is a scandal to the city of Dublin that £15,000 should be spent on an abattoir, and that that place infested the whole district with rats.

4687. Dr. J. W. Moore.—Your opinion then is opposed to that of all sanitarians who are all in favour of abattoirs to the exclusion of slaughter-houses?—If there is one aphorism truer than another it is that "doctors differ."—*All* sanitarians are not opposed to private slaughter-houses. Some very distinguished men gave evidence before a Royal Commission distinctly in favour of private slaughter-houses, and H.R.H. the Prince of Wales lately took the chair at a meeting at which a resolution was passed advocating the continuance of private slaughter-houses in London. My own opinion is that they are more cleanly, more economical, and would afford greater protection for the public against the use of diseased meat than the abattoir system, if the law were arranged so that the local authority could withdraw licenses for its sale, just as they can close them now if they are sanitarily imperfect.

Mr. Frank M'Bride examined.

4688. Right Hon. Alderman Meade.—I understand you appear on behalf of the Amalgamated Society of Tailors?—Yes; I wish to give you some evidence on the subject matter of their business—of the dangers to health arising from allowing woollen garments to be made in the homes of the workers. I had the opportunity of seeing myself, last year, through the instrumentality of a young man engaged in the woollen department of a large clothing establishment in the city, some of those wretched places where gentlemen's clothing is made. In the first place, he brought me to see a tenement house in Great Britain-street, on the top floor. We found, on entering, a small apartment with a bed in it, and partitioned off from this another compartment; a bed and a machine, and two people in the room—a man and a woman. The woman was sitting at the machine and the man on the floor. I may say that the bed took up the greater part of the room. There was only one window, and there was no fire-place in the other room.

4689. No fire-place at all?—In the first room there was, but not in the second one, where the man was working along with his wife. This man had a family of six children along with his wife and himself. There was scarcely space for this young man and myself, when we entered, to stand. There was hardly room for the two of us unless we walked on the garment he was making, and the atmosphere, I must say, was suffocating.

4690. Was the window open?—No; it was closed. The bed was about five feet from the window, and just space enough for the man and woman to work. This young man with me asked for a certain gentleman's garment—when it would be finished—that was his business to these places, and bring the work backward and forwards. He was told it would be ready at a certain time, and so we left; and he told me that that was only one of the enormous number of places that this establishment had these poor unfortunate beings working in.

4691. There was no illness in the room?—Not that I was aware of.

4692. How is it the room was so small?—It was the top floor of a tenement house in Little Britain-street.

4693. One room divided into two, I suppose?—Yes.

4694. And the partition ran to the ceiling?—Yes. I was brought from this to a place in Denmark-street, where a man and his two daughters resided in one room, and this man was working there, and it so happened that he was working at the time we entered on a professional gentleman's trousers, an eminent physician of this town. He was asked when would he have this garment completed, and he answered by a certain time. These are positive facts, and there is one thing we find it difficult to cope with, and that is finding out if disease exists in such places, because for the simple reason that it behoves these people, if they are working at home and their children are sick, to cloak it and hide it.

4695. Would these men be members of your society?—No; they would be out-workers. There are no members of our society who work at home. They all must work in the shops provided by the employers, because any person afflicted with infectious disease, or having a member of his family so, is supported by our society until he is free and well, and gets a doctor's certificate of the fact. If any portion of his family is afflicted with infectious disease he must cease work at once, and when the disease is eradicated from the family he has to get a certificate before resuming.

4696. That is a rule of your society?—Yes.

4697. If a disease such as you describe attacks a member of his family?—Yes.

4698. Though he is not attacked himself?—Quite so.

4699. That is a most satisfactory rule?—Yes, and of course he is provided with means to support himself and his family while the member of the family is suffering from this complaint. There is another thing in reference to a matter that is going on at the present time. I see that the germ of disease is greatly contained in milk. Now, there is a contract on for a very large dairy at this time, and the clothes for the people who supply the milk is being made in some of these dens.

4700. A large dairy has a contract for milk, and is getting clothes for their employés?—Yes.

4701. And they are not getting it done by the members of your society, but by these chamber

men?—Yes; the contract has been divided between two establishments. One is getting it done on their own premises and by their own men, but the other is getting the clothes made out. We do not know where; but I have described to you some of the places of the kind, such as we visited, so that they cannot be very wholesome places.

4702. Have you any idea how many men work outside in that way?—About 700. We know of course that these men must get a subsistence. Our suggestion would be, if the Corporation could possibly see their way, to establish municipal workshops for these people, have proper sanitary arrangements and everything requisite in connection with them, and let them either to the employers or the workers. That would be a great boon and saving as far as public health is concerned. The practice of employers giving work partly outside and part on the board on their own premises is no guarantee to a person whose garments are made that one part may not convey germs of disease to another. A suit belonging to myself, and made on the board, would be hung up, and maybe a coat coming from out-workers might be hung beside it, and disease in that way circulated.

4703. Then I take it there are shops that have two systems—doing work on the premises and also sending out some?—Yes.

4704. None of the out-workers belong to your society?—No.

4705. Dr. T. Thomson.—Are any of these out-workers women?—Yes.

4706. Do you take the position that no woman should take out work of this kind to do?—No. What we want to do is to see if there could be workshops established by the Corporation, properly ventilated places, and with all necessary sanitation attached to them, wherein these things could be seen while being made, and not made, as the saying is, under the bed.

4707. You do not mean to say if such workshops are established that no woman should take work home?—Oh, no; we do not mean to attempt anything like that. They are perfectly entitled to take work.

4708. Then you do not object to out-working?—No, not if it is carried on under a proper system. Of course it is our business to protect our trade and get as much work for our members indoors.

4709. Then do you object to work being done in the homes of these people?—We do; as I have told you the conditions under which it is done.

4710. If you had these workshops would you forbid all tailoring work at home?—We could not forbid it.

4711. But if you had the power?—Well, yes—if we had the power.

4712. What then about a poor woman with a baby—how could she go to the workshop to work and yet look after her baby?—Well, I know several women who have babies and they come to work in shops. There are day nurseries where babies are cared for for 1*d.* a day.

4713. But there are mothers who do not wish to leave their babies in that way?—Well, we would make allowance for that.

4714. Then you would allow work to be done in homes?—Yes to a certain extent—such as the case you mention of the woman and her baby, or there might be the cases of old men who might not be able to compete with their fellows in the shop, we would make allowance for such cases. We have made such allowance. In one case we were going to strike against a shop giving out work, but this case of an old man was brought before us, and we said we had no objection, as we did not want to take the bread out of his mouth, and if he came to work at the shop board he could not compete with his fellowman.

4715. Alderman Dowd.—You want to have the places in proper condition and with proper surroundings?—Yes; it is we believe a great source of danger to the public and to our society to have these things made in these places. If there was a proper investigation of these places, if some gentleman went round and had a look at them, upon my word they would try to have some system by which to abolish every one of these places, for I believe they would see that they are in reality a disgrace to the city. Even at the time of the recent epidemic of small-pox one of the largest firms in town was sending out work, and I need not say what a thing that was. The system ought to be abolished altogether and all the work should be done on the premises. I may say that it did leak out that it was through a garment brought in from a small-pox house that this disease was spread through the employés of the firm, and nearly 100 were struck down by small-pox.

4716. Dr. J. W. Moore.—Would it meet your view if proper inspection by a medical officer were made by the tailoring establishments of these places?—Well, I am afraid that would really not meet the difficulty—it would of course meet our approval to have them properly inspected, though it would be very expensive; but then it is always an impossibility to have them properly inspected, for there are little girls sent to these places and things are carried backward and forward by people out of the warerooms, and it is difficult to find where they are located. They keep these things dark. One very congested place is Ship-street.

4717. But has not the tailoring trade complete control over that?—No; these people are out-workers.

4718. But cannot their employers be controlled—can't they be obliged to inspect or to have inspected the tenements in which this work is being carried on?—They don't want to do so; because by so doing they would be putting a nail as it were in their own coffin. You see they want to get the work done cheap to meet their competitors.

4719. Dr. R. L. Swan.—This is what is called the sweating system?—Yes.

4720. Dr. T. Thomson.—Is there more of that in Dublin than in other towns?—Yes. I believe unfortunately there is.

4721. Have you any statistics to show that that is so?—No, no statistics—only that a gentleman belonging to our trade, who has vast experience and who from time to time took members of the executive through Bradford and London and Manchester, he and they have given it as their experience that in Dublin here it is as bad if not worse than in some of the large towns in England.

4722. You now say "as bad, if not worse;" that is milder than what you said before. You just now said the condition of affairs is worse here than elsewhere?—Well, yes, that was the word. One of the executive said it was the worst in the United Kingdom.

4723. Had he any figures bearing on the point?—I am sure he had.

4724. Did you see them?—Yes.

4725. Where was this?—He read them at the meeting.

4726. Figures comparing Dublin with other places?—Yes.

4727. And the figures showed that Dublin is worse than other places?—Certainly.

4728. Where did he get his figures from. How did he get the number of outworkers in these other towns?—Well, I suppose by the number of traders. I suppose he made his own deductions.

4729. Right Hon. Alderman Meade.—You cannot go further than to say you believe Dublin is as bad in this matter as other places?—Yes.

4730. And there have been no statistics taken of the outworkers so far as you know?—No; it would be impossible.

4731. You do not, or do you think it would be a good thing to have an inspection made of where the clothes are being made up, to see that no illness exists, and that reasonable facilities are provided for sanitation?—It would be a good thing to have a list of these people who work for these employers sub-

mitted to the inspectors. That, I believe would be a good thing, and tend to do away with a good many of these bad places.

4732. Some of these people are, of course, very poor, and even in the event of the Corporation establishing workshops they are not the class of people that you could expect to go out and go to meals and that; they would rather work at home?—Quite so. If they were provided with shops by the employers it would be a saving, for they would not have to supply their own fuel and machines. Though I do say the inspection of these places would be a good thing, still I would be in favour of the establishment of muncipal workshop.

4733. Alderman Dowd.—Would it be a proper or good thing for the employers of the trade to supply a list of the places so that the Public Health authority could inspect them?—Yes. In fact I say it should be compulsory on them to supply a list of the outworkers to the inspectors. Otherwise there would really be no use in having inspectors to do the business.

Dr. Kidd examined.

4734. Right Hon. Alderman Meade.—You are anxious, I believe, Dr. Kidd, to give some evidence with reference to the Coombe district?—Yes.

4735. Dr. J. W. Moore.—We may have it, Dr. Kidd, that you are the Master of the Coombe Hospital?—Yes, and before my period of Mastership of the Coombe Hospital I was Assistant Master, and have therefore a good deal of intimate knowledge of all the conditions prevailing in the district and neighbourhood. It being a maternity hospital I need not say brought me into contact with the very poorest people. Of course the conditions are much altered now from what they were between 1882 and 1885. A number of the old rookeries have been taken down and replaced to a great extent by buildings that conduce very much to the health and comfort of the inhabitants. But there was one thing that struck me very much on many occasions in the Coombe Hospital, and I mention it without any disposition to make an individual charge of any kind. I refer to the case of a well-known knacker's yard—O'Keeffe's yard—within, I would say, as the crow flies, 300 yards of the hospital. Now, at certain times, when the wind was in a certain quarter, the smell from this yard was overwhelming and overpowering. I believe it has been advocated by the gentleman who owns these premises that there is nothing harmful or detrimental in this odour. Well I can only say that members of my staff have been affected by it to this extent, at any rate, that it has absolutely prevented them from eating their food. Now, no matter whether there may be anything chemically detrimental or not, I would say that such a state of things must be harmful to the district. I am sure that Dr. Moore in his district at and about the Meath Hospital, although farther away—has not been altogether unconscious of the presence of this smell, which, in my opinion, is not only a nuisance but in addition harmful. Any alteration, I know, would involve considerable expenditure in the way of recompense and the removal of these processes to the outside limits of the city. I may say that this nuisance exists in the centre of a district that has very much improved, by reason of the erection of artisans' dwellings. It is not like one of those districts the houses in which are likely in any near period to be taken down.

4736. Right Hon. Alderman Meade.—And close to the fever hospital?—Yes. It is about the same distance as it is from our hospital. Another thing often struck me in the neighbourhood of the Coombe Hospital, namely, the question of the adulteration of the food which the poor people have to avail themselves of. A poor person is different from a person of a higher class of life, in that the poor must avail themselves of the sale of what they want and procure at the nearest place. I think the present method of supervision of the adulteration of food is to a great extent ineffectual. Until recently comparatively little knowledge was required on the part of the inspectors. Now, I am glad to say, most of them pass an elementary examination to qualify for the duties. It strikes me that if such inspections were carried on by men who were independent even of the Corporation—men who are not dependent on the whim of a section of the Corporation for their appointment or the tenure of that appointment—it would be of advantage. They should be independent and capable of acting without fear or favour. They should be made independent and remunerated at such a rate that they would not risk losing their employment to the detriment of their family and children. It has come to my knowledge that medical officers of health have been bribed—that is to say, have been offered bribes—not to make reports on certain matters Now, if that be the case with medical officers, it would be strange and improbable if it did not exist to a larger extent amongst the class of men I speak of. If the inspectors were appointed by an authority independent of the Corporation, and were solely and only responsible to that authority, the work would be better done. Speaking on this subject, the Medical Officer of Health, Sir Charles Cameron, said, "I am glad to tell you there are more prosecutions for adulteration here than in any town of the same size." But I really think Sir Charles tried to prove too much. It was an admission that there were a great many more cases in Dublin than elsewhere. And secondly, it was an admission that whatever punishment was inflicted was not sufficient to prevent the adulteration going on. Now as to the food supplied to the poor—whether by contractors or others, in such an institution as the South Dublin Union, where the guardians are trustees for the public, no law could be too stringent to enforce the regulations being carried out in the interests of the people whose wants are supplied by the general taxation. I know that increased power of fine has been conferred on the magistrates; but as well as that we should adopt the principle adopted elsewhere with beneficial results, namely, that a printed notice of the amount of the fine and punishment should be attached to each place of business where the law has been broken, and kept there for a certain time, to let the public know these people were not honest in their dealings.

4737. Dr. T. Thomson.—Where is that done?—In France. With regard to the adulteration of food, especially in the unions, I look on it as such a crime, that I think the punishment by fine is quite insufficient. I know, of course, that now the magistrate has the power to imprison if the offender has been warned to desist by previous fines. I am very glad to know that is the case, and I would be glad to see it more generally adopted and acted upon.

4738. Right Hon. Alderman Meade.—Is that so; does that power exist.

Mr. *Rice*, Solicitor.—Yes, under the Food and Drugs Act of 1899.

4739. Right Hon. Alderman Meade.—Do you tell us as a matter of fact that the food is tampered with to any great extent?—I am perfectly certain that the milk is.

4740. You mention the South Dublin Union?—I should not have made reference to one particular union over another; I mean the unions.

4741. I understood that the unions were very strict in supervising every portion of the food that comes in?—I have seen that their contractors have been fined on several occasions. It has appeared in the public prints.

4742. Does that not show they are stringent?—It shows that the punishment is not sufficient to prevent them doing it again.

4743. Dr. J. W. Moore.—You are of opinion this knacker's yard is a nuisance?—Yes.

4743a. Have you any evidence that it is not only a nuisance, but injurious to health?—Not personally, except this—that a doctor who was doing duty for the Coroner on one occasion told me of a man who in some way interfered during a particular portion of the process. He died almost immediately, and an inquest was held.

4744. Your opinion is that is prejudicial to the health of the students?—Yes.

4745. Anything that affects a person so as to interfere with his being able to eat his food you would consider a "nuisance or injurious to health"?—Yes.

4746. That is important, because under section 130 of the Public Health Act (Ireland), 1878, it is provided that "where any manufactory, building, or place used for any trade, business, or process or manufacture causing effluvium is certified to any urban authority by either the medical officer of health or by any two legally qualified medical practitioners, or by any ten inhabitants, to be a nuisance or injurious to the health of any inhabitant of the district, such urban authority shall direct complaint to be made to a justice, who may summon the person or any one on his behalf to appear in a court of summary jurisdiction." Did you ever take the steps provided in that section to control this nuisance?—No, I did not.

4747. You are aware that if you and another medical practitioner joined in the representation provided you could take such steps?—I am aware now.

4748. That manufacturer has been there for a great many years?—He has.

4749. Since 1878?—Since before 1880 I know.

4750. Section 128 provides that any person who shall, after the passing of the Act, establish without consent in writing any offensive trade shall be liable to a penalty not exceeding £50 in respect to the establishment thereof. So you see you have a remedy. Have you reason to believe that the health of your patients has been injuriously affected by this trade?—Well, I found them complaining of it from time to time—but those amongst whom I heard it most complained of were members of the permanent staff. A patient might be there for a fortnight and have no cause for complaint, as the wind would be blowing the other way.

4751. Dr. J. W. Moore.—I quite agree that it is undoubtedly a nuisance, and, as you say, it depends on the direction of the wind whether it affects the Coombe, or Cork-street, or the Meath Hospitals. Have you anything else to add?—One thing as to the inspection of dairy yards. My business has brought me about the slums—about the places where a great number of these dairy yards are, and from which the manure is removed, and every day I see carts of manure removed from these places in such a condition that I do not think the intention of the Act could be carried out. It is plain, as it seems to me, that the manure is allowed to accumulate in these yards, and attain a condition of ripeness which adds to its value as manure. I have seen that near the Coombe.

4752. Dr. T. Thomson.—Is it your experience that it is not removed once a week or oftener?—Yes. I have seen manure in such a condition that it was obvious it had been there for a longer period than a week.

4753. There is a bye-law that manure shall be removed "once a week, or oftener." Do you believe, from your experience, that it is complied with?—No, I do not believe it is regularly carried out.

4754. Dr. R. L. Swan.—You made a suggestion about the sub-sanitary officers, that they should be removed from under the control of the Corporation?—Yes.

4755. You referred, I suppose, to the sanitary sub-officers?—Yes.

4756. What authority would you suggest they should be placed under?—I do not know if it would be possible to place them under the police authority.

4757. Would that, in your opinion, tend to minimise the temptation to corruption?—It would be better in the long run to appoint men of a higher standard, and to pay them a larger sum.

4758. You are aware of the appointment recently of female sanitary sub-officers?—I was aware it was mooted.

4759. You consider an additional number of these ladies would be of advantage?—Yes, a very decided advantage.

4760. Alderman Dowd.—Are you speaking of the food inspectors?—I am speaking generally.

4761. And do you believe a policeman would be better as an acting sanitary sub-officer than a practical man acquainted with the different departments of the business?—No; I did not mean to say a policeman should be made inspector; but merely that it might be under the police authority. I think the inspector certainly should be a man of some technical knowledge. It was never my suggestion that an ordinary member of the police should hold the appointment.

4762. Dr. T. Thomson.—Why take them from the sanitary authority, and place them under the police. What would be the advantage in your opinion?—If you press me to explain myself in plain English, if the nominations to these appointments were not made by members of the Corporation, amongst whom there are very strong interests, very often the work would, in all probability, be done more fearlessly and without favour.

Dr. O'Connell Delahoyd examined.

4763. Dr. J. W. Moore.—You are Medical Officer for No. 2 North City?—Yes.

4764. The district is divided between you and your colleague?—Yes. We both are responsible for the whole. We sub-divide it for our convenience. (Witness pointed out the district on the map). It extends roughly from the Four Courts to Sackville-street, and from the Quays to Fontenoy-street, Broadstone.

4765. Under date December 11, you reported to Sir Charles Cameron, as to the cause of the high death rate.

4766. The first cause to which you seem to attribute it is the dilapidated, dirty, and overcrowded state of the tenement houses?—Yes. That is a chief cause, and it is a question very difficult to deal with, and I believe great improvement would be effected if larger powers were given to the Corporation. As I mention in my report, the mansions of a century ago are the hovels and fever dens of to-day, in whose decayed walls and rotten woodwork the germs of disease lurk in security, and from which no process of disinfection or cleansing can be relied upon to effectually eradicate them. A large majority of these places are utterly incapable of repair, and ought to be demolished, and in many cases the dilapidation is caused by the wanton destructiveness and dirty habits of the class of tenants who inhabit them. The difficulty is great of fixing responsibility as to who is to carry out the law. The "middleman" or rather "tenement farmer," is in most cases poor and needy, without capital, and without sufficient interest in the premises to repay him the expenditure which substantial repairs would necessarily involve. Hence, the houses are allowed to lapse into a state of absolute dilapidation. The existing law, in my mind, is insufficient to deal with this, and ought to be amended, so as to make the lia-

bility of every person deriving rent from any premises joint and several, whether such person receives the rent as "ground landlord," "middle man," or "sub-tenant," so that failure on the part of any one of them to carry out the orders of the Sanitary Authority would increase the liability of the others. Such an alteration of the law would speedily effect an improvement in the tenemental system. As I point out in my report, I am of opinion that when a house is certified as "being unfit for habitation," either by reason of its being dilapidated beyond repair, or in a structurally dangerous condition, every person having any interest whatever in the premises should be held liable for the demolition of the house and the clearing of the site within six months of the date of the closing order, and, if at the expiration of that time the site be not cleared, it ought to be competent for the Corporation to take compulsory possession of such derelict space for the benefit of the citizens, and erect thereon a house or houses suitable to the requirements of the working class population of the locality; the compensation, if any, to be paid to the owners should not exceed the "prairie value" of the ground.

4767. Dr. J. W. Moore.—You suggest something as to registration?—Yes. I consider the present system for the registration of tenement houses is very unsatisfactory; there is no previous inquiry or examination as to the suitability, or otherwise, of the premises. It is my decided opinion that no house should be registered or allowed to be used as a tenemental dwelling till its structural stability and its drainage system have been examined and certified by your engineering staff, and, furthermore, its suitability as a tenement and the number of families it should be limited to, certified by the medical officer of the district, the costs of such certification to be paid by the applicant for registration. There are houses in the squares turned into tenement houses, and the owner has nothing to do but register them. I think there should be annual registration.

4767A. Right Hon. Alderman Meade.—With fees payable?—No; not every year—once a licence is granted. But it should be renewed every year.

4768. But when coming to be renewed should there be fees payable?—No. My object is this—that if in the meanwhile a house has not been kept properly the withdrawal of the licence should *de facto* close the house. In Stafford-street it took nine months to get a house into any sort of repair. I reported on it twenty times; each time something happened. The magistrate gave three weeks—six weeks—to carry out the improvements. I reported in July, and in the following April I had to refuse a licence for it. It disheartens one to endeavour to do anything under these circumstances.

4769. Dr. T. Thomson.—To whom would you give the power of closing the houses?—To the Corporation.

4770. Without reference to a court of law?—Yes. Where the evil is very great you must adopt drastic measures.

4771. But surely it is desirable to be just as well as drastic. Would you not let both sides be heard?—Yes; but if nothing effective followed I would take drastic steps. In my district there are a great many houses boarded up—the receptacles for filth and a public eyesore. I contend that the Corporation in such cases should be empowered to come there and say to the owners, "Your houses are unfit and are incapable of repair, and we require you to remove them and clear the sites." And at the end of that time the Corporation ought to be able to acquire the sites at prairie value for the citizens, and build houses on them suitable to the locality. I could point out twenty or thirty such houses. They are incapable of repair and you can do nothing with them, and I think that power is necessary.

4772. Would you place that absolute power in the Corporation by legal process?—Yes; but by a simple legal process. If the structure is dangerous no doubt they can proceed against the owner. But the process is long and tedious, and very often the cost would not justify it. I think six months' notice should be given, and if it is not done then the Corporation should go in and acquire it.

4773. Through a court of law?—Yes; but by some very summary process.

4774. Dr. J. W. Moore.—You seem yourself to think your suggestions are drastic, for you say, "My suggestions for dealing with the tenement system may be considered too drastic; but when it is remembered the annual sacrifice of human life which it entails, it must be admitted that it requires a code of Draconian severity to stem its lethal influence"?—Yes.

4775. Now, passing to the habits of the occupants of these tenement houses?—They are extremely dirty.

4776. You state that no matter how often you report on the unclean condition of the houses, they are very soon in the same condition again?—Yes. And that is why I think there should be some way of punishing those who are so neglectful. If tenants knew they could be got out effectively in ten or fifteen days they would be more cautious and careful. But there a large class just floating about regularly, knowing it will take three weeks to put them out and the magistrate gives them three weeks more—that is six weeks. If the law could reach them, and they knew they could be put out very quickly for breaches of the sanitary laws, you would find they would keep their places clean.

4777. Are the tenement houses in your district closed to outsiders?—No; not all.

4778. When paying your professional visits have you to knock or ring?—No; very seldom to do either.

4779. You are aware that the magistrates have refused to grant summonses owing to the fact of these houses being open to the street?—Yes.

4780. So that a manifest improvement would be to have a lock and key?—Well, that would involve a janitor to each house, and I do not think you would get them to do that. When I went to the district first—twenty years ago—my predecessor had commenced to demolish Bull-lane, and I finished the demolition of it; also the place at Mary's-lane and Fisher's-lane, where the markets are built. A great deal of that was due to my action. I then attacked another property in the neighbourhood, and there were great difficulties in dealing with it—it was a disgrace to the city. The person who owned it had four or five—certainly three or four—sons, and the difficulty was to fix responsibility. When the father was summoned he threw it over one of the sons, and so on, and up to the present day the place remains, and it seems impossible to fix the real ownership or liability. I then went to Denmark-row and made several improvements there. There was no sanitary accommodation at all, and I got some houses taken down and made yards, and put in back windows—there were none previously. There the owners facilitated me. I went on to Rotundo-market. There I could only get houses taken down and converted into yards; but could not get back windows, owing to legal rights and difficulties. Then I examined and reported on Taaffe's-row. That was in 1885 and 1886. There were rooms there twelve feet by seven or eight, and a very small stairs not twenty-three inches in width—you could hardly get up, and there were only two dirty privies for the whole place of ten houses, one of which was in Cole's-lane. A man named Verschoyle was the sanitary inspector—a very good man—and I gave him the necessary certificates, and he summoned Taaffe. The magistrate gave a closing order. In the meantime Taaffe put up two or three extra water-closets, and took an appeal to the Recorder, and the Recorder reversed the magistrate's decision on a technical point—that the notice, the second part of it did not set out all the repairs that were necessary to be carried out; also that we had no power to close a house so long as it was capable of repair.

4782. Dr. J. W. Moore.—The ways of lawyers are inscrutable?—Yes; that decision did more to stop my hand than anything else. That was in 1885 and 1886, and it is only within three months past that it is closed—that is after thirteen years.

4783. You made a report to Sir Charles Cameron as to bath-houses?—Yes. I stated that the social evils associated with, if not inseparable from, the tenement system—indifference to the most elementary rules of personal cleanliness and intemperance—are factors in the causation of a high mortality rate, which cannot be left out of consideration in any earnest effort to solve the problem. Our poorer classes are, unfortunately, heedless and careless as regards the cleanliness of their persons and surroundings, with the result that the rooms they occupy become poisoned with vitiated air, reducing their vitality and their power to resist disease. But, perhaps, they are not wholly to blame—have they had the opportunities afforded them to be otherwise? I think not, and in this connection I would suggest that, instead of erecting baths and wash-houses at great cost, it would be a useful and beneficial experiment if the Corporation would acquire one or two of the large tenement houses in each ward, and convert them into bath-houses, which could be done at a comparatively trifling cost. It is unreasonable to expect that the majority of our unwashed poor will find their way to the Tara-street baths. I would also repeat a suggestion I previously made on the subject—that in each bath-house there should be one special bath-room for "medicated" baths, to be given according to a physician's directions. Skin diseases, as a rule, are vastly more prevalent, more severe and chronic amongst the poorer classes than amongst the well-to-do, and oftentimes a poor person could be relieved from the intolerable suffering and misery which some skin diseases cause, if only a properly medicated bath could be ordered for such person; and in the case of a person being poor, such medicated baths ought to be given *without charge*, on the orders of any physician. I do think that our poor could be trained to have a higher regard for personal cleanliness if only they had the conveniences in the matter of bath-houses such as are provided for the inhabitants of most of the towns and cities in England and on the Continent. Then would follow, as a matter of course, a desire for cleanliness in their clothing, their rooms and surroundings, thus reducing, if not altogether removing, one of the chief sources from which so many of their miseries spring—*dirt*. In the workhouse facilities, such as I have suggested, could not, it appears, be provided, unless the person sent there entered as a pauper, that institution being under the Workhouse Act, and the dispensary under the Medical Charities Act. I think a number of tenement houses could be acquired on the confines of the wards, and used as lavatories and bath-rooms. In my district there would be a special need for this, having regard to the workers at the fish market, and the smells that exhale from their clothes and bodies.

4784. You think the people will not go to Tara-street?—No. You refer as another cause of high death the intemperate habits of the people?—Yes; I contend that the influence of the intemperate habits of our poorer population on our civic death rate opens up a wide field for discussion and study. By some it may be regarded more within the domain of the philanthropist than a sanitarian; but, in its widespread results it claims the attention of both. With our people drink replaces food to a greater or lesser extent, with the result that their bodies are ill-nourished, by the absence of sustaining food, and their constitutions undermined by alcoholic excess, so that when attacked by any serious illness they have not the vital strength to resist the attack, and thus become an easy prey to its ravages; it is in this way it exerts its destructive influence on the civic death rate. Indirectly, but not the less surely, is the death rate amongst infants and young adults, also, influenced by the intemperate habits of their parents. The offspring of such parents are oft-times born into the world only to die, while such of them as may survive are usually uncared for, neglected, ill-fed and ill-clad at that very period of life when they most need care and nurture. They thus become victims to the wasting diseases incidental to the early period of life, of which results the mortality tables are the truthful records.

4786. People have a false notion that drink is food?—Yes, there has been a vast increase of porter drinking amongst the poor.

4786. You think the people drink with the idea they are taking food?—Yes.

4787. And the result is they become debilitated?—Yes, and unable to withstand disease, and their constitutions become run down. There is a mechanical filling of the stomach produced, but no nutriment afforded.

4788. Have you seen organic disease produced by it?—A good deal of fatty degeneration—heart and liver disease.

4789. Amongst porter drinkers?—Yes.

4790. Is there not a good deal of whiskey drunk?—There is a good deal. But I do not think it does the harm that porter does. A great many women are porter drinkers, and in that way injury is done. Many of them with children think that porter drinking increases the flow of milk, and I need hardly tell you that children suckled on milk so formed are not as healthy as other children, and in that way it tends to increase the death rate.

4791. Now the fourth cause you instance is the insufficiency of our city hospital accommodation to cope with epidemics?—Yes. The last epidemic of measles brought into prominence the defects of our sanitary system, the insufficiency of our hospital accommodation to cope with outbreaks of epidemic disease, and the need for an effective system of isolation.

4792. To what epidemics do you chiefly refer?—Small-pox and measles.

4793. You are aware that the proportion of fever beds in Dublin is in excess of that laid down by sanitarians?—Yes.

4794. One bed per 1,000 inhabitants?—Yes; but nevertheless, medical men find difficulty in getting cases into hospital.

4795. Would you ask the authorities in Dublin to provide hospital accommodation for an outbreak of measles?—I would ask to have an isolation hospital in each union.

4796. For how many beds?—100 or 150.

4797. One in the North and one in the South Dublin Union, that is for 300. Do you know how many cases of measles there were in Dublin five months ago?—Myself and my colleague had at least eighty or ninety cases for which we could find no accommodation. I speak of sheds; something on the same principle as there existed formerly, iron and wood, which could be quickly rebuilt if necessary. In the North and South Dublin Union they could get sufficient ground to put up these light structures, and then we, dispensary medical men, would have power to send in these cases without being under a compliment. My opinion is, the hospitals do not afford to the city poor people the relief they ought to; they are filled up very much with country patients. I have had to go and make personal application as a compliment I might say.

4798. Have you any statistics to show that epidemic wards are filled with country patients?—No. I do not go quite so far as that. But I know it has been very difficult to get a person in suffering from simple pneumonia or bronchitis. I have had to go and beg it.

4799. Are you of opinion that, if in an epidemic of measles, you were supplied with a staff of trained fever nurses you could do better?—Yes. But in a room with broken windows and doors and rotten floors, filthy and dirty, you cannot expect children to recover.

4800. As a matter of fact has it not often happened that you have been sent for when the child is in imminent danger?—Yes.

4801. Probably to cover appearances, and to fill up the certificate of death?—Yes.

4802. Now, as a fifth cause of the high death rate, you seem to attribute it to infant life insurance?—I think that is a pernicious system.

4803. What is your opinion on that subject?—I think it leads to a good deal of carelessness in a certain class of parents, and who are not as careful of the life of the infant as they ought to be. I do not say for a moment that they kill, or try to kill the child—but the system tends to wakes—it provides the means by which wakes are held, and thus tends to spread the disease. I think no child should be insured unless certified by one of the medical officers of those insurance offices who derive a revenue from this insurance.

4804. Do you agree with Mr. Cooke that the insurance should be applicable to a child reaching a certain age?—You would not get the people to subscribe to that. The insurance should be to provide decent interment for the children, and not any considerable sum going into the parent's hands, and which goes in wakes and in drink.

4805. Have not the Roman Catholic clergy over and over again expressed strong condemnation of the holding of wakes?—Oh, always.

4806. And is not the law against the holding of wakes—at all events in the case of infectious diseases?—Yes, and I may say these wakes are not one-tenth what they were formerly.

4807. Right Hon. Alderman MEADE.—Are not the wakes on children very vastly decreased?—Yes.

4808. Dr. J. W. MOORE.—Part of your duty as medical officer is to make reports to the Sanitary Authority and the Local Government Board?—Yes.

4809. Have you done that for the past twenty years?—Yes.

4810. How often?—For the first five or ten years I think I gave them too much to do. I think Sir Charles Cameron will bear me out; but that decision of the Recorder made me apathetic.

4811. The decision of the Recorder, I understand damped your ardour?—Yes. I lost an immensity of time in connection with the Taaffe's-row case.

4812. It is clear you fairly earned your £25 a year?—Yes. I think so certainly.

4813. Right Hon. Alderman MEADE.—Ormond Market is in your district?—Yes.

4814. As dispensary medical officer has it ever come to your knowledge that hawkers brought their unsold goods to their rooms and brought them out for sale the next day?—Yes, that is a constant habit.

4815. Is there no way of coping with that. Surely fish and food in a living room all night cannot be fit for food next day?—No; but what can you do. They suffer the loss and if you fine them you add to their misery.

4816. But they must stop the sale of food in that condition?—They are out in the morning at 6 or 8 o'clock. I have known cases of apples that I have had thrown out and destroyed under such conditions.

Alderman FARRELL examined.

4817. CHAIRMAN.—I understand you desire to give some evidence as to the necessity for the proper housing of the poor?—Yes. I know a great deal about the housing in Dublin, and I know that while the present system of tenements obtains to any extent it is impossible to have a healthy city.

4818. What do you mean by the present system?—The system that enforces a great number of people to live in the one house without any separate sanitary accommodation—without any regulation as to the cleaning of the portions of the house the use of which is general, such as the staircase; and particularly the system which renders it impossible for the Corporation of Dublin to enforce proper repairs in anything like a prompt manner. Now, I think the first thing you will have to deal with is the congestion. I think that while you have the enormous congestion you must have an enormous death rate, and the Corporation cannot, in my opinion, proceed to clear any more areas until they have increased the supply of houses to accommodate the people who would be rendered homeless by any further clearances. I have gone about a good deal amongst the houses of Dublin, and I know that, generally speaking, the tenement houses are in an unsanitary condition for nine months out of the twelve. I know places that the sanitary authorities have proceeded to get put into proper repair and sanitation seven years ago, and they have not been put into a sanitary condition since. In other words, I know houses that have been in an unsanitary condition for seven years, and I know that they have been unsanitary with the full knowledge of the Public Health Department, and I know that the law places great obstacles in the way of the Public Health Department in any effort they may make to deal with such cases.

4819. Do you suggest fresh legislation?—Yes, sir.

4820. In what direction?—In the first place, you would require legislation to compel owners, but especially receivers in Chancery and banks — such as the Bank of Ireland—and other people, who manage to put great delays in the way of the Corporation, and I think there should be very stringent legislation to deal with such people. Now, to give you some data. In the case of several houses in North Buckingham-street, the Bank of Ireland is the receiver. I know that No. 9 Upper Buckingham-street, has been in an unsanitary condition for seven years without intermission. I do not think the Corporation is able to deal with it. The law is not sufficiently strong to compel these people to keep their houses in order. The Corporation, I contend, will require, therefore, greater powers if these things are to be properly looked after. In some cases, whilst I blame the landlords to a great extent, I think the Corporation will have to get powers to enable them to hold the landlords and tenants jointly responsible for keeping the premises thoroughly clean. For instance, I think there are some landlords in Dublin anxious to keep their tenement houses in order; but if one or two bad tenants get in they corrupt the others—they dirty the portion of the general house which is used by all, and they create a feeling of restlessness amongst the people who are cleanly inclined, and all drift into dirty habits.

4821. Do I understand you to say you would make the owners do the structural repairs, and the tenant liable for keeping them clean?—Yes, I would. I think the Corporation should have such power, and there should be a complete registry of all tenement houses; and then, for all large tenement houses, and certainly for all tenement blocks there should be a caretaker held responsible, in the event of the owner not being obtainable. I believe in a great number of cases the Public Health Authority are not able to come at the owners. For instance, I drew the attention of Sir Charles Cameron to a place in North Great Charles-street—it is a derelict area not built on—and Sir Charles has been for some time in a fog about it. Attention was drawn to it by the editor of the *Tuam News*, and whether Sir Charles has found an owner or not, he has not done anything to improve the matter. As to the case of 9, Buckingham-street, before it came into the hands of the receiver—the Bank of Ireland—formerly it was owned by W. Johnstone, tea merchant. Well, there is

not a whole window in it, the sewers are all out of order, and seven years ago the basement was torn up to have the sewers made, and that basement has not been made right yet. The windows are without glass, the roof is leaking, and while we have leaky roofs I think we cannot fight phthisis and other diseases that arise from dampness overhead and dampness underneath. We consider that more stringent laws should be made, or if we have stringent laws, that they should be put more rigidly in force. Without meaning an attack or reflection on anybody, I may say that I believe the Public Health Committee have more powers than they use. I live on Clonliffe-road. The sewers were in bad order two years ago. I wrote to the Corporation, and they did nothing. Afterwards I was elected a member of the Corporation, and wrote again. A great number of people then, from the sanitary department, went to examine it, Sir Charles Cameron, Mr. Sullivan and others, and it took eleven months to have these sewers put in order.

4822. CHAIRMAN.—Is Clonliffe-road in the city?—Yes, this side of it. It took eleven months to have it done, though I was a member of the Corporation, and but for my being so the sewers would, no doubt, be out of order still. Now, I think the spirit in which the Corporation deal with these questions is not the correct spirit. I made a speech at the York-street Club, and the then Chairman of the Public Health Committee thought it his duty to challenge me about it. There was a private report drawn up, but it was not sent to the Council. I will read it just to show that, in my opinion, we all have not shown the proper spirit if we wish to make Dublin a healthy city.

4823. Is it confidential?—No. I had said I thought it would be well to remove some of the house jobbers from the Public Health Committee. I may say that there is no member of this Committee sitting here now who had anything to say to this property. The answers given, and I presume through Sir Charles Cameron, in the case of a very important member, were as follows:—"The houses in this court are very old and decayed, and in my opinion require to be re-built. Four notices requiring improvements were served in 1898-9. A new sewer was put into the court in 1898. The sanitary accommodation consists of two Dill closets and four portable ash-bins. The rooms are very small and the tenants appear to be very careless, as on every occasion that I visited this court I noticed excreta and filth on the surface of the yards and courtway." That place was the property of a very leading member of the Corporation. If the premises "required to be re-built," they should have been re-built. Again, the reply given in the case of property owned by the same prominent member of the Corporation was:—"They are very old houses, and showing great decay; sometimes they are in a fairly clean state; at other times I have found them rather filthy. Many repairs have been effected in them from time to time, and in 1898-9 they were the subject of twenty-four sanitary notices and two summonses. It is with difficulty they can be kept in a moderate state of repair, and in my opinion they require to be re-built. There is, however, only a short period of the lease under which they are held, to expire; they are a poor class of tenements, occupied by a very poor class of people; but there are worse houses which have not as yet been de-tenanted and closed." You will observe, according to that statement, during the fifty-two weeks notices were served at the rate of one notice every fortnight. Now I submit that if these notices were attended to and the repairs effected, it would not be necessary to serve twenty-six notices in twelve months.

4824. The point would appear to be mainly that the houses are not put into good repair?—The point is that I would not be inclined to wait until the lease held even by a member of the Corporation expired. I have a very wide knowledge of the dealings of certain gentlemen who buy up houses or have been in the habit of buying up houses that have been closed. They give them a coat of white-wash, and perhaps put a joint or two here or there in connection with the sanitary arrangements. It is absolutely necessary for the Public Health Committee to be very strict before allowing a house once closed to be re-opened. Such a house should be put in a condition of absolute repair.

Sir *Charles Cameron.*—The magistrate alone can order a house to be re-opened.

4825. Right Hon. Alderman MEADE.—How does he obtain the knowledge on which he acts.

Sir Charles Cameron.—The process is this—the person against whom a closing order is made gives notice to the Sanitary Authority, and an inspection is made of the premises to see that the repairs are complete, and then they were allowed to be re-opened. There have been 3,200 houses closed, and of these two-thirds were re-opened.

4826. Have you any cases in which the magistrate allowed the house to be re-opened against the evidence of the Sanitary Authority?

Sir Charles Cameron.—No, we have known instances in which houses have been surreptitiously re opened.

Examination of Alderman FARRELL resumed.

As far as I see there has been a great improvement under the present Committee and under the chairmanship of Alderman Dowd, and for the previous couple of years. But before that I blame the Sanitary Authority for a great deal of the death rate because, I think there are a lot of men in the city who live absolutely out of the rents of the tenement houses, and I know it has been the practice of these gentlemen to go to auctions and buy up old and decaying property, put it in a sort of order, go and live out of the city or out of Ireland, and leave these places to an agent who has neither the power nor the will to effect the necessary improvements and the sanitary authorities are just drawn from Billy to Jack without knowing who to prosecute. I believe in many cases they have not been able to succeed in the prosecutions because they could not be sure who was the owner, and they had to go from one agent to another.

4827. CHAIRMAN.—What plan do you suggest?—Well first I would suggest that the Corporation should be enabled to borrow half-a-million of money for building on unoccupied lands and have powers also for obtaining and clearing unhealthy areas, and on such areas erecting dwellings for the working classes and the poor.

4828. Within the city?—I would prefer outside. The Corporation should have, I submit—

1.—Power to borrow a sum of £500,000 for the purpose of clearing unhealthy areas, and on such areas erecting dwellings for the working classes and for the very poor. This would mean an average annual charge of £10,000 for principal, and £8,837 10*s.* for interest, representing 6*d.* in the pound on the present valuation; and this is a rate which, in my opinion, the citizens of Dublin would not, and ought not to grudge towards such a deserving object as the proper housing of the poor, and the effective clearing of unhealthy slums.

2.—Power to have a sum representing the value of the dwellings so erected, and the site thereof, excluded from reckoning against the borrowing powers of the Corporation.

3.—Powers similar to those contained in section 9 of the Glasgow Improvement Act, quoted in this report, as regards the assessment of the value of property or interests proposed to be acquired by the Corporation for the purposes of the housing of the poor.

4.—Power to enable the Corporation to enforce cleaning by the tenant or tenants in the separate rooms of tenement houses, and to frame bye-laws under which they could hold responsible for sanitary defaults the individual or joint tenants of any house in which the sanitary accommodation is common to all the tenants.

5.—Adequate power for the registration of tenement houses, the expression "tenement house" to mean any house (not being a common lodging-house) occupied by members of more than one family, and in which the average rent charged to the occupiers shall be less than 7*s.* a week, and the lowest rent charged to any occupier shall be not more than 5*s.* a week. (See section 29, sub-section 2, of the Dublin Corporation Act, 1890). The expression should also be made to apply to houses occupied by one family in cases where the valuation does not exceed £8. I believe that the citizens would not grudge to pay a little extra for such advantages as would be derivable, and for the reduction in the death rate that would ensue. It would cost 6*d.* in the pound for 60 years, and at the end of that time the city would have an asset value of £500,000, free of all charge.

4829. CHAIRMAN.—Is that 6*d.* in the pound after taking credit from all the rents?—Yes.

4830. Right Hon. Alderman MEADE.—What do you put on the other side for rents?—There would be an average annual charge of £10,000 for principal and £8,000 and odd for interest. You would have the rents, and at the end of the period of sixty years the city would have a valuable asset; and after that it would be all pure gain. I think we should have the powers given in the Glasgow Act, by which the Corporation would be enabled to take over the areas for the reasonable value of them, especially in the case of unsanitary property—for the value of the land and the buildings on them, as so much bricks and mortar. There is a deal of property that is just worth no more than the bricks and mortar. It would be the duty of the Corporation to close up a great many tenement houses in the city. In the matter of rents, I think you will have to consider the very poor. There are a great many cases where a whole family live in a single room, and they have to pay 4*s.*, 5*s.*, or even 6*s.* for these single rooms. In other cities they are able to get a little cottage for this. The Corporation should be able to supply them with two rooms for 2*s.* 6*d.* or 3*s.* a week, one to live in and one to sleep in. The Corporation, I admit, should have absolute power to inspect by night or day the sleeping apartments of the people in tenement houses.

4831. Dr. T. THOMSON.—What is to prevent their doing that now?—I know that under the same Act the Glasgow Corporation has more power.

4832. To inspect at night?—Yes.

4833. But the Corporation can make bye-laws applicable to all tenement houses registered?—Well, the Corporation should be made to have these inspections, otherwise you will never have the congestion removed. These people live in one room, and they let even the one room out to male and female lodgers. In one case—a woman in Gloucester-street—a single room was let out to four separate lodgers. The room was turned into five rooms. The Corporation should be compelled to inspect the rooms regularly to see that this congestion did not exist.

4834. If that room was large enough, and had sufficient cubic space, the Corporation could not prevent its being used by five people?—No; but I do not believe these people would occupy it if there was inspection. I would remove the danger.

4835. By inspection you would reduce the number of cases?—Yes.

4836. CHAIRMAN.—Anything else?—Well, there is another thing absolutely necessary. The Corporation should make absolutely compulsory the providing of lighting in the hallways and water on the landings, and I would go further and say separate sanitary accommodation should be provided for each family. It is absolutely necessary to have light provided in the halls and water to the houses

4837. To the top landings?—Yes. Take Summerhill; the Corporation have no power to make landlords put water to the top of these houses, which are seven storeys high Just fancy a poor woman with rheumatism trying to climb up that house and down to the water-tap, fifty or sixty yards from the house. The consequence is that they do not have water, and accordingly are not as clean as they might be. I think, therefore, that the Corporation should see that there is water and light in these houses. Perhaps it would be possible to supply electricity later on. The rents of houses have been going up steadily, and the poor people who used to get a room in Gardiner-street or Gloucester-street for 5*s.* now have to pay 7*s.* The Corporation, you see—the Corporation, by clearing some unhealthy areas, have congested some other areas. Another thing the Corporation ought to do is to provide for a supply of houses outside the city limits, and to deal in a radical way with what cannot be cured unless the houses are razed to the ground.

4838. CHAIRMAN.—You are aware the Corporation have no power to build outside the city limit?—Well, the city should be made sufficiently large to enable this to be done. In my opinion great evils result from the people in tenement houses eating, living, and doing everything in one room, and I really think the Corporation ought to provide proper places for the poor to sleep in. I think that has been done in other places, and should be done in Dublin. To obtain all these changes the law will have to be altered, and it will have to be made simple enough for our magistrates and judges to understand it as in Glasgow, where they can get a conviction under the same portion of the Act, where in Dublin they fail. If we get an Act it should be sufficiently lucid that magistrates will give decisions in accordance with the views and intentions of the framers. In Glasgow, I believe, the Corporation can obtain convictions against the tenants "jointly and severally."

4839. Is that a local Act?

Sir Charles Cameron.—The Glasgow Improvement Act.

Witness.—I think the executive sanitary officer should deal with nothing except sanitation. I look upon the improvement of the health of Dublin as a matter of very great importance, and a thing that will require all the time and attention of one of the ablest men who can be obtained. Therefore, I think that the man who fills the position, and looks after the sanitation of the city, should not be allowed to deal in anything else. Whilst I know Sir Charles Cameron would be equal, if anyone could, to the task, still I think no man, even a Gladstone in sanitation, can be able to deal with several appointments, and at the same time bring to bear on the sanitation of Dublin the necessary amount of concentrated mind effort.

Right Hon. Alderman MEADE.—It is only fair to Sir Charles to say that when he was appointed Medical Officer of Health he offered his entire services to the Corporation on certain terms, or his services in part upon certain terms, and the Corporation accepted the latter.

Witness.—As to the laws, I think it is necessary to have improved laws, and that there should be a change in the departments; also that public lavatories should be provided for females. I consider it my duty to say that whilst I consider the absence of proper house accommodation the first and chief cause of the high death rate, I regard intemperance as the next. I feel I would not be doing my duty if I did not say that immediately after the absence of proper housing for the poor—immediately after that comes the vice of intemperance. Our housing would be better if our drink bill was less—and I contend that we should have some restrictive measures preventing children from carrying in drink.

4840. CHAIRMAN.—Would you make that applicable generally?—Yes, all over the United Kingdom. But Dublin, I contend, suffers as much as any city from the terrible vice—not because we drink more, but more foolishly. We do not eat as they do in England. We do not bring home the money to our poor wives, and the consequence is that we do not get sufficient

nourishment and food. The only thing we get is lots of drink, and no matter how agreeable Guinness or Jameson may be, it cannot supply the place of meat or bread.

4841. You referred, I think, to caretakers. Who would you make responsible for that?—The owners, I should say.

4842. Do you know of such appointments in any other city?—In Glasgow they can deal with caretakers the same as the owners.

4843. Can they make the owner appoint a caretaker?

Sir Charles Cameron.—Whoever collects the money.

Dr. O'Connell Redmond examined.

4844. Dr. R. L. Swan.—You have been Medical Officer to the Victuallers' Association?—Yes, some years ago. I think I held the position for about five years.

4844a. How many individuals belong to the association?—Really I got such short notice of being examined that I made no statistics; but roughly all the working butchers were in it.

Mr. *Geoghegan.*—About 200 or between that and 300.

4845. Dr. R. L. Swan.—The occupation of these men was slaughtering cattle?—Yes, and attendance at butchers' stalls.

4846. Now do you yourself know anything about the removal of the offal?—No.

4847. Do you know anything about the condition of the slaughter-houses?—I have seen some slaughter-houses, and I have been very much impressed by the appearance of them. When I went into a slaughter-house for the first time I remember thinking it would look something like a medical student's first impression of a dissecting room. But it was quite the contrary—well flushed, clean, and absolutely no smell—nothing whatever to contribute to any disease, or to be in any way obnoxious to the neighbourhood.

4848. I believe the object of your being asked to give evidence is to bear testimony to the healthiness of this employment?—Yes; and I can say that a healthier body of men cannot be found, and that the slaughter-house is not inimical to them.

4849. These men in many cases, I presume, do not live in the immediate neighbourhood of the slaughter-house?—No; but they are brought into contact with it.

4850. But it is hardly fair to compare the health of these men with that of the poor inhabitants of tenement houses inasmuch as these men are well fed?—Yes, they are, and well paid.

4851. As a matter of fact your evidence goes to the point that you do not attribute any epidemic or sickness directly to the slaughter-house, or regard the occupation as unhealthy?—No.

4852. Have you ever noticed any tendency amongst these men to any special complaints?—No, I can't say I did. A good many suffer from varicose ulcers and diseases of that class, but nothing attributable to their occupation.

4853. Your inference was that it is not a specially unhealthy form of occupation?—I consider it a very healthy form of occupation. I never met a healthier body of men than the working butchers.

4854. They are a fine body of men?—Yes.

4855. Dr. T. Thomson.—Are you aware that some time ago statistics were published showing the death rate amongst men who worked in the sewers?—Yes, I think so.

4856. And these statistics went to show that working in sewers is one of the healthiest occupations that men can be engaged in?—I heard of that; also I know that though the Liffey has a very bad name I never had a case of typhoid on the banks of the river.

Dr. *Delahoyd.*—I would just like to supplement my evidence by a few sentences as to the discharge of the duties of medical officers of health by the dispensary medical officers. We do a great deal of work in the way of verbal reports, and it might seem that we do not give as much attention as we might to our public health duties. Now, we do an immense amount of public health work of which the public know nothing. Our duties are most onerous. We have the administration of five Acts—there is the Medical Charities Act, the Vaccination, Notification Act, Public Health, and, lastly, the Registration Act—so that our time is taken up completely. Now, there is a whole lot of useless writing that occupies most of our time, and it would be in the interests of the public if a clerk were appointed to do the writing. It impairs our efficiency that so much of our time should be taken up with that kind of work, and I think the medical officers in all the urban districts ought to be relieved of the registration duties, which are purely clerical and not in any sense professional duties—with of course compensation for any monetary loss such necessary change would cause to the medical officers. For two to three hours every day we are writing, and this I say impairs our efficiency.

4857. Right Hon. Alderman Meade.—As a Dublin medical officer of health can you say how long does it take before a patient can get treatment—first there is the red ticket, then it is brought to the dispensary, and does it take until the evening before that patient is visited?—No; every case I receive is visited early in the day—perhaps 2 o'clock or half-past.

4858. Is it a fact these tickets must be delivered before 10 o'clock in the morning?—No, before half-past 11. But it is not compulsory. In the case of epidemic I have attended hundreds without a ticket.

4859. I have been informed that tickets must be obtained, and that takes some time; then they are delivered at the dispensary before 10 o'clock; then the messengers from the infected room or houses are there waiting amongst the others, so that the case is not visited, cannot be visited, by the dispensary medical officer until he attends to a number of out-patients, and that it is late in the evening when he visits the case?—I can only speak as to the North City districts. I do not know about the South. I know in the North City the cases are attended to within two hours. There are some tickets received after hours.

4860. After the case is visited there is a further delay if the patient has to be sent to hospital?—Yes; you have to ascertain if there is a vacancy.

4861. It takes several hours?—In the North City only two or three hours.

4862. Dr. R. L. Swan.—There was evidence given here the last time the Committee sat, stating that the medical officers did not pass as much of their time amongst the poor of their districts as was desirable. The evidence was not given with a view to censure, but the reply to me was that they could not afford to do so the way they were paid, and it was suggested that medical men should be appointed at a larger salary to devote all their time to the poor?—I think that would be highly detrimental to the interests of the poor, of the medical officer, and of the public.

4863. What are the reasons briefly which make you hold that opinion?—In the first place the work of a dispensary medical officer is onerous and monotonous, and there would be the danger of its becoming routine if he were debarred from private practice which tends to make a medical man keep himself *au courant* with the progress of medical science; thus the public reap the benefit of his increased knowledge and experience. But were he debarred from private practice his duties would almost certainly drift into mere routine—and hence it is that the medical officer's private practice re-acts to the advantage of his dispensary patients and to the public benefit generally. I would repeat my statement that an excessive amount of our time is occupied in mere clerical work. If we were relieved of this *non*-professional work we could devote more time and attention to our professional dutiese—specially to our duties as medical officers of health—which under present conditions we are unable to do.

Mr. O'Sullivan, of the Public Health Department, re-called.

4864. Dr. T. Thomson.—We had a list of the sanitary staff of the city, and I wish you to explain some of the terms to me. What is the consulting sanitary officer?—He was paid £300 a year; but he was virtually retired on a pension of £150 a year, though nominally remaining consulting sanitary officer.

4865. Does "surveyor of buildings" refer to new buildings only?—For new buildings only. There are two, and they are in the architect's department, being officers of the Public Health Committee.

4865A But not reckoned amongst the sanitary staff?—No.

4866. "Registrar of dairies." What post is that?—He registers the application forms for licences sent in January each year.

Sir Charles Cameron.—And other times, too.

4867. Dr. T. Thomson.—What is the "sanitary plumber"?—A registered plumber attached to the department for the examination of sanitary fittings.

4868. And "inquiry officer"?—There are two such officers, Egan and Adrien, who make inquiries at the premises from which a case of infective disease has been notified, and ascertain what disinfection is necessary and the amount of clothing to be disinfected.

4868A. What is the "inspector of sewers"?—He is a foreman of works in the employment of the city engineer. There is also a male and female inspector under the Shop Hours Act employed in the Department.

4869. Do all the staff give their entire time to their duties?—Except Mr. Collins, inspector of dairies. He at present gives four days a week, and Mr. O'Reilly, inspector of slaughter-houses.

[Witness undertook to hand in classified returns of clearances, the numbers of tenement houses, table *re* rebate of taxes, &c.]

Alderman *Farrell.*—It would be bad to let the idea get abroad as to insurance of children that parents in Dublin were in the habit of murdering or doing away with their children for the sake of the insurance money. The people of Dublin excel in their love for their children. It is only the idle or reckless or careless who do not insure their children. The Friendly Societies Act makes it impossible for a person to draw more than £5 unless the child is over five years of age, and £10 when under ten years.

The Committee adjourned until next morning at 11 *o'clock.*

SEVENTEENTH DAY—THURSDAY, MARCH 22ND, 1900.

THE COMMITTEE SAT AT 11 O'CLOCK.

Present:—CHARLES P. COTTON, Esq., M.Inst. C.E., Chairman; the Right Hon. JOSEPH M. MEADE, P.C.; J. W. MOORE, M.D., President Royal College of Physicians, Ireland; Mr. R. L. SWAN, President Royal College of Surgeons, Ireland; THEODORE THOMSON, Esq., M.D., Medical Inspector, Local Government Board, England; PATRICK DOWD, Esq., Alderman.

W. H. WILSON, Esq., Secretary to the Committee, was in attendance.

Sir CHARLES CAMERON re-examined.

4870. CHAIRMAN.—Sir Charles, you desire to supplement your evidence to the Committee touching some points that have arisen during the inquiry?—Yes; I will not trouble you very long with what I desire to say, but there are just two or three matters I would like to mention—Dr. Maguire in her evidence referred to our not summonsing tenants other than those that were in the property of the Alexandra Guild. We summonsed, undoubtedly, some of the tenants belonging to that guild at the request of the lady who collected the rents, and who appeared to be a kind of manager of the property; but I gave instructions to our sanitary officers in no way to hamper the ladies of that guild, but on the contrary, to assist them in every way, because there was no question in the world as to the meritorious nature of the work they were engaged in, and I was, therefore, most anxious to assist them in every way. It was only for that reason that the tenants were summonsed; but it is not correct to say that we confined our summonses to the tenants of these houses, for several hundreds of people had previously been summonsed.

4871. Is it not a fact that they wrote to you?—Yes; but Dr. Maguire said we ought to have summonsed others. But we have done so in hundreds of cases, and even since the tenants of the Alexandra Guild we have had two batches before Mr. Wall. I just wished to have that matter rectified. With regard to the slums that some members of the Committee visited on Monday last, I would just like to say that there is not one of the houses the Committee visited, and which no doubt the Committee found to be in a very defective state, that has not been the subject of repeated notices, and in many cases of summonses, and in some cases they were closed altogether. Every one of these cases has got a sanitary, or rather I should say an in-sanitary history, and every one of them has been the subject of continued action by the Public Health authorities. With regard to the statement which Dr. Edgar Flinn made as to the number of our sanitary officers, I hope that no attempt will be made to reduce the number of such officers, for, though the number is large as compared with some English towns, it must be remembered that in no English town of the same population are there to be found so many old houses. Besides, I put in the returns from Town Clerks in England showing the number of their sanitary officers, and then particularly a return from the Town Clerk of Liverpool, with a population twice as great as that of Dublin, and where the number of sanitary officers is ninety-six as compared with thirty in Dublin; also the number of convictions in Dublin, showing the number in Dublin was four times greater than the total number of convictions in all these English towns which are referred to in these returns. And I may say that twice in each week there are twelve or fourteen of our sanitary officers attending for several hours in the court waiting for their cases to be brought on, so that I say we are not at all over-manned as to our sanitary staff, but rather under-manned having regard to the nature of the houses in Dublin occupied by the tenement class, and the numerous prosecutions we find it necessary to institute.

4872. Could not anything be done to save that waste of time on the part of your officers?—Well, a good deal has been. The summonses formerly filled up by each officer are now filled up by a special person; but the evidence as to the nature of the complaint must be given by the officer himself.

4873. Could not arrangements be made by which officers would not be kept idling in the court?—That is a matter at the pleasure of the police magistrate.

4874. Have you ever made a suggestion on the matter?—Yes, and a strong representation was made to the Lord Lieutenant to appoint a magistrate who would only deal with sanitary cases, or to have some arrangement come to with a view of saving time. I merely mention this to show that though we have a large staff their time is fully occupied. Having read over the evidence given at this inquiry, I do not think I have any further observations to make. I thought there might be some specific charges made either against the Public Health Department, or myself individually; but I did not see anything that I need take any notice of except what I have mentioned.

4874A. Dr. T. THOMSON.—You were to give us a return of the number of cases of infectious diseases notified in Dublin since the notification of Infectious Diseases Act was adopted?—Yes; they are all given in my annual reports, and we are putting in a series for the Committee, and a return of the deaths from various infectious diseases notified.

4874B. Dr. J. W. MOORE.—I notice in this day's *Daily Express* a letter over your signature in reference to burials in vaults under churches. This matter has been under the notice of the Committee, though not, I think, in your evidence. I should just like to read this letter. It is as follows:—

"BURIALS IN VAULTS UNDER CHURCHES.

"To the Editor of the *Daily Express*.

"Sir—I am glad that the subject of burials in vaults under churches has been raised in your valuable journal. Intra-mural interments have practically ceased, so far as churchyards are concerned; but burials still take place in vaults, mostly in communication with the external atmosphere. Beneath the floors of city churches there are hundreds of bodies, the products of the decomposition of which must find their way into the atmosphere of the churches and the adjacent places. It is quite evident that a corpse inclosed, even in a lead coffin, undergoes decomposition, and evolves an immense quantity of gases. These gases escape into the air of the vault, and as the latter are not hermetically sealed, all these noxious gases must escape into the external air, and to the injury of the public health. I trust that the

day is not far distant when interments in vaults will be prohibited by law, except the vaults are situated in extra-mural cemeteries. I am, sir, your obedient servant,

"CHARLES A. CAMERON,

"Superintendent Medical Officer of Health.

"Public Health Office, 21st March."

These are your opinions, Sir Charles?—Yes; and I have strongly expressed them on repeated occasions.

4875. As Medical Officer of Health have you any figures as to the numbers of these intra-mural interments?—Well, I do not think we have accurate figures now, but I think it is possible to get them from the certificates that must be presented to the persons in charge of these vaults. They could get a small fee from the Sanitary Authority.

4876. From the Sanitary Authority?—Yes; since 1879. It was found that the burials exceeded the registered deaths by about 11 per cent., and since that year the notification of deaths and the number of burials are about equal. In 1879 an Act was passed which provided that no interment should take place in any cemetery unless there was a certificate showing the cause of death, and the returns were kept in the various cemetery offices. But we have not got any returns from the churches.

4877. Right Hon. Alderman MEADE.—To whom do the Church authorities send notice?—I know they never send us notice.

4878. Are they bound to send it to anyone?—I suppose so; but the clerks of the Burial Boards have a fee of 1s. for each interment.

4879. Do you mean the clerks of the church?—No.

4880. There is no doubt you get returns accurately from Glasnevin and Mount Jerome, but surely they should also be procured from the churches?—We do not get them.

4881. Dr. J. W. MOORE.—As Medical Officer of Health have you made representations to the Church authorities as to the danger of this practice?—No, beyond this, that I have expressed it in the papers many times that burials in vaults of churches are injurious to the public health. It would be impossible to show any specific case of disease resulting from it; but it is evident that the presence of so many bodies underneath must be prejudicial to health.

4882. Would you, as Superintendent Medical Officer of Health, be prepared to make representations now to the Church authorities?—Yes, I think so.

4883. You have in your letter expressed a strong opinion that the practice is dangerous to health?—Yes. Every time a body is brought into the place you have the air of the vaults mixing freely with the air above. I believe there is always a perforation in these lead coffins, and I have seen one myself blown up by the gas exhaled. I think it is a barbarous system.

4884. Right Hon. Alderman MEADE.—Do they represent more than about six in the year?—Oh, yes; I have seen tier after tier of coffins in these places.

4885. Yes; but in any one year would the number be six in any one church?—I think more. I go on this principle—if you prevent interments in the earth in towns, surely you should prevent them in vaults, where the danger is so aggravated. I am not prepared, however, to put any evidence on the point before the Committee. I was asked my opinion and I have given it.

4886. CHAIRMAN.—Are not most of the churchyards in Dublin closed against burials?—Yes, all the churchyards, except the Huguenots' burial-ground in Merrion-row, and a limited part of St. James's have been closed voluntarily, or by the action of the Public Health Committee.

4887. Dr. J. W. MOORE.—Is St. Kevin's closed?—Yes. I myself scraped the earth in St. Kevin's, and there was a coffin within two inches of the surface.

4888. We may conclude that intra-mural burials in graveyards is practically ended?—Yes.

4889. But that does not apply to vaults?—No.

4890. Right Hon. Alderman MEADE.—You cannot tell us the number of such cases that occur in the year?—No. I did not come prepared on the point, and I did not bring it before the Committee.

4891. But you raised it in the Press?—Yes; the editor wrote and asked me. I hold that one specific case is the same as a hundred. It is only a question of increasing the degree of injury.

4892. Now that the question has been raised, are you prepared to advise the Public Health Committee to take action in the matter?—It is a large question. People have rights of sepulture, and it is only the Local Government Board could close the places. I know people myself who express their intention not to use vaults they have a right to. I believe in England vaults have been occasionally closed.

4893. Dr. R. L. SWAN.—There was a good deal of evidence given here as to the slaughter yards. What is your opinion as to that—contrasting the private slaughter yard with the abattoir?—Every sanitarian must know that an abbatoir under the Public Health authorities and subject to systematic supervision must be better than private slaughter houses. It is impossible that there could be any supervision of an effective character where there are forty or fifty such places, and where killing is simultaneously being carried on in the whole of them.

4894. Is it a fact that a butcher skilled in his vocation could in a short time conceal the traces of disease in an animal?—Yes. I remember some time ago seeing a case where an animal was suspected of having pleuro-pneumonia. I examined the carcass and the lungs were perfectly sound; but I found when I put my hand on the lungs they were perfectly cold and the body perfectly warm. They had substituted healthy lungs for diseased ones. I am not opposed to slaughter-houses if provided with a proper yard and all the arrangements such as would be met with in a public abattoir.

4895. You are aware that this system of private slaughter-houses is not tolerated in most of the towns on the Continent?—Yes, and in some towns in England it is not permitted. There ought to be, in my opinion, an abattoir provided for the south side. I believe that many of the slaughter-houses of the city are placed in positions where, under no circumstances, they should be permitted to be located. We have more than once brought cases of insanitary slaughter-houses before the magistrates, but have been unsuccessful in obtaining a conviction.

4896. Have you any observations to make as to the contrast between butchers' shops in Dublin and England?—Many in Dublin are not as neatly kept as those in England, where some are extremely handsome, with marble slabs and so on. But still there are many in Dublin and the suburbs just as neat as any establishments of the same kind that you can find anywhere.

4897. Do you not think the men themselves who attend these shops are not as cleanly as those similarly employed in England?—Perhaps it is so. I have certainly heard so.

4898. Also, is not the habit of throwing pieces of meat and sheep's heads and the like on the floor very reprehensible?—Yes; it is done apparently so that the dogs might have an opportunity of examining them.

4899. Dr. J. W. MOORE.—It was stated by Dr. Redmond that the employés in slaughter-houses are exceptionally healthy and strong men; would that lead you to suppose that slaughter-houses are necessarily not a danger to the general health?—Assuming it to be correct that they are as described.

4900. But do you associate the two things—the health of the man in this case and his occupation?—No; in fact I cannot see if the health of a man is not deteriorated, how it can be improved by slaughtering animals.

The Town Clerk of Dublin, Mr. HENRY CAMPBELL, was then examined.

4901. CHAIRMAN.—I don't think we will trouble you to go through the full figures and details you have given us, because they will be all printed?—Very well.

4902. But I will ask you to give us information generally under the heads you have made out?—Need I go into the question of the number of people to the acre in Dublin as compared with towns in Great Britain?

4902A. I don't think we need go into the figures?—Simply dealing with the memorandum of the sanitary improvements effected by the Corporation. In order to provide healthy dwellings for the artisan and labouring classes the Corporation have, at considerable cost, cleared large congested and insanitary areas, and have either leased the sites so cleared to public companies for the purpose of erecting artisans' dwellings thereon; or they themselves have provided suitable dwellings on the cleared grounds. The unhealthy areas of the Coombe and Plunkett-street, now covered by the houses built by the Artisans' Dwellings Company, were cleared at a cost of £57,900.

4903. Right Hon. Alderman MEADE.—They let that site to the Artisans' Dwellings Company?—They did.

4904. At what rent?—£200 a year.

4905. We get £200 a year for a site which cost us £58,000 to clear?—Yes.

4906. That is about one-half per cent.?—About one-third per cent.

4907. CHAIRMAN.—Has any clearance been made since 1896?—Clearance since 1896?

4908. Under the Houses for the Working Classes Act?—We have cleared Bride's-alley area.

4909. It was not a clearance. It was a case in which the ground and the houses were bought for the purpose of building?—But the site has been cleared.

4910. It was under part 3 instead of part 1; and the Coombe and Plunkett-street areas were cleared under part 1?—I think so.

4911. And there was no clearance under that part since 1896?—I think not.

Right Hon. Alderman MEADE.—What about Newgate prison?

CHAIRMAN.—I don't know anything about that.

4912. Right Hon. Alderman MEADE.—It is in the Town Clerk's list.

Witness.—I would like to state the totals spent by the Corporation.

4913. Right Hon. Alderman MEADE.—You have it under the head "open spaces."

Witness.—St. Michan's-park. The ground upon which old Newgate prison formerly stood, being part of the city estate, was vested in the Finance and Leases Committee. This committee, with the sanction of the Municipal Council, leased it, for the purpose of being converted into a public park and recreation-ground, to the Public Health Committee for a term of thirty-one years, at a rent of £5 per annum.

CHAIRMAN.—I don't know how Newgate prison was acquired. It was not by provisional order.

Right Hon. Alderman MEADE.—It was the property of the Corporation.

4914. CHAIRMAN.—These figures that have been given about the cost of clearing the sites were under the old law?—Yes.

4915. And not under the law as altered in 1896?—Quite so.

4916. Which materially reduces the machinery and the probable cost very much?—Quite so. But the Corporation have expended these immense sums of money. The grand total of expenditure under the various headings has been £2,371,658.

4917–8. Dr. T. THOMSON.—You have told us that so much money has been spent, and that certain works have been done in connection with the housing of the working classes. Will you give now other matters, without going into particulars. Your next would be baths and wash-houses?—Open spaces. They cost the Corporation £5,752; artisans' dwellings, £224,664; new streets, £107,206. In miscellaneous expenditure the Abattoir has cost £15,650. The paving of Smithfield-market has cost the Corporation £16,280. Baths and wash-houses, £14,000. Food market, £94,817. Metropolitan cattle market, £36,839. Refuse for persons whose premises are being disinfected, £600. Private improvement expenses, £8,616. Disinfecting chamber, £2,110. Urinals and latrines, £945. Underground conveniences, £2,551. Refuse destructor, £1,197. Loans in connection with the Cleansing Department, stables, horses, &c., £33,000. Paving—stone, from 1880 to March, 1899, £289,415; wood paving between 1880 and March, 1899, £17,123; flagging, between 1880 and March, 1899, £28,426; concrete, for footways, from 1880 to March, 1899, £24,188; repairing asphalte, between 1880 and March, 1899, £623; sewers, to 1884, £160,383; sewers, from 1884 to 1899, £36,000. Main drainage—I should say that half the main drainage works are completed, or will be completed in a few months—our expenditure is estimated at £350,000; we have expended £221,000. Electric lighting, to the 5th of February, 1900, £92,000. Waterworks, £737,523. New expenditure on waterworks—that is, land for the new reservoir—£6,750; and on works, £65,000, making, together, £71,750.

4919. CHAIRMAN.—Private improvement expenses?—Yes.

4920. Are those not recouped to the Corporation?—In some cases they are; but in others they are difficult to recover.

4921. Right Hon. Alderman MEADE.—The total is £2,371,658?—Yes.

4922. Because we have it here £2,450,000?—I have only, in my return, £250,000 on the main drainage, which is evidently a mistake of the typewriter. The expenditure on main drainage stands thus: the Corporation have, out of the £350,000 authorised for the main drainage of the city, expended the following sums—£62,000, intercepting sewers; £65,000, purchase-money of the Pigeon-house Fort; £94,000 will be spent, or arrangements have been made for expenditure, on outfall works and high level outfall; total, £221,000, leaving £129,000 to be applied to the completion of the scheme.

4923. It is given as £350,000 to me?—Then it is wrong.

4924. In the new expenditure on the waterworks—that is, on the additional reservoir, you put £65,000 down?—That is not done. That ought to come out off it. The witness, continuing, said—The Corporation, in their endeavours to improve the condition of the city from a sanitary point of view, had, last year, practically exhausted their borrowing powers; and if it had not been for the clause they got put into the Markets Act of last year, the power to deal with sanitary improvements would be very narrow indeed.

4925. Don't tell us how we got them?—No, sir. On this question, when the waterworks are taken out of the borrowing powers of the Corporation, I have a strong opinion that money expended on artisans' dwellings, for the benefit of the poor of the city, ought not to be reckoned against the borrowing powers of the Corporation.

4926. Dr. T. THOMSON.—On the ground that they are, or, may be, remunerative?—That they are, or may be. I hold that the Corporation, when they

are endeavouring to improve the public health, should not be hampered by having those sums reckoned against their borrowing powers.

Right Hon. Alderman MEADE.—That principle is now universally admitted in all the large towns in England.

4927. CHAIRMAN.—You have not hitherto put the principle into a clause of any Act?—No; but we purpose doing so.

I think every one admits that it is sound—not, perhaps, to the entire extent of it, but to a certain extent.

Witness.—I make some suggestions with regard to the improvement of public health. These are my own suggestions—not suggestions made after consultation with the Corporation. I don't wish to tie the Corporation to them in any way.

4928. Dr. J. W. MOORE.—They are personal suggestions?—Yes. It would not be fair for me to make suggestions that would commit them to the expenditure of a large sum of money, without saying that the suggestions are personal suggestions. I suggest that a large sum of money (£500,000) ought to be borrowed by the Corporation, and expended in providing proper housing accommodation for the very poor.

4929. Dr. T. THOMSON.—How many persons, do you reckon, would you house with a sum of money like that?—It is not so much the housing as getting the sites, and getting the places cleared. When you take away the poor from one district you would want to improve it and make it ready for building later on.

4930. Is the sum of money intended for clearing only, or for construction as well?—It is intended to cover the cost of construction as well.

4931. How many people do you suppose you could provide houses for with a sum of money like that?—I ought to say that on the 21st of August last the Corporation, so seriously did they regard this question, they referred the matter to a committee of the whole house to draw up a scheme. I drew up a report for that committee; but, before they met, your Committee was appointed. In this report I say:—"Having consulted Sir Charles Cameron with a view to obtaining some approximate idea as to the accommodation required to meet the housing problem in Dublin, I find, according to his estimate, that the proper housing accommodation is required for at least 10,000 of the very poor people, made up of the following classes—Fish hawkers, sandwichmen, small pedlars, charwomen, porters and messengers in the small class of shop, women who clean up after painters, persons of uncertain employment, corner-boys, professional beggars, &c. These people form the lowest stratum of a population of 83,472, comprising hawkers, porters, labourers, &c. This population of 83,472 is included in a population of 147,000 classified by the Registrar-General under the head—General Classes. Of the 83,472 labourers, &c. (inclusive of the 10,000 of the very poor above referred to), one-fourth occupy very inferior and more or less insanitary dwellings, consisting of from one to three apartments."

4932. Right Hon. Alderman MEADE.—Does it mean 10,000 families or 10,000 individuals?—10,000 individuals. "Comparing the present position of affairs in Dublin, as regards this question of the housing of the poor, with the progress which has been made in the same direction by certain of the other municipalities dealt with in this report, and attaching due importance to the need for an extensive scheme (as evidenced by Sir Charles Cameron's estimate), it appears to me that the Corporation can do very little more than they have already done in the matter until they obtain, by legislation, powers of the following nature:—(1) Power to borrow a sum of £500,000 for the purpose of clearing unhealthy areas, and on such areas erecting dwellings for the working classes, and for the very poor. This would mean an annual charge of £10,000 for principal, and £8,837 10*s.* for interest, representing over 6*d.* in the pound on the present valuation; and this is a rate which, in my opinion, the citizens of Dublin would not, and ought not to grudge towards such a deserving object as the proper housing of the poor and the effective clearing of unhealthy slums. (2) Power to have a sum representing the value of the dwellings so erected, and the site thereof, excluded from reckoning against the borrowing powers of the Corporation. (3) Powers similar to those contained in section 9 of the Glasgow Improvement as regards the assessment of the value of property or interests proposed to be acquired by the Corporation for the purposes of the housing of the poor." That is part of my report.

4933. Right Hon. Alderman MEADE.—Which report do you refer to?—The report prepared for the committee of the whole house, and not considered because of the appointment of this Committee. I also say:—"(6) Power to enable the Corporation to acquire by more rapid processes than those now available, dilapidated and derelict houses, and unoccupied sites, on which houses formerly stood. Since 1880 there have been over 3,000 houses in Dublin closed by magistrates' orders; and of these many hundreds have not been rebuilt, so that the sites are now practically derelict." There is another suggestion I may read, and finish it:—"The promotion of a Bill for the foregoing objects might be availed of to seek powers to deal with certain other matters of difficulty in connection with the public health of the city, such as power to close dairy yards and duly compensate the owners, and to refuse to allow the establishment of dairy yards in situations where dairy yards had not formerly existed." I have the Glasgow Act here.

4934. What about slaughter-houses—are they not a greater nuisance than dairy yards?—I quite agree. I am prepared to have all the slaughterers go into the Abattoir.

4935. Dr. T. THOMSON.—I believe you do not consider the powers given under the Housing of the Working Classes Act sufficient?—I do not. The procedure is cumbersome and dilatory. And, directly the Corporation want to get hold of any site the price goes up—goes up without regard to value, although, if it was put up for sale by auction it would not bring a tithe of what they want from the Corporation. They cannot purchase it at all. It is impossible to get a site if certain people know that the Corporation want it. If the Corporation want sites for libraries or for fire brigade stations they have the utmost difficulty in getting them. They have to go to third parties, and sometimes to fourth parties, and the prices to be paid become prohibitive.

4936. Right Hon. Alderman MEADE.—We had an instance of that quite recently in regard to a site for the fire brigade. Immediately it became known that the Corporation wanted a particular site the Corporation could not deal with them?—The Corporation should not be obliged to pay more than the fair market value.

4937. CHAIRMAN.—Are you aware that under the Act of 1896 the procedure is changed altogether. The arbitrator has only to consider the market value; and for the purpose of the Public Health Act traverses are done away with. There is only one sitting of the arbitrator; the arbitrator's award is final; and he is told specially to consider the market value of the premises?—Even so. There are circumstances that crop up in all large areas when they are to be cleared. There are such things as the licence of a public-house come into it. I don't say that people are in the habit of committing frauds; but a fictitious value can be imported into these houses, and much more becomes payable than would be payable by an ordinary individual.

4938. I think White's-lane was in your time?—Yes.

4939. Were there traverses?—There were.

4940. And did they send up the value?—I don't think they did.

Right Hon. Alderman MEADE.—When we were originally negotiating for it it was £5,000 or £6,000; when we purchased it, it was £12,000 or £13,000.

CHAIRMAN.—The arbitrator is to give only the fair market value.

Right Hon. Alderman MEADE.—There are often so many interests and so many owners to be considered and dealt with that the costs come to an enormous amount. In dealing with Bride's-alley—it is the oldest part of the city, and there was so many interests to be dealt with that the costs alone were almost more than the value of the sites. We had to deal with old leases, and it took the whole of our law department three years to arrange that.

Witness.—To my knowledge they have been engaged four or five years on the Bride's-alley area. They have had that difficulty in Glasgow.

CHAIRMAN.—Glasgow has not got the same facilities, I think. They have to go under the Land Clauses Act.

Witness.—May I read the clause of the Glasgow Act, 60 & 61 Victoria, chapter 215—Special provisions as to compensation—"Whenever the compensation payable in respect of any lands, or of any interests in any lands proposed to be taken compulsorily in pursuance of this part of this Act for the purpose of sanitary improvements and the erection of buildings for workmen's dwellings with or without shops or other business premises, any such building requires to be assessed—(1) (*a*) The estimate of the value of such lands or interests shall be based upon the fair market value as estimated at the time of the valuation being made of such lands and of the several interests in such lands, due regard being had to the nature and then condition of the property and the probable duration of the buildings in their existing state and to the state of repair thereof, without any additional allowance in respect of compulsory purchase of any lands which, in the opinion of the arbitrator or jury are in an unsanitary condition; (*b*) In such estimate any addition to or improvement of the property made after the notice to treat shall not (unless such addition or improvement was necessary for the maintenance of the property in a proper state of repair) be included, nor in the case of any interest acquired after the said dates shall any separate estimate of the value thereof be made so as to increase the amount of compensation to be paid for the lands."

CHAIRMAN.—What you have read now is word for word what is in the 21st section of the Houses for the Working Classes Act, with the one exception that the word "jury" is altogether left out.

Witness.—I am not quite finished—"(2) On the occasion of assessing any such compensation shall be receivable by the arbiter or jury, to prove—(1st) That the rental of the house or premises was enhanced by reason of the same being used for illegal purposes or being so overcrowded as to be dangerous or injurious to the health of the inmates; or (secondly), that the house or premises are in such a condition as to be a nuisance within the meaning of the Acts relating to nuisances, or are in a state of defective sanitation, or are not in reasonably good repair; or (thirdly), that the house and premises are, in fact, not reasonably capable of being made fit for human habitation. And if the arbiter or jury is satisfied by such evidence then the compensation (*a*) shall in the first case, so far as it is based on rental be based on the rental which would have been obtainable if the house or premises were occupied for legal purposes, and only by the number of persons whom the house or premises were under all the circumstances of the case fitted to accommodate without such overcrowding as is dangerous or injurious to the health of the inmates; and (*b*) shall in the second case be the amount estimated as the value of the house or premises if the nuisance had been abated, or if they had been put into a sanitary condition, or into reasonably good repair, after deducting the estimated expenses of abating the nuisance, or putting into such condition or repair, as the case may be; and (*c*) shall in the third case be the value of the land and of the materials of the buildings thereon."

4941. CHAIRMAN.—That is word for word the 21st section of the Housing of the Working Classes Act, under which you would operate at the present time, except the word "jury," and that would not be material.

Witness.—What I state to you is that the Corporation of Dublin will never be able to acquire sites at as cheap a rate as they ought to be for the purpose of clearing out the unhealthy areas and the slums of the city.

CHAIRMAN.—I can quite understand that you won't, except the arbitrator is to be a man of steel.

Witness.—And will bend for nobody. It will be impossible for the Corporation to do the work they desire to do unless they get further facilities by legislation. You will have to get these broken-down houses by some short cut; and not have the buildings and the ground standing there, an eyesore in the midst of the people.

4942. Dr. T. THOMSON.—You wish to tell us about facilities for cleansing and draining?—I say that the Corporation ought to be empowered by legislation to take over all houses closed by the Public Health Committee, and all derelict, dirty neglected spaces at, certainly, no higher price than the ordinary one that those houses and spaces would produce by their sale to the public under the auctioneer's hammer. They ought to obtain facilities for cleansing, draining, and building upon such spaces, the money to be advanced for this purpose for the longest term, and at the lowest rate of interest possible.

4943. You mean a longer term than now?—I think so.

4944. How long?—I would not like to put a limit to it.

4945. You must put a limit to it?—I think if it was a freehold site, or a very long lease, say, of 500 years or 999 years, you ought to give the Corporation seventy-five years at least.

4946. You mean for the site.

4947. Right Hon. Alderman MEADE.—Would not the term we have—fifty-four years—be enough for the site and for the houses?—Fifty-four years?

4948. We can raise the money at 3 per cent., and raise it at £3 15*s.*, including the repayment of the principal?—My opinion is that the site will be always valuable; and that, therefore, there ought to be a very long time for it.

4949. Dr. T. THOMSON.—You have something to say about the cleansing of the city?—It ought to be daily.

4950. Do you refer only to the streets or to the tenement yards as well?—To the streets and the tenement yards. The Corporation ought to control and cleanse all the private lanes and alleys of the city.

4951. Do you mean that they should not only cleanse them, but that they should be dedicated?—Certainly.

4952. Right Hon. Alderman MEADE.—There are a great number of them that ought to be sewered that are not sewered. Do you say that the Corporation should proceed at once to drain and sewer them?—I say they should get facilities for putting these in proper order. I think they should be grappled with.

4953. At whose cost?—You won't get the tenant to do it, for he is not able to do it.

4954. We have the instance of the lane at the backs of the houses in Great Brunswick-street, in which there are a number of respectable houses on the one side, and the wall of Trinity College is on the other. That is in private hands. Is it your idea that the Corporation ought to take that, and spend some thousands of pounds in putting it in order at the cost of the rates?—By all means; but the owner ought to be made to contribute, or the property ought to contribute to the improvement. And it appears to me that when the people are crying out about the public health they ought not to grudge the few thousands of pounds necessary to improve unhealthy places in the city.

4955. Why should the authorities of Trinity College and the owners of private houses letting at from £70 to £80 a year, why should they be free from contributing to this?—I don't think they ought to be free. They ought to be made to contribute on the principle of betterment; but if you cannot get at them I ask, are you to continue to leave these places a danger to public health?

4956. But when you say take all the lanes in, you don't make any exception?—I know that lane very well. I don't think it any danger to the public health. I only intend my observations to apply to places that are dangerous. All dairy yards, in my opinion, ought to be outside the city.

4957. Dr. T. Thomson.—Why?—I don't think the city is the proper place to house or keep cows in a proper way. The tendency, I believe, is to keep dairy yards outside, and only allow milk shops in the city.

4958. Are you aware that the Medical Officer of Health for Liverpool is of a different opinion; and that the feeling is precisely the opposite of what you state—assuming that they are kept in proper order?—I don't think that such a thing is quite possible in the city. I have seen dairy yards in London where everything is in splendid order. But I think that inspection could be carried out better in Dublin if the dairy yards were outside the city.

4959. Dr. Hope's contention is that cows in the city are much more easily inspected?—I think that all dairies that supply milk to the city ought to be under rigid inspection by the city.

4960. Chairman.—Do you mean the dairy yards or the milk?—The inspection of the dairy yards. I know a case where the cows are kept up to the haunches in mud, and alongside of them are pigs and dogs.

4961. Dr. R. L. Swan.—A good deal of the milk supplied to Dublin comes from Limerick and Tipperary—would you extend the inspection to those places?—I would; but I would do it through the local authority.

4962. Dr. T. Thomson.—How would you do it through the local authority?—There is nothing to prevent it.

4963. How are they to know that the milk is being sent to Dublin?—When they know that it is put into the train at Clonmel, and landed at Kingsbridge, they ought to know where it comes from.

4964. Would you send one of the Dublin dairy inspectors to Clonmel?—I would not.

4965. How would you do it?—I would have the local authority to do it.

4966. But the local authority are presumed to do it already?—That is my difficulty. The presumption is there; but you can never tell whether it is done or not.

4967. The Dublin dairy yards are?—That is what I say—put them outside the city.

4968. That is contrary to the experience in Manchester and Liverpool?—I understand that.

4969. Dr. R. L. Swan.—I understand that Dublin and Belfast and (quite recently) Cork, are the only places in Ireland where there is inspection of dairies?—I understand so.

4970. Would you have a change in that?—I would, for all dairies that supply milk to the city. If milk came from Drogheda we ought to know the condition of the dairy it comes from. Suppose the doctors had known, in the recent case of a dairy at Castleknock, and which caused an outbreak of typhoid—would they have allowed that milk to come into the city?

4971. Right Hon. Alderman Meade.—How would they have known that there was danger in that particular case? The medical officer did not know it for a considerable time?—He ought to do his duty.

4972. Dr. R. L. Swan.—How will you safeguard the milk from a distance in the country, from the time it left until it reached Dublin. At some local station, seventy or eighty miles from Dublin, it might be tampered with?—We would deal with it at the dairy. We would take a sample. If you get rid of the dairy yards in town we would get the inspectors to inspect the milk shops.

4973. No matter how you inspect them, you could not inspect all the milk shops?—If you reduce the number of the dairy yards.

4974. The question is whether you will have a large number of hands outside the city, or in the city itself?—The tendency is to put the dairy yards outside the city.

4975. Dr. T. Thomson.—I don't think so. Take some of the large towns in England. They find that they get a better milk supply from the dairies inside the city than from those outside?—Well, if I could manage it, I would put them all out, away from the noise of dogs and horses.

4976. And slaughter-houses also?— Yes. As regards slaughter-houses, I think they ought to be abolished—all those within the city. And I am of opinion that for the people at the extreme south side that think it a trouble to them to go to the present abattoir, an additional one ought to be built at the southern side of the city.

4977. Right Hon. Alderman Meade.—About the slaughter-houses, your objection does not go to the extent of entirely forbidding slaughter-houses?—Entirely forbidding them.

4978. Private slaughter-houses?—Yes.

4979. No matter how well kept?—No matter how well kept.

4980. Is not it possible for a private butcher to construct a slaughter-house with due regard to the public health as well as the Corporation?—But look at the difficulty of inspection. It is very much better for the purpose of inspection.

4981. Surely, in their own interest, in the interest of the trade they live by, they have as great an interest in keeping their houses in good order—in keeping the place clean?—I have no doubt. But you get rid of the local slaughter-houses and you get rid of the burrowing pests.

4982. You would not object to the Corporation having abattoirs all over the city?—No. I only want to have them under the Corporation, so as to have proper supervision.

4983. We had a gentleman here, yesterday, representing the Victuallers' Association, and he objected to sending his cattle to the abattoir because, he said, it took twenty minutes to send the beasts to the abattoir and twenty minutes to bring them back, and, in conseqence of that a great deal of illness had come amongst the members of his staff. They get heated, and then get colds.

4984. Dr. T. Thomson.—Your main contention is that the difficulty of supervision is much greater if you have private slaughter-houses?—Undoubtedly. As regards the main drainage, I say it is most desirable that by the completion of the main drainage scheme the sewers should be completed, and it will be completed at the earliest possible date.

4985. You wish to tell us about an isolation hospital?—This would mean a considerable money payment on the part of the Corporation, but no matter at whose expense or by whom it is provided, I am strongly of opinion that, in the interest of the public health, an isolation hospital ought to be established for the city.

4986. Right Hon. Alderman MEADE.—For what class of diseases?—For contagious diseases—scarlatina, measles, typhus fever, small-pox.

4987. Where do you think it ought to be erected?—I think it ought to be erected outside the city.

4988. For typhus, measles, scarlatina, typhoid?—For all the diseases that require to be isolated I would have an isolation hospital.

4989. Dr. T. THOMSON.—Do you approve of fever cases being treated in the present fever hospital?—I don't disapprove of it at all if they can be treated without danger to the public health.

4990. The generally accepted view at the present day is that a fever hospital, properly constructed and properly managed, is no danger to the public health, even if situated in a densely crowded locality?—I would rather have the hospital outside the city.

4991. Dr. J. W. MOORE.—How far?—I would not have it too far.

4992. Where would you get the site?—That is just the question.

4993. Right Hon. Alderman MEADE.—A mile outside the boundary?—Yes.

4994. Suppose a patient at the extreme of the other end of the city had to be removed seven or eight miles from his residence to the hospital, don't you think it would be more injurious to that patient than if he was removed at once to the hospital at Cork-street?—I suppose it would.

4995. Dr. J. W. MOORE.—What about the physicians?—I don't know.

4996. What salaries are they to receive?—I don't know.

4997. For giving up their whole day at a distance from their district of private practice?—(No answer.)

4998. Right Hon. Alderman MEADE.—Don't you think that if we adapted the hospitals we have, and built, say, two convalescent homes—one for each side of the city—would not that, with the present hospitals, be quite sufficient?—Quite. An hospital such as Cork-street Hospital at one side of the river, and another at the other side, and a convalescent home outside would be a good plan.

4999. What do you think of a small-pox hospital down at the property of the Corporation at the Pigeon House?—I think that would do.

5000. Dr. J. W. MOORE.—Do you think there would be no danger in that to the passengers arriving at the North Wall by the s.s. *Cambria* or the *Hibernia*?—None whatever. I know where there is a small-pox hospital in the centre of a big city in England.

5001. Dr. T. THOMSON.—No such hospital would be sanctioned now?—It is some years ago.

5002. You hold some views regarding schools in relation to public health?—Yes, sir; that is another source of unsuspected danger. The danger lies in the unfitness for their purposes of many of the schools, both public and private, in the city. Many cases can be pointed out where a large attendance of children is accommodated in an inadequate and insanitary building. I have had occasion to go over many of the schools of Dublin as returning officer, to pick out the places to hold the elections in. It struck me in some of the schools that I visited that they were not adequate for the purpose for which they were required. I know a school where over 500 children, I was told by the teacher, attend daily. It was converted for the purpose of a school from that of a church; and it is, to my mind, absolutely unsanitary. The boards are laid down on the floor. There is only one fire-place in it. The windows are very high up, and it is inadequately lighted. The walls are seething with damp; damp was running through them. It was damp weather. These children were huddled up in these two rooms. It struck me then, and it strikes me now, that the accommodation in schools ought to be looked after.

5003. Right Hon. Alderman MEADE.—Were they in connection with the National Board?—Yes.

5004. I believe we have no powers?—We have no powers.

5005. Have we any powers to go into schools and see that they have adequate sanitary accommodation?

Sir *Charles Cameron*.—Yes.

5006. Right Hon. Alderman MEADE.—Do we do it?

Sir *Charles Cameron*.—Yes; I inspected one such yesterday.

Witness.—What occurred to my mind was that any one child suffering from scarlatina, that it would go round the whole school in a day.

5007. Dr. J. W. MOORE.—The condition of the walls was probably due to the fact that the room had not been heated?—It could not be heated with one fire. As to the boards, they were laid down on the floor—small rafters lying on the sub-soil. There were some holes in it. I put down my umbrella through one of them, and the soil stuck to it.

5008. Dr. T. THOMSON.—Did not you call the attention of the Health Department to the condition of that school?—I would not like to do that. I would not like so to use my position, going into a school to see if it was fit to hold an election in.

5009. Dr. J. W. MOORE.—Was an election held afterwards in that room?—I would rather you would not ask me that. It might enable it to be traced.

5010. Dr. T. THOMSON.—You don't mean to say that that is the condition of all the Dublin schools?—I do not; but if there is one, or three, or ten schools where 500 children attend it ought to be looked after.

5011. You have something to say about the children themselves?—There are many splendid schools in the city. Within the last few years well-lighted schools have been erected in some districts; but something should be done to improve the remaining schools, most of which, never intended for their present purpose, were converted from their original to their present use. Children ill fed and ill clothed, spending seven hours each day in such places are not alone prone to contract, but to disseminate disease.

5012. Dr. J. W. MOORE.—Do many children spend seven hours a day in schools?—Many do.

5013. I thought the hours were generally from half-past 9 to 2 or 3?—From 10 to 3, and now to 4, with half-an-hour off.

5014. They prepare their lessons?—Yes; and they come back in many schools in the afternoon.

5015. Are these schoolrooms overcrowded?—I think so.

5015A. Have they playgrounds?—Yes; but like dungeons, some of them. Some of the places have high walls built round them. I have seen some of them that were more like Kilmainham Prison, from what I have seen of the inside of it than any other place.

5016. Dr. T. THOMSON.—With reference to your table of totals of the populations, and areas in acres, and persons per acre, in certain districts, is not it quite possible that in most of the towns you cite there are congested districts as bad as in Dublin. Take, for instance, Sheffield, with its 19,651 acres?—Yes.

5017. The number of persons per acre is 17·2. But there are districts in Sheffield with a density of population far exceeding that of Dublin. Is that, then, altogether a fair comparison?—I take it that if you have a population of 245,000 on 3,733 acres,

you have 65·6 per acre in Dublin, and, wherever you put the people the district will be congested.

5018. Suppose you took in the townships and those districts, such as Kilmainham and Crumlin, you would increase the area in acres, but you would not increase the population in proportion?—Yes; you would increase the space.

5019. Is there anything to prevent the Corporation of Dublin and the philanthropic people of the city from building artisans' dwellings in Crumlin, and building houses there?—The difficulty is that the philanthropic people don't do anything of the kind. They leave it to the Corporation and the Artisans' Dwellings Company.

5020. Is there any difficulty in providing house accommodation for 10,000, or 20,000, or 30,000 people there?—I think the Corporation ought to have the controlling power where they build houses. I think it would be an extraordinary thing to ask the Corporation to enrich another district by putting their money in it. The Corporation have no power to do so, but even if they had they should not erect houses in a district outside the city, over which they have no control.

5021. Could the Corporation not have had this district last year?—They could have acquired that district.

5022. Right Hon. Alderman MEADE.—That is not the way the matter stood. The House of Lords said, "We will give you Crumlin and Kilmainham"; but when it came down to the House of Commons they said, "We won't give you that," because they saw the motive with which it was done.

Witness.—In my opinion, the citizens ought not to accept so miserable an instalment.

5023. Right Hon. Alderman MEADE.—I have heard it said that the Corporation were offered Crumlin and Kilmainham, and they would not take it. On the contrary, the Corporation said they were prepared to take the Bill as it stood.

Witness.—We instructed our leading counsel, Mr. Pember, to say that we would take this as an instalment, and we would come again for the remainder. But Parliament would not take that view.

5024. Dr. T. THOMSON.—Still, in giving that table showing the density of certain districts, no doubt you think it is well not to push the analogy too far. These figures may be extremely misleading?—They may.

5025. I can give you an instance. You have given the area of West Ham in 1891, and it was the same in 1898—as 4,705 acres?—Yes.

5026. That is a very rapidly growing district. In 1891 the population was 204,000—being 43·5 per acre. In 1898 the population was 286,000, or 60·9 persons to the acre. The death rate of West Ham, in 1898, was 15·4—about half that of Dublin?—I merely put this table to show the different acreages and the different populations. The people in West Ham are a class of people better fed and better housed than the poorer classes in Dublin, and, consequently the death rate would be lower.

5027. It is not the mere density?—I quite agree. But, still, density has a great deal to do with health.

Sir CHARLES A. CAMERON recalled, and examined by Dr. R. L. SWAN.

5028. Might I ask you, Sir Charles, to inform the Committee as to the registration of dairies—are they registered, according to the bye-law, between the 1st of January and thirty days thereafter?—I am sorry to say that they don't come in and register, except a small proportion of them, although they have all got copies of the bye-laws. I have given directions to have a number of them prosecuted for that.

5029. It is a mere fiction?—It is only the new bye-laws that provide for that.

5030. CHAIRMAN.—Are they confirmed?—They have been; and copies have been supplied to all the proprietors of dairy yards; and not only that, but we have put them up in the form of large posters. But I have given directions that a number of them are to be summoned. Very few have come in to register.

5031. Don't you think that the non-registration would give them the means of evading a penalty. Supposing they don't come in to register till towards the close of the year, could a penalty be imposed, or could they be prosecuted?—It would not prevent them from being prosecuted for a breach of the other bye-laws. The object of the bye-law is to know who are carrying on the trade from year to year, because the premises might become defective.

5032. And also for taking away the licence from them?—I am afraid you would not have the power. The fact is that until we have more power to deal with the dairy yards that are not in a proper state we will not be able to put them in a proper state. That is, when there are a certain number of breaches of the bye-laws, that the licence should not be renewed.

5033. Would you recommend that?—I would certainly recommend that. We have no power; but preparatory to getting addtional powers this registration is indispensable.

CHAIRMAN.—We have heard all the evidence that we propose to take, and I have now to announce that the inquiry is closed, and we will proceed to consider our report.

Subsequently James Little, Esq., M.D., attended, and a statement of his views of the principal causes of the high death rate in Dublin having been read by the Committee, they decided to publish the statement as portion of the appendix to the report.

GENERAL SUMMARY OF WITNESSES' EVIDENCE.

(Names of Witnesses arranged in Alphabetical Order.)

Evidence of Dr. JOHN BARTON, F.R.C.S.I., Medical Officer of Health. (Pages 105 to 106.)

Class of houses in his district (South City, No. 1). Class of inhabitants. Improvement in sanitary condition of dwellings during last eighteen years. Sanitary accommodation in houses occupied by poorest classes. Staircases. Habits of people. Ventilation. Notification of infectious diseases. Hospital accommodation. Paving of yards. House refuse. Overcrowding. Alleys not in charge of Corporation. Slaughter-houses. Refuse depôts.

Evidence of Mr. T. P. BRADSHAW, Owner of Tenement Property. (Pages 216 to 217)

Legislation required in order that tenants who misuse or damage the tenements may be either fined or imprisoned. Stringency of existing law on landlords and expenses to which they are liable.

Evidence of Mr. J. J. BUTTERLY. (Pages 203 to 205.)

Conveyance of milk and vegetables to city. Objection to existing arrangements. Vegetables carried about city in perambulators, and refuse thrown about streets. Vegetable Market regulations. Packing vegetables in crates. Insufficient care in regard to conveyance of milk to city. Tuberculosis. Adulteration of milk.

Evidence of Mr. JOHN BYRNE, Ex-Collector-General of Rates. (Pages 49 to 51).

Existing arrangements for ventilating sewers, and removing house refuse. Deposit on foreshore of Liffey. Hospital accommodation and change made by Local Government Act 1898, as to body liable to provide—opinion of Mr. Matheson, Q.C., on the point. Considers recent high death rate largely due to failure of Corporation to provide funds for maintenance, &c., of patients in fever hospitals.

Evidence of Sir CHARLES A. CAMERON, C.B.

(First Day. Pages 17 to 29.)

High death rate due to great adult mortality amongst the lower classes. Infantile, zymotic and general death rate of Dublin compared with London and other cities in England. Five-sevenths of Dublin population in the city, two-sevenths in the suburbs. Causes of rise in zymotic death rate in Dublin in 1899. Increase greater in suburbs than in city. Recent high death rate due to influenza and its complications. High general death rate due to poverty, insufficiency of food, overcrowding, not so much of individuals as of families, and to fact that Dublin contains an undue proportion of the very poor. Purlieus in vicinity of all the principal squares. Three thousand houses closed as unfit for human habitation since 1879. Details of efforts made by the Corporation to improve the health of the city, and the difficulties they had to contend with. Amendment required in the law in regard to liability of occupiers of tenement houses where each dwelling is provided with separate sanitary accommodation. Nuisances in separate rooms, difficulty of dealing with—"premises" being held to mean the whole house. Lady sanitary sub-officers of great advantage in dealing with insanitary rooms in tenement dwellings. Proposed new bye-laws dealing with tenement dwellings. Insanitary areas improved, but not the inhabitants. Dwellings required for poorest classes. Amendment in law required with regard to the distribution of the cost of making sanitary improvements in tenement houses. Large number of orders closing houses compared with towns in England. Objection at present to closing of tenement houses. Desirable to build dwellings for the poorer classes at rents from 1*s.* 6*d.* to 2*s.* 6*d.* Rebate on taxes on well kept houses of valuation £8 and under. Disposal of city refuse. Establishment of hospitals for fever cases only outside city; also special accommodation for small-pox patients. Closing of schools during epidemics of infectious diseases. Adoption of Infectious Disease Notification Act. Failure of townships in some cases to adopt. Additional powers required to enable Corporation to deal summarily with derelict sites. Corporation should be empowered to close dairy yards and refuse licences for new ones. Situation of dairy yards, inspection of dairies and cow sheds, registration of dairies. Cleansing of dairy yards and the removal of horse manure from lanes by Corporation. Legislation also required in the case of slaughter-houses. Public abattoirs as compared with private slaughter-houses. Storage of sewage matter in main sewers in portion of city. Dublin soil two distinct formations—(1) boulder clay; (2) limestone gravel, with portions of alluvial drift. Result of experiments to ascertain whether portions of the city was water-logged. Larger distribution of enteric fever on the limestone than on stiff clay soil. Summary of conclusions as to causes of high death rate. Appointment of Veterinary Surgeon for the systematic inspection of dairy cows. Dublin very susceptible to epidemics. Views on working of Infectious Disease (Notification) Act, the hopper barge, and lanes and alleys not in charge of the Corporation. Arrangements for removal of cases of infectious diseases to hospital.

Evidence of Sir C. CAMERON, C.B.—(*continued*).

(Second Day, pages 30 to 45).

Large proportion of purlieus to the better streets in Dublin as compared with any other city. Comparison between tenement houses in Dublin and cities in England. Reasons why there are so few convictions for breaches of the Public Health Acts in cities in England compared with Dublin. Uncleanly habits of people. Reference to work being done by the "Alexandra Guild Tenement Co." Insufficiency of sanitary staff. Favours appointment of additional lady sanitary sub-officers. Clearing off unhealthy areas, and difficulties in the way of doing so. Arrangements with regard to disinfection of premises. Death rate in suburbs about 50 per cent. less than in city, while birth rate in the city is much higher than in the suburbs. Claims that in making comparisons with English towns the Dublin Registration Area should be looked upon as the metropolitan area. Dublin compared with St. Pancras and other districts in England as to density. How the fact that

in England two-thirds of the population live in towns, and in Ireland only about one-third affects the death rate. Death rate in district where the Artisans Dwellings Company provided houses. Dublin compared with other places as regards zymotic death rate and diarrhœal death rate. Death rate from fever greatly in excess of that in large towns in England. Views as to causes of high death rate from enteric fever. Enteric fever formerly confounded with typhus fever. Use of shell fish often the cause of enteric fever. Views as to excavations in Dublin in connexion with the main drainage being one of the causes of prevalence of enteric fever. Opinion as to causes of high death rate amongst the 85,000 of the lowest classes of the population of Dublin. Steps taken to check spread of tuberculosis. Difficulties experienced in doing so, especially in regard to isolation of patients. Cases reported under Notification Act. Food supplies—especially storage of milk and its distribution. Dairy yards and cow sheds. Storage and removal of house refuse. Erection of dwellings on sites previously used for deposit of house refuse. Recommends erection of refuse destructors. Quality of houses occupied by working classes. Cellar dwellings. If large scheme for re-housing of the working classes living in unsanitary areas is adopted, the same number of people as at present could not be accommodated on some of these areas. Cottages more sought after by working classes than tall houses. Condition of and arrangements for cleansing the 260 alleys, laneways and courts not in charge of Corporation. Condition of the River Liffey and opinion as to the effect main drainage scheme, when completed, will have on the public health. Proceedings under Section 21 of the Public Health Acts Amendment Act, 1890, against occupiers of tenement houses. Dust-bins often not used for purpose for which they were intended. Opinion as regards recent high death rate. Erection of isolation hospital and convalescent home. Closing of primary schools during an epidemic. Refuges for occupants of infected houses, and process of disinfection.

Evidence of Sir C. Cameron, C.B.

(Thirteenth Day, pages 196–197.)

Map submitted showing condition of sub-soil water in Dublin. One-third gravel with a little alluvium—the remainder boulder clay. Particulars as to streets where borings were made and results in each case. Typhoid fever more prevalent on gravel than clay soils. Gravel not found in boulder clay in the higher parts of city.

Evidence of Sir C. Cameron, C.B.

(Seventeenth Day, pages 234–235 and 241.)

Reply to statements made by Dr. Maguire (page 185–188) as to proceedings taken against tenants of Alexandra Guild Tenements Company. Existing sanitary staff scarcely sufficient—time lost in court and appointment of special magistrate to hear sanitary prosecutions. Intra-mural interments dangerous to public health. The only burial grounds in city not closed. Abattoirs as compared with private slaughter-houses. Registration of Dairies—Bye-law.

Evidence of Henry Campbell, Esq., Town Clerk of Dublin. (Pages 236 to 241.)

Clearance of unhealthy areas. Statistics as to expenditure by Corporation on sanitary improvements. Margin of borrowing powers. Suggestions as to improvement in health of city, including provision of house accommodation for the very poor, its probable cost and effect on rates, and particulars of additional powers required by Corporation. Excessive expenditure necessary at present to acquire sites, and reference to powers of Glasgow Corporation in this matter. Corporation should be empowered to take over derelict houses, neglected spaces, and cleanse, drain, and build upon such sites. Daily cleansing of streets and tenement yards. All lanes and alleys should be under Corporation control. Dairy yards and inspection of milk supplied to Dublin. Situation of slaughter-houses and advantage of abattoirs. Isolation and small-pox hospitals, convalescent homes. Inadequate accommodation in schools. Objection to Corporation erecting houses on sites outside their boundary. Density of population.

Evidence of Mr. James Collins, Chief Inspector of Dairies. (Pages 217 to 221.)

Statistics as to number of dairy yards and cattle registered. Reduction in number since 1880 and causes. Objection to dairies situated in congested districts. Supervision of milk brought into city, and of milkshops. Prosecution of employés. Condition and registration of existing dairy yards in the city. Scotch system suggested as to responsibility of landlord and registration of dairy yards. Objection to dairy yards or cattle within forty feet of dwelling-house. Procedure in regard to registration. Removal of manure from dairy yards and prosecutions Carts used for conveying vegetables to city and taking manure away on return journey. Limewashing and flooring of cowsheds. Water used for drinking by cattle fed outside city. Importance of notification of infectious diseases. Possible further reduction in number of dairy yards in city. State aid for dairymen. View as to price of milk. Notice on dairy yards. Dairymen as weekly or monthly tenants. Cleansing of milk vessels. Steps taken to have dairy yards closed. Cubic space for cows. Paving of yards. Ventilation and lighting of cow-sheds.

Evidence of the Rev. Canon Conlan, P.P. (Page 201.)

Statistics as to overcrowding in tenement houses in certain districts. Demolition of insanitary dwellings. Water supply and sanitary accommodation on each landing in tenement dwellings. Position of owners. Separation of sexes. Cleanliness.

Evidence of John Cooke, Esq., M.A., Honorary Secretary of the Society for the Prevention of Cruelty to Children. (Pages 211 to 213.)

Statistics as to working of Society since its formation in 1889. Work performed by inspectors. Condition under which children live. Intemperance. Shelter for children. Bad food. Overcrowding. Instances of neglect and poverty. Insurance of children and course of procedure. Assistance received by Society from Sir C. Cameron and Ladies Committee. Effect of punishment on parents who neglect their children.

Evidence of Dr. George Cope, Medical Officer of Health. (Pages 55 to 56.)

Causes of high death rate in November, December, and January last. Number of deaths in his district. Difficulty in regard to hospital accommodation. Desirability of preventing children residing on infected premises attending school. Appointment of caretaker of tenement houses. Ash-pits and privies in his district. Water supply in tenement houses. Condition generally of houses, streets, and lanes. Removal of house refuse. All alleys and court-yards should be under control of the Corporation. Observation wards, and establishment of isolation hospital.

Evidence of Dr. F. C. Crawley, Honorary Secretary of the Dublin Sanitary Association. (Pages 174 to 178).

High death rate due to tuberculosis. Average annual number of cases in Ireland from 1871 to 1895, 13,304. Proportion in Dublin relatively higher. Disease spread chiefly by milk and meat. Notification of tuberculosis and enteric fever. Defects in the Notification Act as applied to Ireland. Improvements in condition of tenement dwellings. Suggests that Sanitary Authority should rather regulate and advise than construct and manage new buildings. Vartry water supply. Hopper barge. Lanes and alleys. Dairy yards. Recommendations of the Association as to slaughter-houses. Manure heaps. Objection to removal of large number of city population outside city. Inspection of milk and meat brought into city for consumption from outside.

Evidence of Dr. Henry G. Day, Medical Officer of Health. (Pages 56 to 57.)

Agrees with Dr. Cope (pages 55–56) as to condition of tenement houses causes of high death rate and remedies. Suggests that parents who do not report measles should be fined. Recommends abolition of trough closets.

Evidence of Dr. J. M. Day, Registrar, Cork-street Fever Hospital. (Pages 62 to 66.)

Accommodation in Cork-street Fever Hospital and grants in support of the institution. Arrangements with Boards of Guardians as to cost of patients. Financial position of hospital. Training of nurses. Instruction of students. Private subscriptions. Pressure on accommodation. Districts from which patients received. Demand on the institution. Arrangements in time of epidemic. Cost of food of patients. Observation wards and accommodation for convalescents. Death rate in hospital. Diphtheria cases.

Evidence of Dr. O'Connell Delahoyde, Medical Officer of Health. (Pages 226 to 229.)

High death rate to be attributed in part to dirty, dilapidated and overcrowded condition of the tenement houses. Difficulty of dealing with persons receiving rent as "ground landlord," "middle man," or "sub-tenant." Amendment necessary in law. Increased powers should be granted Corporation. Licensing, registration, and closing of tenement houses. Dirty habits of people. Sanitary improvements in his district. Social evils associated with tenement system. Lavatories. Baths. Intemperance and its results. Isolation hospitals. Arrangements for admission to existing hospitals. Infantile life insurance. Wakes. Fish, &c., kept by hawkers in their rooms over night. Clerical assistance required by medical officers of health. Proposal that medical officers should devote all their time to the poor.

Evidence of Mr. W. P. Delany, Representative of Victuallers' Association. (Pages 103 to 105).

Slaughter-houses—their number—inspection of—bye-laws for regulation of—objection to Abattoir—removal of offal and slaughter-house manure—management of Abattoir.

Evidence of Dr. Knox-Denham, F.R.C.S.I., Medical Officer of Health. (Pages 51 to 54).

Considers high death rate due in part to lack of notification, want of attention and supervision in cases of consumption and other tubercular diseases. Result of his investigations as to the death rate from consumption and other tubercular diseases in Dublin. Alarming high death rate in North Dublin Union and Richmond Lunatic Asylum from tuberculosis. District near the Liffey healthy. Recommends that tuberculosis should be made a notifiable disease. Refers to arrangements in New York in regard to this disease. Closing of schools during epidemics and Local Government Board's circular of 2nd February, 1900, on the subject. Special hospital should be provided for poor persons suffering from tuberculosis. Disinfection of premises occupied by persons suffering from tuberculosis. Want of houses for the very poor. Condition of poorer districts in Dublin.

Evidence of Dr. Thomas Donnelly, Medical Officer of Health. (Pages 60 to 61.)

Larger portion of district (North City, No. 1), reclaimed land, and bad for rheumatism, rheumatic fever and tuberculosis. Less typhoid fever than formerly, diarrhœa not unduly prevalent. Pressure on hospital accommodation during measles epidemic. Parents should be compelled to notify infectious diseases. Insanitary condition and overcrowding of tenement houses. Appointment of caretakers over such dwellings. Practice as regards reporting sanitary defects. Qualifications of sanitary sub-officers. Defective sewerage of city, influenza and want of a convalescent home the chief causes of high death rate. Notification of Influenza and Tuberculosis.

Evidence of Mr. P. J. Dunne. (Pages 197 to 198.)

Describes the manner in which the business of the Abattoir was conducted during his term as Superintendent, and denies allegations made by Mr. Delany (witness) in his evidence on this point.

Mr. Charles Eason, Honorary Secretary Philanthropic Reform Association. (Pages 159 to 164.)

Bye-Laws.—Houses let in Lodgings.—Refers to code adopted in 1880, which were referred to in evidence of late Registrar-General at Commission which sat in 1885, as "extremely defective." Though new code under consideration, nothing definite has yet been done. Defects in proposed code, and how they might be improved. Does not anticipate difficulty in having suggested changes in bye-laws enforced by Magistrate's Order. Corporation should seek additional powers if necessary. Bye-laws should be in accordance with healthy public opinion if they are to be vigorously enforced. Legislation required in regard to damage to property by roomkeepers, and as to law of ejectment. Women should be employed on sanitary staff, and more vigorous inspection carried out. Citizens should co-operate with Corporation. Suggests punishment of persons who disturb respectable tenants. Register of owners should be kept. Cost of structural alterations should be spread over persons having different interests in the tenements. Corporation should take over large areas outside city for building purposes. Derelict premises should be taken by Corporation, and houses rebuilt. Powers similar to those of Liverpool Corporation (Local Act, 1898) in regard to the training of children should be obtained. Census Commissioners should be asked for particular information as to overcrowding. Compensation paid for sites too high. The Press should assist. Advocates one ash-bin for each family in tenement houses. Amendment in Sanitary Acts necessary as regards Dublin. Favours daily removal of house refuse.

Evidence of Dr. NINIAN FALKINER, Medical Officer of Health. (Pages 111 to 116.)

Population and density of his district (South City, No. 4). Details as to recent outbreaks of measles and influenza. Views of parents as to spread of measles and scarlatina among children, and objection to obtain medical aid. Want of hospital accommodation for cases of measles. Steps taken to obtain assistance of district nurses during recent measles epidemic. Employment of district nurses from Queen Victoria's Jubilee Institute, embracing St. Patrick's Home and St. Lawrence's Home. Dispensary Doctors unable to cope with such epidemics as recent one of measles. State of tenement houses in his district, and objection to closing bad houses until accommodation is provided for people elsewhere. Opinion as to most desirable course. Improvement in conditions of life in some tenement houses. Bye-law for periodic white-washing and cleansing of tenement houses and paving of yards and courts. Cleansing of staircases. Closing of day but not boarding schools during epidemics of measles. Appointment of district nurses. Number of tenement houses in his district, number of residents, and number of rooms. Houses not overcrowded and not in an exceptionally bad sanitary condition. Lanes and alleys not under control of Corporation. Deaths in district in 1899—rate not high. Death rate for past ten years below the average. White-washing, paving of yards, and sanitary accommodation. Water supply and water-closets in tenement houses four stories high. Notification of tuberculosis and disinfection of patients' homes.

Evidence of J. FARRELL, Esq., Alderman. (Pages 229 to 232.)

Views as to housing of the poor and the present tenement system. Overcrowding, want of cleanliness and general insanitary condition of tenement houses. Caretakers of tenement houses. Neglect of Public Health Committee. Difficulty of dealing with owners of tenement property. Additional powers required by Corporation in regard to borrowing, acquisition of sites, cleaning of rooms by tenants, registration and inspection of tenement houses. Similar powers to those in Glasgow Improvement Act should be granted Corporation. Water supply and lighting. Erection of houses outside city. Duties of Executive Sanitary Officer. Public lavatories for females. Intemperance.

Evidence of Dr. FITZGIBBON, Ex-President, Royal College of Surgeons. (Pages 77 to 83.)

Duties as Chief Medical Officer of the General Post Office. Experience in regard to insanitary dwellings. Sick record of the officials, and contrast with Glasgow, Greenock, and Leeds. Number of cases of measles, small-pox, scarlatina, typhus, typhoid, diphtheria, and influenza in recent years, and death rate. Street scavenging. Enteric type of influenza a primary bacillary disease, and caused by defective method of scavenging. Unsuitable building sites. Stables should not be converted into dwellings without certificate. Notification should be made compulsory. Tenants unwilling to complain of sanitary defects, fearing eviction by landlord. Suggests adoption of system practised in Pembroke township. Sanitary inspectors, their numbers and qualifications. Aid of charitable ladies should be enlisted. Bad colour and smell of Vartry water and necessity for examination of filtering beds. Canal water better drinking water. Typhoid fever cases equally distributed among all grades in the Post Office. Spread of influenza largely influenced by class of houses patients reside in and their manner of living. Sickness in Dublin Post Office staff of recent years due to influenza. Disposal of house refuse.

Evidence of Dr. EDGAR FLINN, F.R.C.S., Medical Inspector of the Local Government Board. (Pages 123 to 137.)

Difference between death rate from all causes and from zymotic diseases alone, in north, as compared with south, side of city for past five years—deaths in public institutions excluded. Statistics given. Population of north side, 116,000; of south, 129,000. Indoor and outdoor relief returns for North and South Unions for period 1889–1899, giving general average cost, average daily number relieved, and number of deaths annually. Circumstances which may cause variation in numbers relieved. Population in Unions. No special increase in destitution in any one year of period named. Explanation as to "outdoor" relief. Recent high death rate to be attributed to measles and influenza, and minor causes detailed. Views as to slaughter-houses in city, and grounds for opinion that they should be abolished. Disposal of refuse and public cleansing. Scavenging of lanes and alleys. Removal of contents of dust-bins in principal thoroughfares. Dangers which may arise to public health from accumulation of vegetable and refuse matter. Necessity for removing refuse and filth daily from tenement dwellings. System of removal of refuse by the barge *Eblana* at Tara street, and deposit of manure at Marrowbone-lane. Refuse destructors. House-pails. Effect of mud accumulations on the public health. Classification of duties and supervision of sanitary sub-officers. Improvement in class of sanitary sub-officers recently appointed. Sufficiency of staff, and appointment of lady sanitary sub-officers. Number and cost of sanitary staff. Other officers employed under Corporation. Condition of dairy yards and cow sheds. Inspection of dairies. Drainage of dairy yards. Personal cleanliness of attendants. Registration of dairies. Milk as a medium for spreading disease. Manure heaps likely to cause outbreak of diphtheria. Inspection of dairies outside city by Corporation. Hospital accommodation for infectious diseases (table given) insufficient—convalescent home required. Danger attending removal of patients from outlying districts to city. Advantage of convalescent homes. Objection to treatment of infectious diseases in general hospitals. Views as to notification. Constitution of Public Health Committee. Tenement houses—overcrowding, sanitary accommodation, &c. Influence of state of subsoil on public health. Storage and distribution of outdoor relief. Abnormally high death rate in 1899, due in a measure to enteric fever and diarrhœa. Employment of sanitary sub-officers on collateral duties. Rebate of taxes. Stricter supervision of sanitary staff required. Hospital accommodation in Dublin proportionally greater than in large towns in England. Views as to appointment of one medical officer to discharge the duties of all medical officers of health in Dublin. Manner in which medical officers of health should draw attention to sanitary defects. Sterilization of milk. Surprise visits by sanitary sub-officers.

Evidence of Mrs. HARTLEY. (Pages 85 to 87.)

Causes of high death rate—want of nutritious food, overcrowding, absence of sanitary conveniences, dirty habits of people, want of proper clothing and bedding, free use of tea, structural defects in dwellings of poor. Irish people teachable, residents in the dwellings of the poor not to blame for their present condition. Poverty. Want of sympathy between the different classes and general degeneracy of people. Large number of patients sent to asylum from the slums. Higher standard necessary for Local Government inspectors. No improvement in condition of the people during past 100 years.

Evidence of Mr. SPENCER HARTY, C.E., Borough Surveyor and City Engineer. (Pages 69 to 73.)

Sanitary improvements carried out by the Corporation since 1862. Testing of drains and ventilation of drains and sewers. Markets. Condition of the tenement houses. Houses originally intended for one family should not be used as tenement house without licence from Sanitary Authority. Description of new Main Drainage Scheme and probable effect on health of city. Areas which will still drain direct into River Liffey. Underground streams—the Poddle and Swan. Expenditure on sewerage. Ventilation and flushing of sewers. Refuse destructors. Water supply—quality, filtration beds, sufficiency of supply, cost of works and catchment area. Cleaning of foreshore of Liffey. Cesspools met with when clearing sites. Baths and wash-houses.

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Evidence of Dr. E. W. HOPE, Medical Officer of Health for City and Port of Liverpool. (Pages 138 to 150.)

Population of Liverpool 686,000. Sanitary staff—how officers are selected, and remuneration. Dairy yards—licences, cubic space required, regulations on cowkeepers, inspection of animals, structural arrangements in cow sheds, registration, examination of milk, town milk as compared with country milk, bacteriologist employed by City Council, protection from contamination and sterilization of milk, proposal of Corporation of Liverpool to establish a milk sterilizing station. Slaughter-houses and abattoirs. Meat inspectors. Common lodging houses and houses let in lodgings—inspection, numbers, registration, cubic space. Labourers dwellings—houses provided for poorer classes at 1s. a week, particulars as to houses built by Corporation. Disposal of house refuse—particulars as to arrangements. Tenement houses, dairies and cowsheds in Dublin, contrasted with similar dwellings in Liverpool, and opinion as to improvements necessary in Dublin. Infantile mortality amongst English and Irish population in Liverpool compared. Sanitary accommodation in Dublin tenement houses. Notification of infectious diseases. Closing of schools during epidemics. Reduction of death rate in Liverpool due to sanitary improvements. Comparison between insanitary property in Dublin and Liverpool. Suggests how insanitary property in Dublin might be dealt with. Improvement in the sanitary condition of tenement houses in Dublin of much advantage to public health of city. Facts to be considered in comparing the vital statistics in Dublin with those of large towns in England. Extension of boundaries of Dublin essential. Insanitary areas and clearances in Liverpool, and arrangements as to disinfection in that city. High death rate in Dublin due to phthisis or tubercular disease—rate compared with Liverpool. Staff of nuisance inspectors. Immense preponderance of poorer classes living in centre of Dublin; case unique and must contribute to high death rate. Notification of infectious diseases and hospital accommodation in Liverpool. Relation between density and death rate in particular areas. Opinion as to sufficiency in number of Dublin sanitary staff. Views formed on visiting slums as to the general condition of tenement dwellings in Dublin, and course which would be taken to improve similar dwellings in Liverpool. One-room tenements provided at 1s. a week. Infantile mortality, death rate from phthisis and zymotic disease. Removal of house rubbish in Liverpool. Views as to dispensary medical officers undertaking the duties of medical officer of health. Causes of general high death rate in Dublin. Number of sanitary prosecutions in Liverpool. Recommends Committee to visit Liverpool.

Evidence of T. KELLY, Esq., T.C. (Pages 192 to 195.)

Tenement houses: their congestion, repair, closet accommodation, and powers of Corporation to insist on repairs. Overcrowding and ventilation of common lodging-houses. Consumption. Enteric fever. Poverty. Food stuffs. Intemperance. Extension of boundaries. Sites for workmen's dwellings. Sanitary staff. Remuneration of sanitary inspectors. Lady inspectors. Closing lanes and alleys. Baths and wash-houses. Instruction of children in hygiene. Open spaces. Music in city parks. Convalescent homes. Libraries. Earth closets. Objection of people to go to hospital for treatment.

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Evidence of Dr. J. E. KENNY, Coroner for City of Dublin. (Pages 178 to 184.)

Views generally as to health and cause of high death rate of city. Improvements effected and required in tenement houses. Enteric fever more prevalent since the introduction of water-closets in Dublin. Open spaces for recreation of children. Closing schools during epidemics. People residing in infected houses attending places of worship. Objection to erection of new houses on sites cleared. Such buildings should be erected on sites outside city approved by Sanitary Authority. Privies. Statistics showing increase in inquests chiefly among the very poor. Labour population increased since last Census. Vartry water supply. Relation between River Liffey and disease. Errors in registration as to cause of death. Disinfection of premises where cases of tuberculosis occur. Intemperance. Overcrowding in workhouses of Dublin Unions. Abnormally high infantile death rate in workhouses. Ventilation of houses temporarily unoccupied. Water supply and sanitary accommodation in tenement houses. Earth closets. Sanitary accommodation and cubic space in schools. Bogus workmen's clubs. Sanitary condition of Morgue. Deaths from heart disease.

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Evidence of Dr. F. W. KIDD, M.D., Master of Coombe Hospital. (Pages 225 to 226.)

Experience as to condition of poorer classes in the Coombe district, and improvement since 1885. Nuisance arising from knacker's yard. Adulteration of food, and inefficient system of inspection. Number of prosecutions and fines. Publication of notice of fines. Bad food supplies to workhouses. Removal of manure from dairy-yards. Appointment of food inspectors by body other than the Corporation.

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Evidence of Dr. LUMSDEN, Chief Medical Officer of Guinness's Brewery. (Pages 189 to 192.)

Statistics as to numbers and health of those employed in Brewery. Opinion as to high death rate in 1899. Tuberculosis. Isolation of "incurable consumptives." Notification of phthisis. Disinfection. Tenement houses. Erection of artisans' dwellings outside city. Tramway service. Site and style of dwellings. Scavenging of back streets. Removal of contents of dust-bins. Milk supply. Notification of pulmonary consumption. Flies a medium for conveying disease. Intemperance.

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Evidence of Mr. F. M'BRIDE, Representative of Amalgamated Society of Tailors. (Pages 223 to 225.)

Danger to health arising from permitting tailoring to be done in the homes of the workers. Number of "out-workers." Establishment of municipal workshops for such people. Sweating system. Inspection of premises where tailoring is carried on.

Evidence of Mr. CHARLES J. M'CARTHY, M.R.I.A., City Architect. (Pages 73 to 76.)

Artisans' dwellings. Areas cleared since 1893 and buildings erected. Cost of, and accommodation in, these dwellings. Baths and wash-houses in Tara-street. Defects in existing buildings. Bye-laws. Objection to dwellings of three and four stories. Difficulty of letting rooms at low rent in consequence of prices paid for sites. Opinion as to existing tenement houses from an architectural point of view. Cost of Benburb-street and other schemes, and rents charged.

Evidence of the Rev. J. M. M'SWINEY, C.C. (Pages 202 to 203.)

Treatment of infectious diseases in hospital within the city. Sanitary accommodation in houses of the poor. Ventilation. Concreting of yards. Intemperance. Suggestion that nurses who attend the poor in their own homes should be remunerated by Corporation. Establishment of day nurseries. Agrees with Rev. Canon Conlan's views (page 201) as to tenement houses. Night Refuge in Cork-street.

Evidence of Sir FRANCIS MACCABE. (Pages 10 to 14.)

Nature of evidence given before the Royal Commission in 1879. Causes then alleged for high death rate. Recommendations made by Royal Commission, and how far these recommendations have been acted on. Difficulty experienced by Corporation in trying to carry out the works suggested. Condition of Liffey injuriously affects death rate. Large proportion of population living in tenement dwellings. All witnesses heard in 1879 agreed that tenement dwellings were the main cause of high death rate. To what extent excessive density of population affects death rate. Large proportion of residents in tenement houses living on borderland between "habitual privation and absolute destitution." Removal of 10,000 families of the better class artisans and labourers to the suburbs. Steps taken by municipality of Bombay in similar circumstances. Advantages of placing Dublin and its suburbs under one sanitary authority. Objection to sites of fever hospitals. Possible relations between certain causes of death and certain conditions existing in Dublin. Accommodation provided by Artisans' Dwellings Company and by the Corporation totally inadequate for the number of artisans in the city. Overcrowding in workhouses. Smallpox hospital necessary on site outside city boundaries. Notification of infectious diseases.

Evidence of Dr. CATHERINE MAGUIRE. (Pages 185 to 188.)

Particulars as to proceedings of Alexandra Guild Tenements Company, formed eighteen months ago to improve general condition of tenement houses. Found drainage and closet accommodation very bad in houses purchased. Difficulty of getting tenants to keep sanitary accommodation in order. Points out how landlord is at mercy of tenant. Admits tenants are teachable. Considers children should be taught hygiene in school. Classifies tenement houses in three groups:—

(i.) Houses fairly good.

(ii.) Houses capable of being made good.

(iii.) Houses unsuitable and incapable of being made suitable.

Houses of latter class should be closed. Sanitary inspection not efficient in many cases. Bye-laws as to tenement houses not thoroughly enforced, especially as to people living in underground cellars. Cellar dwellings should be closed. Alterations necessary in bye-laws in order to prevent overcrowding. Agrees with suggestion as to joint responsibility of tenants. Provision in bye-law as to air space for children requires alteration. House refuse. Recommends separate ash-bins for each family. Water-closets, if provided in tenement houses, should be erected in yard. Considers that closet accommodation as a rule is sufficient, but requires to be kept in better order. Represents that Corporation officers do not interfere to the same extent with other tenement houses as they do in the case of houses the property of the Alexandra Guild Tenement Company.

Evidence of Mr. W. R. MAGUIRE, J.P. (Pages 66 to 69.)

Proceedings of the Public Health Committee while he acted as Chairman. Survey of public sewers in city. Recommendations made by Public Health Committee in 1892 and 1893, and result. Testing and present condition of house drains generally in the city. Responsibility as to construction or repairs of house drains. Cementing of drain pipes. Water and smoke tests. Sewer ventilators.

Evidence of Mr. DANIEL MAGRANE, Superintendent of the Cleansing Department of the Corporation. (Pages 116 to 120.)

Particulars as to scavenging staff. Three-eighths of house refuse still deposited in ash-pits. Objections to the system of ash-pits. Particulars as to sweeping and watering of streets. Removal of refuse in dust-bins. Difficulty experienced in some tenement dwellings. Cleansing of tenement yards. Work done by refuse destructor and barge *Eblana*. Saleable refuse. Roughly, 5,000 tenement yards cleansed out of total of 7,000 by the Corporation. Site for loading the barge *Eblana* at Tara-street. Insufficiency of staff of Cleansing Department. Dust-bins used for deposit of objectionable liquid matter. Amount of refuse collected in 1898 and 1899. Accumulation of refuse at city depots. Disposal of refuse by refuse destructor as compared with removal by barge to sea. Removal of refuse from tenement yards and from lanes and courts not in charge of the Corporation. Additional cost.

Evidence of Rev. GILBERT MAHAFFY, M.A. (Pages 91 to 98.)

Experience during twenty years in four of the largest parishes in the city. Condition of the poor greatly benefited by Artisans' Dwellings Company, the Corporation, and private enterprise during that time. Low state of vitality of the poor. Medical treatment efficient and easily accessible. Increase in cases of consumption and chest diseases. Sub-soil, water and sewage pollution. Houses unfit for habitation. Contrast between children resident in old tenement houses and those living in houses built by Artisans' Dwellings Company. Benburb-street houses unsuitable—misuse of conveniences by occupants, &c. Classes of tenants. Large blocks of buildings, four or five stories high, not adapted to Dublin people. Guinness buildings—cost and rents. Sites for cottages—space, density. Influx of broken-down population to city. Servant class. Law of settlement. Want of employment. Working in breweries unhealthy. Intemperance. Child mortality amongst general service class. Closing of schools during epidemics. General views as to drainage of sub-soil, clearance of unhealthy areas, basement dwellings, licensing of tenement houses, erection of small cottages on fresh soil, law of settlement, intemperance, and spread of infection by children.

Evidence of R. E. MATHESON, Esq., B.L., Registrar-General. (Pages 4 to 10.)

Area of city. Valuation, population and number of inhabited houses in 1891. Average number of persons in each house. Number and per-centage of families occupying each house; classification of accommodation. Density of population in city and in each of the Registrars' Districts. Density compared with London. Districts where great clearances effected. Social condition of inhabitants by two groups of classes. Present birth rate and average for preceding ten years. Excess of general death rate in 1899 over average for preceding ten years; causes. Similar statistics as to zymotic death rate; causes of excess in 1899. Deaths from phthisis, diseases of the respiratory organs, and from violence from 1881 to 1899. Mortality by social classes in Dublin Registration Area. Deaths by ages for Registration Area, compared with English cities. Principal causes of deaths in Dublin. Deaths from diseases of the brain and nervous system. Very bad tenement houses accountable in a measure for high death rate. Character of tenement houses. Death rate largely affected by poverty, want of proper food and clothing, and intemperance. Convictions for drunkenness in 1898. Neglect of sanitary precautions by occupiers of tenement dwellings. Objection to dairy yards in city. Scavenging, clearing of ash-bins. Houses in ruins. Private lanes and streets. Unhealthy geological formation of site of city. Underground streams. Remedies for existing sanitary defects. Death rate from phthisis. Classes of house accommodation. Relative proportion of upper and lower classes by sub-districts. Causes of deaths in groups of five years, from one to sixty years for sub-districts. Domestic servants gravitating towards city—effect on death rate.

Evidence of Dr. C. F. MOORE. (Pages 98 to 101.)

Dwellings and conditions of life in the artisan and labouring classes formed from experience as Certifying Surgeon of Factories, Medical Officer of Health, and Physician to Cork-street Fever Hospital. Cottage system for housing labourers. Accumulation of offensive rubbish. Dairy yards and slaughter-houses. Bad meat, vegetables and milk used by working classes. Support accorded Dublin hospitals, street traffic, accidents, state of streets. Exposure of badly clad children. Use of salt to clear snow off streets. Sub-soil water. Sale of drink to children.

Evidence of the Rev. WILLIAM MURPHY, Adm. (Pages 201 to 202.)

Condition of dwellings of the poor in St. Andrew's parish. Instruction of children in hygiene. Sanitary accommodation. Artisans' dwellings. Closing of schools during epidemics. Intemperance.

Evidence of Dr. F. T. P. NEWELL, Medical Officer of Health. (Pages 14 to 15, and page 45.)

Measles, diarrhœa, and want of hospital accommodation the chief causes of recent high death rate. Convalescent homes would not sufficiently relieve pressure on hospitals. District most insanitary; tenement houses overcrowded, dilapidated, and dirty. Paving of yards and removal of refuse of tenement houses. Areas cleared in his district.

Evidence of Mr. JOSEPH NOLAN, Geological Survey of Ireland. (Pages 101 to 103.)

Geographical formation on which city stands. Boulder clay indicated in a general way, and to what extent it is found in Dublin soil. Nature of alluvial deposit. Sub-soil water.

Evidence of Dr. JOSEPH O'CARROLL, Physician to House of Industry Hospitals. (Pages 83 to 85.)

Tuberculosis and zymotic diseases the chief causes of high death rate. Tuberculosis the greatest of all "zymotic" diseases. Death rate from this cause compared with England and Scotland. Means by which tuberculosis is spread. Recommends very effective sanitary supervision, and gradual abolition, of tenement system. Notification of tuberculosis and disinfection of patient's residence. Suggests establishment of two consumption hospitals. Convalescent homes for infectious cases very necessary. Large number of deaths annually from phthisis. Treatment of persons suffering from tubercular disease in general hospitals objectionable. Small-pox "emergency" building desirable. Views as to typhus. Opinion as to most fatal epidemics in Dublin. Infected milk the cause of many cases of typhoid fever and tuberculosis. Stringent inspection of milk supplies, dairy hands and dairy yards would materially diminish death rate. Sterilization of milk.

Evidence of Mr. JOHN G. O'SULLIVAN, C.E., Chief Assistant to the Medical Superintendent Officer of Health. (Pages 120 to 122.)

Nature of his duties, viz.:—examination of house drains—advise as to necessary steps to remedy defects—supervise works necessary in regard to cross drains, and attend courts in prosecutions. Inspection of house drains on complaint. Test applied in case of house drains. Course taken when reconstruction required. Ventilation of house drains. Number of drains recently reconstructed and repaired. Number of Magistrates' Orders obtained in recent years. Cross drains constructed by Corporation at expense of owners. Testing and ventilation of such drains. Particulars as to construction of cross drains. Issue of licences. Cost of cross drains since 1891. Rebate of taxation. Condition of house drains and cross drains in Dublin at present. Examination of drainage, ash-pits, cesspools frequent in tenement houses and cottages, but private houses not inspected except on complaint. Annual inspection of all house drains.

Evidence of the Right Honorable Sir T. D. PILE, Lord Mayor of Dublin. (Pages 205 to 210.)

Tenement houses. Water supply and general sanitary accommodation. Existing law as regards owners. Licensing Registration. Liability of tenants. Appointment of caretaker. Proceedings in law courts, and appointment of special day each week or special magistrate to hear sanitary cases. Additional powers required by Corporation to enable them to deal effectively with tenement houses. Acquisition of condemned or derelict premises, and course pursued in England. Cost and sites of cottage dwellings outside city. Borrowing powers should be extended in regard to reproductive works. Power to tax for municipal purposes all persons receiving rent out of premises. Additional sanitary inspectors. Recoupment in respect of salaries. Re-arrangement of sanitary staff. Power to close slaughter-houses, and difficulty in dealing with them in present state

of law. Licensing of dairy yards. Supervision of food supplies, especially milk brought into city. Sterilization of milk. Inspection of premises where ice-cream is manufactured. Appointment of bacteriologist. Compulsory notification of infectious diseases. Closing of schools during epidemics. Ventilation, overcrowding and insufficient sanitary accommodation in schools. Isolation hospital and control of existing hospitals. Notification of tuberculosis, and difficulties connected therewith. Convalescent homes. Infectious disease hospitals in city. Small-pox hospital. Lanes and alleys. Corporation control of medical officers of health, and appointment of two medical officers to discharge their duties. Remuneration of medical officers of health. Cost of burial of paupers. Law of settlement. Expenses of paupers and lunatics. Large number of Irish hospitals in Dublin. Infant life insurance.

Evidence of Mr. Richard Grant Pilkington, Solicitor and Land Agent. (Pages 213 to 216.)

Increased taxation in consequence of cost of clearance of slums. Artisans' dwellings erected of no use to poorer classes. Erection of buildings in Dublin too expensive under existing bye-laws. Change in incidence of taxation. Rebate on certain property. Desirability of encouraging the building of cheap dwellings. Purchase of and profit on tenement property. Overcrowding. Removal of poor from slums. Possible sites within city for houses. Dwellings per acre. Expense on owners in Dublin higher than elsewhere. Restrictions of Corporation excessive. Building bye-laws. Erection of lighter class of houses. Difficulties experienced by owners of tenement property and reason why value of this class of property declined. High death rate due in part to poverty—the poverty being caused by sickness, indolence, drink, strikes, &c. Stonecutting.

Evidence of Mr. David Prentice, m.r.c.v.s., Veterinary Department, Privy Council Office. (Pages 164 to 167).

Veterinary Department now only interfere on the occurrence of outbreaks of contagious diseases in cattle. Improvement in dairy yards since 1892. Flooring and cleansing of sheds. Paving and drainage of yards. Removal of manure from yards. Air space and light required for cows. Tuberculosis—its extent in cows in Dublin—danger to public health if udders affected—risk of spreading the disease by want of proper air space for cows. Cleansing of persons of milkers and udders of cows. Standard of cleanliness in rural districts compared with Dublin. Circumstances under which dairy yards should be permitted in city. Pigs—number in city and condition of pigsties. Fouling of footpaths in Dublin by dogs.

Evidence of Dr. Quinlan, Examiner in Hygiene to Royal College of Physicians. (Pages 46 to 49.)

Experience of tenement houses. Favours system of cottages to be occupied by one family only. View as to causes of recent high death rate, and as to causes of general high death rate. Objects to *Eblana* barge, and favours erection of destructors. *Intra mural* interments. Corporation inspectors active and indefatigable. Improvement of the existing tenement houses. Alleys and lanes not in charge of Corporation.

Evidence of Dr. O'Connell Redmond, Ex-Medica Officer of Victuallers' Association. (Page 232.)

Condition of slaughter-houses. Health of those employed.

Evidence of Mr. George Ross, m.inst.c.e., Honorary Secretary to the National Registration of Plumbers' Society. (Pages 170 to 174.)

Views of the National Registration of Plumbers' Society as to (i.) manner in which sanitary and plumbing works are carried out; (ii.) notification by householders to Public Health Committee of sanitary defects; (iii.) appointment of registered plumbers and number of plumbers required to carry out suggestion; (iv.) employment of registered plumbers to execute plumbing or sanitary works in Government or Municipal buildings; (v.) approval of Sanitary Authority of person as a registered plumber; (vi.) sanitary accommodation in, and removal of refuse from, tenement houses. Entry into private houses to detect sanitary defects. Laying and jointing of drains should be done by qualified men. Number of registered plumbers in Dublin. Imperfect plumbing work the cause of much sickness in Dublin. Change in system of plumbing work during last ten or fifteen years.

Evidence of the Very Rev. Canon Ryan, p.p. (Pages 199 to 200.)

Medical staff and attendance. Remuneration of Medical Officer. Suggests re-arrangement. Nursing of poor. Training children nursing and cookery. Objects to curriculum of National Education Board for children. Suggests amendments. School hours. Open spaces. Intemperance. Eating-houses. Attendance of people residing in infected premises at places of worship.

Mr. Conway Scott, c.e. (Executive Sanitary Officer, Belfast). (Pages 153 to 158.)

Area of old city, 6,800 acres. Area of new city 16,500 acres.

Present population of Belfast city, 359,000. Average density, 21·8 persons to an acre.

Housing of Working Classes.—Proposed to put fifty to seventy houses on an acre—the density resulting would average from 250 to 350 persons to the acre. Rent of a four-roomed house with yard and closet would be from 3*s.* to 5*s.* a week. Size of rooms from 960 cubic feet down. Size of house from 3,600 to 4,000 cubic feet. New houses built each year since 1892:—

2,112 in	1892
2,533 in	1893
3,444 in	1894
3,011 in	1895
3,727 in	1896
3,903 in	1897
5,309 in	1898
3,219 in	1899

Tenement Houses of Dublin.—No similar houses in Belfast—no demand for such. Policy of Belfast Corporation would be to close such houses.

Cow sheds and Dairies.—In new city of Belfast 355 cow sheds, 2,950 cows. In old city 275 cow sheds. Cubic space required 400 cubic feet; but it is proposed to raise standard in Belfast to 800 cubic feet, which would "sweep away half of these." Favours a greater space for cows kept in all the year—190 cows are so kept in Belfast—considers however they should be removed altogether. Does not consider that milk from

cows in city is more healthy than milk obtained from outside the city. If strict supervision exercised over country milk its quality would be undoubtedly the better.

Sanitary difficulties in Belfast.—Sanitary improvements much retarded by defects in law as to exact interpretation to be placed on words "sewer" and "drain." Refers to recent decision of magistrates. Also recent decision in Scotland in case of buttermilk prosecution. Considers legislation necessary. Gradual abolition of privies and middens, and new water supply from Mourne Mountains

Recommendations as to improvement of Health of Dublin.—Death rate cannot be reduced without moving a large proportion of occupiers of tenement houses to the suburbs. Some unhealthy, and could not be put in proper sanitary condition because of their dilapidation. Arrangement made in Belfast to provide accommodation for people turned out of dilapidated houses without expense to ratepayers.

Slaughter-houses in Belfast.—Forty-six such houses when boundaries were extended. Only five at present. How reduced. No licences granted, and no compensation. Slaughter-house manure should be removed daily. Recommends abolition of all private slaughter-houses in cities.

Extension of Boundaries.—How it bears on the public health. System in Belfast, under which old houses in the city are gradually being cleared away, and the population moved towards the outskirts. Tenement houses in Dublin unsuitable for purpose, chiefly owing to fact that water supply and closet accommodation is not provided on each landing. Rents charged for single rooms exorbitant, cubic space generally sufficient. Corporation should be empowered to lend money to owners to improve these houses. Such powers were obtained in Belfast, under Local Act of 1899. Houses in the slums cleaner than he expected to find them, except as regards water closets, water supply, and yards. Considers Irishmen would not be willing to carry out the law as in case of Englishmen. Dwelling should not be turned into a tenement house unless structurally fit for the purpose.

Removal of House Refuse in Belfast.—Ash-pit system still generally in use. Ash-pits cleaned out quarterly. Some houses have refuse removed daily. Refuse destructor being erected, but refuse now deposited on slob land.

Death rate in Belfast.—(Figures prepared by Dr. Woodstock. Error made by late Registrar-General in compiling his returns.)

26·7 in the year 1890.
25·5 in the year 1891.
22·8 in the year 1898.
22·6 in the year 1899.

A steady reduction in the death rate of Belfast for past ten years. Strong objection of Belfast Corporation to allowing ground where refuse has been deposited, to be used for building purposes.

Tenement Houses.—Those situate in Dublin, in the poorer districts, might continue to be used as such, provided one person was made responsible for the building, and that proper sanitary accommodation was provided on each landing. Where, however, more than one family resided on any landing, separate water-closets should be provided for each family. Difficult in Dublin to have the tenement houses kept in proper sanitary condition. Considers the person who acts as agent and collects the rents should be held responsible for sanitary defects. Owner might be offered the option of having the house closed or reconstructed. If closed, accommodation should be provided for occupants on the outskirts of the city. Reason why there are no houses in Belfast similar to tenement houses in Dublin is that Belfast is comparatively new. Situation of both cities similar—the sites of both being on river banks.

Typhoid Fever in Belfast.—Steadily decreasing, and when new water supply is obtained a more marked decrease expected. Outbreak in 1898 due to pollution of water supply.

Deaths from diarrhœa in Belfast:—

247 in the year 1890.
276 in the year 1891.
286 in the year 1892.
599 in the year 1893.
197 in the year 1894.
325 in the year 1895.
206 in the year 1896.
355 in the year 1897.
356 in the year 1898.
285 in the year 1899.

Rate—"Much the same as Dublin."

Recommends that large proportion of population in congested areas of the city should be transferred to "suburbs." By "suburbs" means any vacant spaces, say, within three miles of centre of city. Tram service would get over the objection to removing men far from their place of work.

Evidence of Professor William Robert Smith, President of the Royal Institute of Public Health, and Medical Officer of Health for Woolwich. (Pages 150 to 152.)

Agrees with views of Dr. Hope, pages 138 to 150, as to tenement houses, slaughter-houses and dairy yards in Dublin. Vital statistics of London and Dublin compared. Sanitary administration. Work done by Public Health Department. Sufficiency of sanitary staff, including lady inspectors, in Dublin. Qualifications and remuneration of sanitary inspectors. Objection to views as to dairies and slaughter-houses in city. Disposal of refuse. Notification of infectious diseases. Closing of schools during epidemics. Difficulty of dealing with tenement houses in Dublin—course suggested. Housing of working classes. Population density, and death rate of Woolwich. Registration of tenement houses. Extension of Dublin boundaries. High death rate in Dublin from enteric fever.

Evidence of Dr. Albert O. Speedy, Medical Officer of Health. (Pages 57 to 59.)

Epidemic of measles and want of hospital accommodation the causes of recent high death rate. Accommodation in Hardwicke Fever Hospital not equal to the demand. Closing of day schools during epidemics of measles or scarlatina. Hospital accommodation and convalescent homes should be provided for infectious diseases. Dairy yards. Diseases likely to be contracted from use of contaminated milk. Insufficient sanitary accommodation in tenement dwellings. Additional baths and wash-houses required. Improvement in sanitary condition of district during past thirty years. Remuneration and duties of medical officers of health. Boundaries and population of his district (North City No. 3). Report as to sanitary defects not acted on. Establishment of refuges for persons in whose family cases of infectious disease occur.

Evidence of Mr. CHARLES SUTTER, C.E. (Pages 167 to 169.)

Sanitary defects discovered in some ten or twelve factories and work-shops examined during past nine or ten years as Engineer to Dublin Sanitary Association. Certain of the following defects discovered in each case :—

(i.) Leaking and defective bricks and rubble masonry ;
(ii.) Drains partially choked ;
(iii.) Pipe drains defective and leaking ;
(iv.) Drains not ventilated ;
(v.) Surface water inlets untrapped and acting as ventilators ;
(vi.) Rain pipes acting as drains and sewer ventilators ;
(vii.) Defective traps ;
(viii.) Soil-pipes not ventilated ;
(ix.) Water-closets adjoining warerooms not ventilated ;
(x.) Pan water-closets insanitary ;
(xi.) Tank overflows connected with soil drains ;
(xii.) Leakage of drains and sewer air into buildings.

Factories inspected, included non-textile, textile, and different classes of workshops. Sanitary administration of such places under the control of Factories Inspector of the Home Office. Factories Inspector, not being an expert, his inspection and report not sufficient, especially as food-stuffs are prepared in some of these factories. Suggests periodical searching examination by expert of all factories, workshops, restaurants, schools, banks, and other public buildings. General opinion as to sanitary condition of all factories and workshops in city. Improvement desirable in existing system of removal of house refuse.

Dr. LANGFORD SYMES, F.R.C.P.I., Physician to Children's Hospital. (Pages 108 to 111.)

Mortality of children in Ireland. Dublin compared with other cities in Ireland and England. Statistics. Diarrhœa an index to sanitary condition of town. Its chief causes. Sterilization of milk and steps necessary to secure pure supply. Use of brewers' grain for feeding cows. Death rate from diarrhœa and croup, atrophy and convulsions. Children's hospitals. Notification of infectious diseases and hospital accommodation. Intemperance. Poverty. Closing of schools during epidemics. Notification of tuberculosis.

Evidence of Mrs. TOLERTON, Secretary of the Philanthropic Reform Association. (Pages 88 to 90.)

Experience of tenement houses. System not good. Houses divided into three groups. Houses without yards should not be used for dwellings. Steady deterioration in houses owing to neglect of landlords and misuse by tenants. Want of uniformity in proceedings against landlords. Appointment of receiver of rents of tenement houses. Sanitary inspection faulty and inefficient Lady inspectors—appointment and duties. Classification of inspectors. Cleansing of yards and dust-bins. Unwillingness of poor to seek medical aid. Bye-law restricting number of persons to occupy a room. Defect in existing bye-laws as to overcrowding. Crowding of people in the unhealthy atmosphere of Metropolitan Police Courts, Wakes. Insurance of children. Suggests that terms "roomkeepers" and "landlords" should be substituted for "occupiers" and "owners."

Evidence of Dr. GEORGE B. WHITE. (Pages 107 to 108.)

Removal of house refuse. Spread of disease through defects in present arrangement. Proximity of manure heaps and water-closets to dairies. Sewer ventilators.

APPENDICES.

APPENDIX No. 1.

RETURN showing TOTAL DEATHS and CAUSES of DEATHS in the DUBLIN REGISTRATION AREA during the 11 YEARS 1889–99.

(PUT IN BY THE REGISTRAR-GENERAL).

CAUSES OF DEATH.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	Averages, 1889-98.	1st Quarter 1899.	2nd Quarter, 1899.	3rd Quarter. 1899.	4th Quarter. 1899.	Total, 1899.
ALL CAUSES,	9,053	9,454	9,195	10,214	9,409	8,649	9,742	8,856	10,117	9,334	9,402·3	2,579	2,306	2,659	3,186	10,730
[I.] ZYMOTIC DISEASES,	1,057	1,019	865	1,500	1,533	1,086	1,132	1,142	1,893	1,245	1,247·2	256	246	773	715	1,990
[II.] PARASITIC,	10	14	6	8	9	10	7	10	11	10	9·5	.	2	2	6	10
[III.] DIETETIC,	32	27	33	40	33	40	42	33	41	33	35·4	6	15	10	6	37
[IV.] CONSTITUTIONAL DISEASES,	2,084	2,177	2,089	2,283	2,206	2,124	2,206	2,065	2,259	2,385	2,187·8	633	604	617	653	2,507
[V.] DEVELOPMENTAL,	710	753	718	718	680	630	694	652	680	781	701·6	224	181	176	223	804
[VI.] LOCAL,	4,438	4,801	4,816	4,966	4,321	4,073	4,985	4,239	4,561	4,213	4,541·3	1,293	1,095	920	1,426	4,734
[VII.] VIOLENCE,	229	220	206	222	218	217	230	283	266	238	232·9	74	70	59	71	274
[VIII.] ILL-DEFINED CAUSES,	493	443	462	477	409	469	446	432	406	429	446·6	93	93	102	86	374
I. ZYMOTIC DISEASES—																
1 Small Pox, Vaccinated,	.	.	.	.	.	27	50	1	.	.	7·8	.	.	.	.	.
1 Small Pox, Unvaccinated,	.	.	.	.	.	39	65	3	.	.	10·7	.	.	.	.	.
1 Small Pox, No statement,	.	.	.	.	.	2	6	.	2	.	1·0	.	.	.	.	.
3 Measles,	112	106	5	472	103	48	3	10	474	9	134·2	.	8	189	459	656
5 Scarlet Fever,	33	8	4	21	25	55	44	148	134	89	56 1	15	10	12	14	51
6 Typhus,	18	25	8	9	16	11	2	11	14	2	11·6	1	1	2	1	5
7 Relapsing Fever,	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8 Influenza,	1	78	43	224	102	138	309	105	85	210	129·5	79	102	15	38	234
9 Whooping cough,	119	187	159	155	191	200	95	174	392	154	182·6	54	45	34	17	150
11 Diphtheria,	8	24	23	12	34	17	21	18	75	65	29·7	13	13	13	27	66
13 Simple Continued, and Ill-defined Fever,	12	9	3	7	13	10	12	12	8	7	9·3	.	2	2	.	4
14 Enteric Fever,	228	185	191	122	276	147	107	135	182	179	175·2	41	29	56	56	182
16 Simple Cholera and Chol. Diarr.,	12	8	5	18	31	5	16	34	22	30	18·1	1	1	40	2	44
17 Diarrhœa, Dysentery,	299	184	211	227	447	197	282	331	334	351	286·3	21	12	372	80	485
18 Remittent Fever,	1	.	.	1	.	.	1	1	1	.	·5	.	.	.	.	.
20 Hydrophobia,	.	1	1	.	.	1	.	.	.	.	·3	.	.	.	.	.
21 Glanders,	.	.	.	.	.	1	.	.	.	.	·1	.	.	.	.	.
23 Cowpox and effects of Vaccination,	.	.	.	1	.	1	.	.	.	.	·2	.	.	.	.	.
24, 25 Venereal Affections,	23	23	19	26	22	22	24	17	41	59	28 2	11	5	11	9	36
27 Erysipelas,	22	14	21	16	65	30	25	22	19	19	25·3	5	4	5	3	17
28 Pyæmia, Septicæmia,	21	20	23	21	35	28	22	32	25	20	24·7	7	5	11	5	28
29 Puerperal Fever,	26	27	21	12	52	24	11	13	13	9	20·8	3	2	7	1	13
2, 4, 10, 12, 15, 19, 22, 26 *Other Zymotic Diseases,	116	120	128	156	121	83	37	75	72	42	95·0	5	7	4	3	19

II. Parasitic Diseases—																
30	Thrush,	7	8	3	4	5	6	7	5	7	3	5·5	.	1	2	3	6
31–33	Worms and other Parasitical Diseases,	3	6	3	4	4	4	.	5	4	7	4·0	.	1	.	3	4
III. Dietetic Diseases—																
34	Starvation, Want of Breast Milk,	5	2	2	6	2	1	1	1	5	1	2·6	.	.	1	.	1
35	Scurvy,	1	.	.	.	.	.	1	.	.	.	·2	.	.	.	.	.
36	Alcoholism, Delirium Tremens,	26	25	31	34	31	39	40	32	36	32	32·6	6	15	9	6	36
IV. Constitutional Diseases—																
37	Rheumatic Fever, Rheumatism of Heart,	22	21	25	21	26	9	19	24	22	21	21·0	6	6	2	9	23
38	Rheumatism,	33	20	36	31	31	27	27	22	20	32	27·9	7	4	9	10	30
39	Gout,	3	17	17	9	12	10	5	10	9	8	10·0	4	1	1	1	7
40	Rickets,	1	4	4	2	2	5	2	4	5	3	3·2	2	2	2	.	6
41	Cancer,	268	243	233	255	276	265	274	263	307	316	270·0	91	86	89	93	359
42	Tabes Mesenterica,	252	228	192	246	227	170	239	224	237	236	225·1	55	64	84	82	285
43	Tubercular Meningitis,	144	142	142	169	121	160	205	178	221	285	176·7	68	60	63	66	257
44	Phthisis,	1,198	1,292	1,200	1,288	1,298	1,253	1,201	1,107	1,147	1,232	1,221·6	334	325	308	326	1,293
45	Scrofula, Tuberculosis,	133	162	202	218	173	179	170	186	223	211	185·7	55	49	49	53	206
46–49	†Other Constitutional Diseases,	30	48	38	44	40	46	64	47	68	41	46·6	11	7	10	13	41
V. Developmental Diseases—																
50	Premature Birth,	107	121	113	92	86	94	98	127	181	159	117·8	33	36	39	42	150
51	Atelectasis,	2	1	2	1	2	1	3	2	3	5	2·2	2	2	1	2	7
52–56	Congenital Malformations, &c.,	15	11	15	9	20	11	12	26	23	15	15·7	1	4	7	10	22
57	Old Age,	586	620	588	616	572	524	581	497	473	602	565·9	188	139	129	169	625

* Including Chicken Pox, Ep. Rose Rash, Mumps, C. S. Fever, Phagedæna, &c.

† Including Purpura, Anæmia, Diabetes, &c.

RETURN showing TOTAL DEATHS and CAUSES of DEATHS in the DUBLIN REGISTRATION AREA during the 11 YEARS 1889-99—*continued.*

(PUT IN BY THE REGISTRAR-GENERAL).

	CAUSES OF DEATH.	1889.	1890	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	Averages 1889-98.	1st Quarter 1899.	2nd Quarter 1899.	3rd Quarter 1899.	4th Quarter 1899.	Total 1899.
VI.	LOCAL DISEASES—																
59	Apoplexy,	156	146	164	149	142	106	167	162	154	155	150·1	48	36	39	45	168
66	Epilepsy,	46	44	49	54	36	42	43	36	34	30	41·4	11	12	10	8	41
67	Convulsions,	765	680	667	642	568	489	585	505	484	434	581·9	126	91	125	128	470
58, 60, 1, 2, 4, 5, 8–71	Other Diseases of Brain and Nervous System.	431	391	391	376	319	320	373	369	351	346	366·7	105	91	72	99	367
72–74	Diseases of Organs of Special Sense,	3	7	6	4	5	9	5	7	7	10	6·3	3	2	3	2	10
75–85	Diseases of Circulatory System,	607	726	759	793	705	786	819	750	742	751	743·8	202	208	155	211	776
87	Croup,	52	45	39	33	36	29	30	33	54	24	37·5	12	4	3	9	28
90	Bronchitis,	1,051	1,295	1,274	1,334	957	963	1,379	925	1,161	1,135	1,147·4	409	258	153	441	1,261
91	Pneumonia,	391	502	489	576	471	452	557	481	589	522	503·0	156	175	140	249	720
92	Pleurisy,	15	19	20	15	31	25	25	19	17	17	20·3	7	6	2	5	20
86, 8, 9, 93	Other Diseases of Respiratory System,	176	188	164	177	147	134	152	117	140	43	143·8	15	11	9	19	54
95	Teething,	70	54	44	74	49	53	59	62	64	54	58·3	16	12	13	17	58
96	Quinsy, Sore Throat,	6	6	4	5	10	4	13	12	22	15	9·7	3	.	7	1	11
101	Enteritis,	44	45	37	36	37	33	35	44	39	45	39·5	7	5	28	8	48
108	Peritonitis,	30	32	38	39	68	54	30	39	35	32	39·7	9	11	11	5	36
110–112	Diseases of Liver,	152	126	139	133	140	122	131	132	123	121	131·9	26	31	19	30	106
94, 97, 98, 99, 100, 102, 103, 104, 105, 106, 107, 109, 113	Other Diseases of Digestive System,	167	201	216	212	229	187	245	221	229	181	208·8	60	63	64	72	259
114–117	Diseases of Lymphatis, &c.,	6	3	6	8	10	5	11	7	9	9	7·4	3	3	2	6	14
118–125	Diseases of Urinary System,	174	192	184	176	227	175	216	218	209	196	196·7	60	55	47	52	214
126–131	Diseases of Generative System,	25	24	30	29	41	15	21	25	26	15	25·1	2	3	3	4	12
132–137	Accidents of Childbirth,	28	27	32	37	37	23	24	17	19	21	26·5	5	6	5	6	22
138–140	Diseases of Locomotive System,	18	25	27	25	29	23	32	32	27	26	26·4	5	6	5	4	20
141–147	Diseases of Integumentary System,	25	23	37	39	27	24	33	26	26	31	29·1	3	6	5	5	19

VII. Violent Deaths— (Accident.)																
149	By Railways,	229	220	6	5	5	3	3	4	4	3	232·9	1	2	1	4	8
	By Vehicles or Horses,			12	18	14	17	15	16	19	21		5	7	9	4	25
150	In Ships, Boats, Docks (exclusive of Drowning.			3	.	2	.	2	1	2	1		2	.	.	1	3
151	In Building Operations,			1	2	.	.	1	.	4	9		2	1	.	3	6
154	In Conflagrations,			.	.	.	.	2	.	.	1		.	.	.	.	.
	By Burns, Scalds, Explosions,			37	37	41	40	65	58	51	56		18	16	8	11	53
156	By Drowning,			38	43	30	37	28	58	45	38		10	7	14	13	44
157A	By Suffocation in Bed,			2	6	5	4	5	6	9	2		1	3	.	2	6
155	By Poisons or Poisonous Vapours,			6	5	5	10	5	9	9	12		4	.	4	3	11
148, 152, 153, 157B, 158, 159, 160	Other or not Stated Causes,			86	80	83	87	82	112	109	76		27	28	20	21	96
(Violence other than Accidental.)																	
161	Homicide,			5	14	13	6	7	8	4	11		.	.	1	3	4
162	Suicide,			9	12	18	13	15	11	10	8		4	6	2	6	18
163	Execution,			1	.	2	.	.	.	.	.		.	.	.	.	.
VIII. Deaths from Ill-defined and Unspecified Causes. 164–171,		493	443	462	477	409	469	446	432	406	429	446·6	93	93	102	86	374

APPENDIX No. 2.

TABLE showing DEATHS* from all Causes and from each of certain Causes in City of Dublin during each of the Nineteen Years, 1881–99, with the Population and Houses, according to the Census of 1881 and of 1891.

(PUT IN BY THE REGISTRAR-GENERAL.)

Years.	Area.	HOUSES.				Population.	Annual Rate of Mortality per 1,000 Living, represented by Deaths.		Total Deaths.	NUMBER OF DEATHS FROM—												
										Principal Zymotic Diseases.										Phthisis.	Diseases of the Respiratory System.	Violence (Accidental, Homicidal, and Suicidal).
		Total Number of Houses.	Inhabited.	Uninhabited.	Building.		From all Causes.	From the principal Zymotic Diseases.		Small Pox.	Measles.	Scarlet Fever.	Typhus.	Whooping Cough.	Diphtheria.	Simple and Ill-defined Fever.	Enteric Fever.	Diarrhœa, Dysentery.				
1881	3,808	27,587	24,211	3,060	316	249,602	29·2	2·8	7,296	9	148	88	176	49	20	29	87	94	875	1,836	158
1882	.	.	.	.	.	.	30·3	3·8	7,574	.	443	18	74	76	17	20	101	204	918	1,731	161
1883	.	.	.	.	.	.	31·5	3·5	7,898	.	23	151	130	276	8	21	93	180	1,036	1,708	187
1884	.	.	.	.	.	.	30·0	3·5	7,518	.	21	257	75	111	24	21	104	268	999	1,477	173
1885	.	.	.	.	.	.	30·7	3·5	7,741	.	250	131	46	163	14	25	107	139	988	1,691	168
1886	.	.	.	.	.	.	28·4	2·9	7,164	.	9	154	29	183	18	10	96	229	984	1,397	175
1887	.	.	.	.	.	.	33·2	5·1	8,373	1	423	189	17	143	25	16	95	380	1,006	1,763	177
1888	.	.	.	.	.	.	26·6	3·1	6,714	1	70	127	25	221	22	15	124	171	857	1,386	155
			Average, 1881–1888,			.	30·0	3·5	7,535	1	173	139	72	153	19	20	101	208	958	1,624	169
1889	.	.	.	.	.	.	27·9	2·8	7,036	.	109	27	15	102	5	7	178	257	943	1,369	168
1890	.	.	.	.	.	.	28·2	2·1	7,112	.	67	6	17	148	22	4	123	148	983	1,656	154
1891	3,733	29,368	25,764	3,448	156	245,001	28·5	1·9	6,983	.	2	4	3	134	12	3	127	172	931	1,557	149
1892	.	.	.	.	.	.	31·9	3·5	7,819	.	432	11	8	136	4	4	91	179	1,009	1,703	157
1893	.	.	.	.	.	.	29·1	3·4	7,139	.	81	18	11	144	12	8	218	347	968	1,330	157
1894	.	.	.	.	.	.	26·6	2·4	6,519	64	42	38	8	154	8	5	104	157	950	1,265	157
1895	.	.	.	.	.	.	30·1	2·2	7,366	114	3	24	2	88	12	8	80	218	944	1,712	165
1896	.	.	.	.	.	.	27·4	2·7	6,707	3	10	116	9	143	12	6	101	264	828	1,268	179
1897	.	.	.	.	.	.	31·6	5·3	7,740	2	388	102	12	332	51	4	128	272	901	1,593	186
1898	.	.	.	.	.	.	28·5	2·7	6,985	.	3	63	2	131	47	5	135	275	953	1,403	167
			Average, 1889–1898,			.	29·0	2·9	7,141	18	114	41	9	151	19	5	129	229	941	1,486	164
1899	.	.	.	.	.	.	33·6	5·4	8,231	.	568	37	5	124	50	4	132	392	1,006	1,708	191

* Exclusive of Deaths in Institutions of persons admitted from localities outside the city.

APPENDIX No. 3.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin North City No. 1 East and No. 1 West Registrar's Districts (Population, 1891, 61,983) registered during each of the Six Years, 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note at foot of Table.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000.	
								1894-98.	1899.
I. ZYMOTIC DISEASES:—									
Small-pox,	13	17	–	–	–	6·0	–	·96	–
Measles,	4	2	4	83	1	18 8	105	3·03	16·94
Scarlet Fever (Scarlatina),	6	10	28	22	9	15 0	8	2·42	1·29
Typhus,	1	–	1	3	1	1·2	2	·19	·32
Whooping-cough,	34	24	25	22	45	30·0	36	4·84	5·80
Diphtheria,	–	–	2	5	10	3·4	12	·54	1·93
Simple and Ill-defined Fever,	2	2	1	–	2	1·4	–	·22	–
Enteric Fever,	26	17	20	33	30	25·2	32	4·06	5·16
Diarrhœa, Dysentery,	38	54	52	87	80	62·2	95	10·03	15·32
Other Zymotic Diseases,	67	87	53	53	67	65·4	83	10·55	13·39
Total,	191	213	186	308	245	228·6	373	36·88	60·17
II. PARASITIC DISEASES,	2	1	3	3	4	2·6	1	·41	·16
III. DIETETIC DISEASES,	11	7	7	6	12	8·6	9	1·38	1·45
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	246	234	205	236	227	229·6	248	37·04	40·00
Other Constitutional Diseases.	132	189	166	174	210	174·2	214	28·10	34·52
Total,	378	423	371	410	437	403·8	462	65·14	74·53
V. DEVELOPMENTAL DISEASES,	123	138	125	136	143	133·0	143	21·45	23·07
VI. LOCAL DISEASES:—									
Diseases of: The Brain and Nervous System.	169	173	190	188	192	182·4	201	29·42	32·42
Organs of Special Sense,	3	1	2	2	4	2·4	3	·38	·48
Circulatory System,	137	128	121	116	119	124·2	106	20·03	17·10
Respiratory System,	284	360	288	345	364	328·2	426	52·94	68·72
Digestive System,	94	105	101	102	78	96·0	102	15·48	16·45
Lymphatic System, &c.,	1	1	–	–	1	·6	1	·09	·16
Urinary System,	17	42	33	33	39	32·8	42	5·29	6·76
Generative System,	2	–	3	4	2	2·2	1	·35	·16
Accidents of Childbirth,	4	3	4	4	5	4·0	8	·64	1·29
Diseases of Locomotive System.	1	6	9	5	4	5·0	3	·80	·48
Diseases of Integumentary System.	2	6	5	6	7	5·2	2	·83	·32
Total,	714	825	756	805	815	783·0	895	126·32	144·39
VII. VIOLENT DEATHS,	37	42	43	57	49	45·6	59	7·36	9·52
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	63	64	75	61	78	68·2	53	11·00	8·55
DEATHS FROM ALL CAUSES,	1,519	1,713	1,566	1,786	1,783	1,673·4	1,995	269·97	321·86

NOTE.—The death-rates per 1,000 persons given in this Table and in the Tables Nos. 4, 5, 6, 7, 8, 9, 10, 11, 12 of the Appendix have been calculated from figures supplied from the Registrar-General's Department.

APPENDIX No. 4.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin North City No. 1 East Registrar's District (Population of the District as constituted up to the 1st April, 1898, 18,260; for District as now constituted, 27,147) registered during each of the Six Years 1894–99.

The boundaries of No. 1 North City East and No. 1 North City West Districts were altered as from 1st April, 1898, portion of the latter District being transferred to the former. The mortality statistics here given for the years 1894-97 are for the District as constituted prior to such alteration. Those for 1898 and 1899 are for the Districts as altered.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1894-97.	1898.	Annual Rate per 10,000.		1899.
							1894-97.	1899.	
I. ZYMOTIC DISEASES:—									
Small-pox,	–	4	–	–	4	–	·54	–	–
Measles,	–	1	3	38	42	–	5·75	20·99	57
Scarlet Fever (Scarlatina),	2	3	10	8	23	6	3·14	1·10	3
Typhus,	–	–	–	1	1	–	·13	–	–
Whooping-cough,	9	4	7	5	25	18	3·42	4·42	12
Diphtheria,	–	–	–	2	2	5	·27	2·21	6
Simple and Ill-defined Fever,	–	2	–	–	2	1	·27	–	–
Enteric Fever,	2	3	8	8	21	18	2·87	6·26	17
Diarrhœa, Dysentery,	8	9	14	36	67	30	9·17	14·36	39
Other Zymotic Diseases,	21	26	23	34	104	37	14·23	18·78	51
Total,	42	52	65	132	291	115	39·84	68·14	185
II. PARASITIC DISEASES,	–	–	–	–	–	1	–	–	–
III. DIETETEC DISEASES,	6	–	–	–	6	5	3·28	1·84	5
IV. CONSITITUTIONAL DISEASES:—									
Phthsis or Pulmonary Consumption.	64	65	54	70	253	100	34·63	39·04	106
Other Constitutional Diseases.	39	58	50	63	210	91	28·75	30·20	82
Total,	103	123	104	133	463	191	63·38	69·25	188
V. DEVELOPMENTAL DISEASES,	24	35	25	25	109	49	14·92	16·20	44
VI. LOCAL DISEASES:—									
Diseases of: The Brain and Nervous System.	42	37	49	42	170	96	23·27	27·25	74
Organs of Special Sense,	–	–	–	1	1	2	·13	·36	1
Circulatory System,	33	32	37	37	139	53	19·03	12·15	33
Respiratory System,	70	100	61	76	307	153	42·03	57·83	157
Digestive System,	33	31	28	29	121	33	16·56	15·47	42
Lymphatic System, &c.,	–	–	–	–	–	–	–	–	–
Urinary System,	2	13	7	6	28	14	3·83	3·68	10
Generative System,	1	–	–	3	4	1	·54	–	–
Accidents of Childbirth,	1	1	–	–	2	2	·27	2·21	6
Diseases of Locomotive System.	–	1	2	3	6	2	·81	·36	1
Diseases of Integumentary System.	–	1	1	–	2	4	·27	–	–
Total,	182	216	185	197	780	360	106·79	119·34	324
VII. VIOLENT DEATHS,	18	12	19	18	67	29	9·17	11·05	30
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	6	21	19	9	55	36	7·53	5·89	16
DEATHS FROM ALL CAUSES,	381	459	417	514	1,771	786	242·46	291·74	792

APPENDIX No. 5.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin North City No. 1 West Registrar's District (Population of District as constituted up to the 1st April, 1898, 43,723; for District as now constituted, 34,836) registered during each of the Six Years 1894–99.

The boundaries of No. 1 North City East and No. 1 North City West Districts were altered as from 1st April, 1898, portion of the latter District being transferred to the former. The mortality statistics here given for the years 1894-97 are for the District as constituted prior to such alteration. Those for 1898 and 1899 are for the District as altered.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1894-97.	1898.	Annual Rate per 10,000. 1894-97.	Annual Rate per 10,000. 1899.	1899.
I. ZYMOTIC DISEASES:—									
Small-pox,	13	13	–	–	26	–	1·48	–	–
Measles,	4	1	1	45	51	1	2·91	13·77	48
Scarlet Fever (Scarlatina),	4	7	18	14	43	3	2·45	1·43	5
Typhus,	1	–	1	2	4	1	·22	·57	2
Whooping-cough,	25	20	18	17	80	27	4·57	6·88	24
Diphtheria,	–	–	2	3	5	5	·28	1·72	6
Simple and Ill-defined Fever,	2	–	1	–	3	1	·17	–	–
Enteric Fever,	24	14	12	25	75	12	4·28	4·30	15
Diarrhœa, Dysentry,	30	45	38	51	164	50	9·37	16·07	56
Other Zymotic Diseases,	46	61	30	19	156	30	8·91	9·18	32
Total,	149	161	121	176	607	130	34·70	53·96	188
II. PARASITIC DISEASES,	2	1	3	3	9	3	·51	·28	1
III. DIETETIC DISEASES,	5	7	7	6	25	7	1·42	1·14	4
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	182	169	151	166	668	127	38·19	40·76	142
Other Constitutional Diseases.	93	131	116	111	451	119	25·78	37·89	132
Total,	275	300	267	277	1,119	246	63·98	78·65	274
V. DEVELOPMENTAL DISEASES,	99	103	100	111	413	94	23·61	28·41	99
VI. LOCAL DISEASES:—									
Diseases of: The Brain and Nervous System.	127	136	141	146	550	96	31·44	36·45	127
Organs of Special Sense,	3	1	2	1	7	2	·40	·57	2
Circulatory System,	104	96	84	79	363	66	20·75	20·95	73
Respiratory System,	214	260	227	269	970	211	55·46	77·21	269
Digestive System,	61	74	73	73	281	45	16·06	17·22	60
Lymphatic System, &c.,	1	1	–	–	2	1	·11	·28	1
Urinary System,	15	29	26	27	97	25	5·54	9·18	32
Generative System,	1	–	3	1	5	1	·28	·28	1
Accidents of Childbirth,	3	2	4	4	13	3	·74	·57	2
Diseases of Locomotive System.	1	5	7	2	15	2	·85	·57	2
Diseases of Integumentary System.	2	5	4	6	17	3	·97	·57	2
Total,	532	609	571	608	2,320	455	132·65	163·91	571
VII. VIOLENT DEATHS,	19	30	24	39	112	20	6·40	8·32	29
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	57	43	56	52	208	42	11·89	10·62	37
DEATHS FROM ALL CAUSES,	1,138	1,254	1,149	1,272	4,813	997	275·19	345·33	1,203

APPENDIX No. 6.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin North City No. 2 Registrar's District (Population in 1891, 28,871) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000. 1894-98.	Annual Death-rate per 10,000. 1899.
I. ZYMOTIC DISEASES :—									
Small-pox,	4	11	–	–	–	3·0	–	1·03	–
Measles,	4	1	–	56	2	12·6	84	4·36	29·09
Scarlet Fever (Scarlatina),	3	–	14	9	4	6·0	2	2·07	·69
Typhus,	2	–	2	–	–	0·8	–	·27	–
Whooping-cough,	14	11	26	23	14	17·6	11	6·09	3·81
Diphtheria,	–	–	1	2	7	2·0	6	·69	2·07
Simple and Ill-defined Fever,	1	1	–	–	1	0·6	1	·20	·34
Enteric Fever,	10	11	4	20	20	13·0	17	4·50	5·88
Diarrhœa, Dysentery,	20	33	46	24	34	31·4	54	10·87	18·70
Other Zymotic Diseases,	17	26	11	18	15	17·4	19	6·02	6·58
Total,	75	94	104	152	97	104·4	194	36·16	67·19
II. PARASITIC DISEASES,	3	–	3	1	2	1·8	4	·62	1·38
III. DIETETIC DISEASES,	8	4	2	3	4	4·2	3	1·45	1·03
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	121	123	99	124	117	116·8	144	40·45	49·87
Other Constitutional Diseases.	67	73	106	128	121	99·0	142	34·29	49·18
Total,	188	196	205	252	238	215·8	286	74·74	99·06
V. DEVELOPMENTAL DISEASES,	70	68	64	68	62	66·4	89	22·99	30·82
VI. LOCAL DISEASES :—									
Diseases of: The Brain and Nervous System.	105	125	119	125	98	114·4	116	39·62	40·17
Organs of Special Sense,	–	1	–	–	–	0·2	2	·06	·69
Circulatory System,	69	67	55	56	71	63·6	63	22·02	21·82
Respiratory System,	152	219	164	210	203	189·6	224	65·67	77·58
Digestive System,	44	54	62	64	46	54·0	49	18·70	16·97
Lymphatic System, &c.,	–	–	–	1	2	0·6	1	·20	·34
Urinary System,	15	20	10	18	14	15·4	20	5·33	6·92
Generative System,	–	–	1	3	1	1·0	1	·34	·34
Accidents of Childbirth,	2	3	2	–	–	1·4	1	·48	·34
Diseases of Locomotive System.	3	5	3	2	1	2·8	–	·96	–
Diseases of Integumentary System.	3	2	2	2	6	3·0	2	1·03	·69
Total,	393	496	418	481	442	446·0	479	154·48	165·91
VII. VIOLENT DEATHS,	13	16	25	16	27	19·4	18	6·71	6·23
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	43	53	49	44	30	43·8	33	15·17	11·43
DEATHS FROM ALL CAUSES,	793	927	870	1,017	902	901·8	1,106	312·35	383·08

APPENDIX No. 7.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin North City No. 3 Registrar's District, (Population in 1891, 26,055) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000. 1894-98.	Annual Death-rate per 10,000. 1899.
I. ZYMOTIC DISEASES :—									
Small pox,	3	9	–	–	–	2·4	–	·92	–
Measles,	13	–	–	43	–	11·2	100	4·29	38·38
Scarlet Fever (Scarlatina),	5	–	17	10	7	7·8	3	2·99	1·11
Typhus,	2	–	1	–	–	0·6	–	·23	–
Whooping-cough,	13	12	9	25	11	14·0	9	5·37	3·45
Diphtheria,	1	5	–	4	5	3·0	9	1·11	3·45
Simple and Ill-defined Fever,	2	1	–	2	1	1·2	1	·46	·38
Enteric Fever,	11	9	17	14	20	14·2	23	5·45	8·82
Diarrhœa, Dysentery,	15	19	18	19	26	19·4	36	7·44	13·81
Other Zymotic Diseases,	11	18	19	25	41	22·8	33	8·75	12·66
Total,	76	73	81	142	111	96·6	214	37·07	82·13
II. PARASITIC DISEASES,	–	–	1	–	–	0·2	–	·07	–
III. DIETETIC DISEASES,	1	–	4	5	2	2·4	3	·92	1·11
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	90	112	96	107	117	104·4	116	40·06	44·52
Other Constitutional Diseases.	68	75	82	87	110	84·4	108	32·39	41·45
Total,	158	187	178	194	227	188·8	224	72·46	85·97
V. DEVELOPMENTAL DISEASES,	61	59	71	62	65	63·6	77	24·40	29·55
VI. LOCAL DISEASES :—									
Diseases of: The Brain and Nervous System.	115	126	96	81	45	92·6	82	35·54	31·47
Organs of Special Sense,	1	–	1	–	–	0·4	1	·15	·38
Circulatory System,	58	69	68	56	47	59·6	55	22·87	21·10
Respiratory System,	124	174	120	156	131	141·0	180	54·11	69·08
Digestive System,	40	42	37	34	26	35·8	35	13·74	13·43
Lymphatic System, &c.,	–	2	1	1	1	1·0	2	·38	·76
Urinary System,	16	13	21	15	8	14·6	13	5·60	4·98
Generative System,	1	1	1	–	–	0·6	1	·23	·38
Accidents of Childbirth,	–	2	1	1	1	1·0	–	·38	–
Diseases of Locomotive System.	2	5	1	4	–	2·4	2	·92	·76
Diseases of Integumentary System.	–	2	3	3	2	2·0	1	·76	·38
Total,	357	436	350	351	261	351·0	372	134·71	142·77
VII. VIOLENT DEATHS,	15	13	13	11	15	13·4	16	5·14	6·14
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	54	42	51	40	32	43·8	26	16·81	9·97
DEATHS FROM ALL CAUSES,	722	810	749	805	713	759·8	932	291·61	357·70

APPENDIX No. 8.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin South City No. 1 Registrar's District (Population in 1891, 33,194) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years, 1894–98.

(Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.)

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000.	
								1894-98.	1899.
I. ZYMOTIC DISEASES:—									
Small-pox,	19	26	–	–	–	9·0	–	2·71	–
Measles,	15	–	5	45	–	13·0	76	3·91	22·89
Scarlet Fever (Scarlatina),	2	3	22	24	14	13·0	9	3·91	2·71
Typhus,	–	–	3	2	1	1·2	1	·36	·30
Whooping-cough,	25	11	20	96	15	33·4	27	10·06	8·13
Diphtheria,	–	1	2	12	11	5·2	5	1·56	1·50
Simple and Ill-defined Fever	–	2	–	–	–	0·4	–	·12	–
Enteric Fever,	11	15	22	11	8	13·4	16	4·03	4·82
Diarrhœa, Dysentery,	22	40	46	46	51	41·0	68	12·35	20·48
Other Zymotic Diseases,	55	65	58	47	40	53·0	44	15·96	13·25
Total,	149	163	178	283	140	182·6	246	55·00	74·10
II. PARASITIC DISEASES,	2	3	2	6	2	3·0	3	·90	·90
III. DIETETIC DISEASES,	3	4	3	–	5	3·0	3	·90	·90
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	141	139	107	109	152	129·6	125	39·04	37·65
Other Constitutional Diseases.	113	100	101	117	115	109·2	125	32·89	37·65
Total	254	239	208	226	267	238·8	250	71·94	75·31
V. DEVELOPMENTAL DISEASES,	77	82	64	66	88	75·4	94	22·71	28·31
VI. LOCAL DISEASES:—									
Diseases of: The Brain and Nervous System.	107	142	129	114	133	125·0	124	37·65	37·35
Organs of Special Sense,	–	–	1	5	1	1·4	–	·42	–
Circulatory System,	79	92	79	64	82	79·2	91	23·85	27·41
Respiratory System,	213	298	230	269	197	241·4	254	72·72	76·51
Digestive System,	40	45	55	37	52	45·8	52	13·79	15·66
Lymphatic System, &c,	–	–	–	–	1	0·2	–	·06	–
Urinary System,	12	17	21	13	19	16·4	27	4·94	8·13
Generative System,	2	3	2	1	–	1·6	–	·48	–
Accidents of Childbirth,	3	3	1	1	2	2·0	3	·60	·90
Diseases of Locomotive System.	–	–	3	3	1	1·4	3	·42	·90
Diseases of Integumentary System.	4	2	3	3	4	3·2	2	·96	·60
Total,	460	602	524	510	492	517·6	556	155·93	167·50
VII. VIOLENT DEATHS,	23	27	28	24	19	24·2	30	7·29	9·03
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	85	75	77	75	91	80·6	79	24·28	23·79
DEATHS FROM ALL CAUSES,	1,053	1,195	1,084	1,190	1,104	1,125·2	1,261	338·97	379·88

APPENDIX No. 9.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin South City No. 2 Registrar's District (Population in 1891, 18,547) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &C.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894–98.	1899.	Annual Death-rate per 10,000.	
								1894–98.	1899.
I. ZYMOTIC DISEASES :—									
Small-pox,	10	18	–	2	–	6·0	–	3·23	–
Measles,	1	–	1	38	–	8 0	42	4·31	22·64
Scarlet Fever (Scarlatina),	5	1	8	5	6	5·0	3	2 69	1·61
Typhus,	–	1	–	4	–	1·0	–	·53	–
Whooping-cough,	7	11	8	33	12	14·2	4	7·65	2·15
Diphtheria,	3	–	–	11	2	3·2	4	1·72	2·15
Simple and ill-defined Fever,	–	–	–	–	–	–	2	–	1·07
Enteric Fever,	9	3	3	14	15	8·8	13	4·74	7·00
Diarrhœa, Dysentery,	20	13	17	20	14	16·8	42	9·05	22·64
Other Zymotic Diseases,	11	20	11	11	12	13·0	12	7·00	6·47
Total,	66	67	48	138	61	76·0	122	40·97	65·77
II. PARASITIC DISEASES,	1	–	–	–	–	0·2	–	·10	–
III. DIETETIC DISEASES,	3	1	1	3	2	2·0	3	1·07	1·61
IV. CONSTITUTIONAL DISEASES :—									
Phthisis or Pulmonary Consumption.	92	79	86	83	85	85·0	91	45·82	49·06
Other Constitutional Diseases.	62	48	58	73	53	56·8	54	31·70	29·11
Total,	154	127	144	156	138	143·8	145	77·53	78·17
V. DEVELOPMENTAL DISEASES,	31	33	24	31	38	31·4	39	16·92	21·02
VI. LOCAL DISEASES :									
Diseases of The Brain and Nervous System.	52	67	62	55	64	60·0	66	32·35	35·58
Diseases of Organs of Special Sense,	–	–	–	–	–	–	1	–	·53
Diseases of Circulatory System,	41	44	45	45	44	43·8	46	23·61	24·80
Diseases of Respiratory System,	123	196	117	154	132	144·4	177	77·85	95·43
Diseases of Digestive System,	19	36	22	31	16	24·8	21	13·37	11·32
Diseases of Lymphatic System, &c.,	–	–	–	1	1	0·4	2	·76	1·07
Diseases of Urinary System,	19	14	14	12	7	13·2	9	7·11	4·85
Diseases of Generative System,	1	–	1	1	–	0·6	1	·32	·53
Accidents of Childbirth,	2	2	2	–	2	1·6	–	·86	–
Diseases of Locomotive System	1	–	–	1	–	0·4	1	·21	·53
Diseases of Integumentary System.	3	1	2	2	3	2 2	2	1·18	1·07
Total,	261	360	265	302	269	291·4	326	157·62	175·71
VII. VIOLENT DEATHS,	8	6	11	16	10	10·2	12	5·49	6·47
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	36	30	34	24	33	31·4	18	16·92	9·70
DEATHS FROM ALL CAUSES,	560	624	527	670	551	586·4	665	316·16	358·54

APPENDIX No. 10.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin South City No. 3 Registrar's District (Population in 1891, 40,558) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000.	
								1894-98.	1899.
I. ZYMOTIC DISEASES :—									
Small pox, . . .	11	29	1	–	–	8·2	–	2·02	–
Measles, . . .	3	–	–	54	–	11·4	53	2·81	13·06
Scarlet Fever (Scarlatina), .	14	6	18	22	17	15·4	7	3·79	1·72
Typhus, . . .	2	–	1	2	–	1·0	1	·24	·24
Whooping Cough, . .	29	14	28	99	9	35·8	27	8·82	6·65
Diptheria, . . .	3	2	1	10	3	3·8	4	·93	·98
Simple and Ill-defined Fever,	–	1	3	–	1	1·0	–	·24	–
Enteric Fever, . .	21	10	19	15	16	16·2	14	3·99	3·45
Diarrhœa, Dysentery, .	19	27	50	37	34	33 4	61	8·23	15·04
Other Zymotic Diseases, .	36	38	37	27	39	35·4	36	8·72	8·87
Total, . .	138	127	158	266	119	161·6	203	39·84	50·05
II. PARASITIC DISEASES, .	2	1	–	–	–	0·6	1	·14	·24
III. DIETETIC DISEASES, .	6	10	3	6	–	5·0	2	1·23	·49
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	136	143	127	120	125	130·2	136	32·10	33·53
Other Constitutional Diseases.	122	136	116	142	139	131·0	153	32·29	37·72
Total, . .	258	279	243	262	264	261·2	289	64·40	71·25
V. DEVELOPMENTAL DISEASES,	56	66	71	64	101	71·6	94	17·65	23·17
VI. LOCAL DISEASES :—									
Diseases of The Brain and Nervous System.	96	172	97	124	111	120·0	96	29·58	23·66
Diseases of Organs of Special Sense, .	1	–	2	–	–	0·6	1	·14	·24
Diseases of Circulatory System, .	103	103	87	101	84	95·6	91	23·57	22·43
Diseases of Respiratory System, .	218	271	201	277	217	236·8	261	58·38	64·35
Diseases of Digestive System, . .	35	39	53	45	63	47·0	65	11·58	16·02
Diseases of Lymphatic System, &c., .	1	1	–	–	–	0·4	2	·09	·49
Diseases of Urinary System, . .	23	26	24	25	20	23·6	26	5·81	6·41
Diseases of Generative System, .	–	1	2	2	1	1·2	1	·29	·24
Accidents of Childbirth, .	4	1	2	5	5	3·4	2	·83	·49
Diseases of Locomotive System.	6	2	5	1	3	3·4	3	·83	·73
Diseases of Integumentary System.	1	5	1	2	1	2·0	2	·49	·49
Total, . .	488	621	474	582	505	534·0	550	131·66	135·60
VII. VIOLENT DEATHS, .	32	30	27	22	19	26·0	24	6·41	5·91
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	61	45	32	38	36	42·4	33	10·45	8·13
DEATHS FROM ALL CAUSES, .	1,041	1,179	1,008	1,240	1,044	1,102·4	1,196	271·80	294·88

APPENDIX No. 11.

TABLE showing by Causes of Death the Deaths of Inhabitants in the Dublin South City No. 4 Registrar's District (Population in 1891, 35,793) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

[Deaths in Public Institutions are assigned to the Districts from which the deceased were admitted.]

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Average Annual Number of Deaths in the 5 Years 1894-98.	1899.	Annual Death-rate per 10,000.	
								1894-8.	1899.
I. ZYMOTIC DISEASES :—									
Small-pox,	4	4	2	–	–	2·0	–	·55	–
Measles,	2	–	–	69	–	14·2	108	3·96	30·17
Scarlet Fever (Scarlatina),	3	4	9	10	6	6·4	5	1·78	1·39
Typhus,	1	1	1	1	–	0·8	1	·22	·27
Whooping cough,	32	5	27	34	25	24·6	10	6·87	2·79
Diphtheria,	1	4	6	7	9	5·4	10	1·50	2·79
Simple and Ill-defined Fever,	–	1	2	2	–	1·0	–	·27	–
Enteric Fever,	16	15	16	21	26	18·8	17	5·25	4·74
Diarrhœa, Dysentry,	23	32	35	39	36	33·0	36	9·21	10·05
Other Zymotic Diseases,	38	37	32	29	45	36·2	47	10·11	13·13
Total,	120	103	130	212	147	142·4	234	39·78	65·37
II. PARASITIC DISEASES,	–	1	1	–	1	0·6	–	·16	–
III. DIETETIC DISEASES,	2	7	4	3	3	3·8	7	1·06	1·95
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	124	114	108	122	130	119·6	146	33·41	40·79
Other Constitutional Diseases.	70	104	101	124	113	102·4	100	28·60	27·93
Total,	194	218	209	246	243	222·0	246	62·02	68·72
V. DEVELOPMENTAL DISEASES,	59	71	57	69	50	61·2	69	17·09	19·27
VI. LOCAL DISEASES :—									
Diseases of: The Brain and Nervous System.	76	96	119	72	70	86·6	91	24·19	25·42
Organs of Special Sense,	1	1	–	2	2	1·2	–	·35	–
Circulatory System,	78	62	79	70	71	72·0	88	20·11	24·58
Respiratory System,	151	194	148	182	159	166·8	186	46·60	51·96
Digestive System,	37	47	42	46	26	39·6	49	11·06	13·68
Lymphatic System, &c.,	–	1	1	1	1	0·8	1	·22	·27
Urinary System,	21	20	26	24	31	24·4	19	6·81	5·30
Generative System,	2	3	2	5	1	2·6	3	·72	·83
Accidents of Childbirth,	–	4	1	3	3	2·2	2	·61	·55
Diseases of Locomotive System.	1	3	2	3	5	2·8	2	·78	·55
Diseases of Integumentary System.	2	4	5	2	4	3·4	4	·94	1·11
Total,	369	435	425	410	373	402·4	445	112·42	124·32
VII. VIOLENT DEATHS,	29	31	32	40	28	32·0	32	89·4	8·94
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	58	52	45	52	43	50·0	43	13·96	12·01
DEATHS FROM ALL CAUSES,	831	918	903	1,032	888	914·4	1,076	255·46	300·61

APPENDIX No. 12.

TABLE showing by Causes of Death the Deaths of Inhabitants in the City of Dublin (excluding the cases of persons admitted to Public Institutions from outside the City) registered during each of the Six Years 1894–99, with the Average Annual Number for the Five Years 1894–98.

(Put in by the REGISTRAR-GENERAL—see note to Appendix No. 3.)

NAMES OF DISEASES, &c.	1894.	1895.	1896.	1897.	1898.	Annual Average Number in the 5 years 1894-98.	1899.	Annual Death-rate per 10,000.	
								1894-98.	1899.
I. ZYMOTIC DISEASES :—									
Small-pox,	64	114	3	2	–	36·6	–	1·49	–
Measles,	42	3	10	388	3	89·2	568	3·64	23·18
Scarlet Fever (Scarlatina),	38	24	116	102	63	68·6	37	2·79	1·51
Typhus,	8	2	9	12	2	6·6	5	·26	·20
Whooping-cough,	154	88	143	332	131	169·6	124	6·92	5·06
Diphtheria,	8	12	12	51	47	26·0	50	1·06	2·04
Simple and Ill-defined Fever,	5	8	6	4	5	5·6	4	·22	·16
Enteric Fever,	104	80	101	128	135	109·6	132	4·47	5·38
Diarrhœa, Dysentery,	157	218	264	272	275	237·2	392	9·68	15·99
Other Zymotic Diseases,	235	291	221	210	259	243·2	274	9·92	11·18
Total,	815	840	885	1,501	920	992·2	1,586	40·49	64·73
II. PARASITIC DISEASES,	10	6	10	10	9	9·0	9	·36	·36
III. DIETETIC DISEASES,	34	33	24	26	28	29·0	30	1·18	1·22
IV. CONSTITUTIONAL DISEASES:—									
Phthisis or Pulmonary Consumption.	950	944	828	901	953	915·2	1,006	37·35	41·06
Other Constitutional Diseases.	634	725	730	845	861	759·0	896	30·97	36·57
Total,	1,584	1,669	1,558	1,746	1,814	1,674·2	1,902	68·33	77·63
V. DEVELOPMENTAL DISEASES,	477	517	476	496	547	502·6	605	20·51	24·69
VI. LOCAL DISEASES :—									
Diseases of: The Brain and Nervous System.	720	901	812	759	713	781·0	776	31·87	31·67
Organs of Special Sense,	6	3	6	9	7	6·2	8	·25	·32
Circulatory System,	565	565	534	508	518	538·0	540	21·95	22·04
Respiratory System,	1,265	1,712	1,268	1,593	1,403	1,448·2	1,708	59·10	69·71
Digestive System,	309	368	372	359	307	343·0	373	13·99	15·22
Lymphatic System, &c.,	2	5	2	4	7	4·0	9	·16	·36
Urinary System,	123	152	149	140	138	140·4	156	5·73	6·36
Generative System,	8	8	12	16	5	9·8	8	·49	·32
Accidents of Childbirth,	15	18	13	14	18	15·6	16	·63	·65
Diseases of Locomotive System.	14	21	23	19	14	18·2	14	·74	·57
Diseases of Integumentary System.	15	22	21	20	27	21·0	15	·85	·61
Total,	3,042	3,775	3,212	3,441	3,157	3,325·4	3,623	135·72	147·87
VII. VIOLENT DEATHS,	157	165	179	186	167	170·8	191	6·97	7·79
VIII. DEATHS FROM ILL-DEFINED AND UNSPECIFIED CAUSES.	400	361	363	334	343	360·2	285	14·70	11·63
DEATHS FROM ALL CAUSES,	6,519	7,366	6,707	7,740	6,985	7,063·4	8,231	288·30	335·95

APPENDIX No. 13.

TABLE showing for the Year 1899 (52 weeks) the Number of DEATHS of Residents of the several REGISTRARS' DISTRICTS in the DUBLIN REGISTRATION AREA, the Rate per 1,000 of the Population of the respective Districts represented thereby and by the Deaths from the principal Zymotic Diseases;* with the Mortality from each of the principal causes, *the Deaths in Public Institutions being assigned to the Districts from which the deceased were admitted.*

(Put in by the REGISTRAR-GENERAL.)

REGISTRARS' DISTRICTS.	Population, 1891.	YEAR 1899 (52 WEEKS.) Annual Rate of Mortality per 1,000 Living represented by Deaths.		Total Deaths.	NUMBER OF DEATHS FROM PRINCIPAL ZYMOTIC DISEASES.									Phthisis.	Diseases of the Respiratory System.	Violence (Accidental, Homicidal, and Suicidal).
		From all Causes.	From the Principal Zymotic Diseases.		Small-Pox.	Measles.	Scarlet Fever.	Typhus.	Whooping-Cough.	Diphtheria.	Simple and Ill-defined Fever.	Enteric Fever.	Diarrhœa-Dysentery.			
North City, No. 1 E.,	27,147	29·2	4·9	795	–	57	3	–	12	6	–	17	39	106	157	30
„ „ 1 W.,	34,836	34·5	4·5	1,203	–	48	5	2	24	6	–	15	56	142	269	29
„ „ 2,	28,871	38·3	6·1	1,106	–	84	2	–	11	6	1	17	54	144	224	18
„ „ 3,	26,055	35·8	6·9	932	–	100	3	–	9	9	1	23	36	116	180	16
South City, No. 1,	33,194	38·0	6·1	1,261	–	76	9	1	27	5	–	16	68	125	254	30
„ „ 2,	18,547	35·9	5·9	665	–	42	3	–	4	4	2	13	42	91	177	12
„ „ 3,	40,558	29·5	4·1	1,196	–	53	7	1	27	4	–	14	61	136	261	24
„ „ 4,	35,793	30·1	5·2	1,076	–	108	5	1	10	10	–	17	36	146	186	32
Clontarf and Howth, No. 1,	4,138	19·8	3·4	82	–	3	–	–	2	–	–	1	8	7	13	6
Coolock and Drumcondra, No., 1,	10,730	18·0	1·7	193	–	6	1	–	–	3	–	2	6	15	37	6
Finglas and Glasnevin, part of,	4,240	19·3	3·8	82	–	7	2	–	–	1	–	1	5	9	12	4
Palmerston, part of, and Crumlin, part of,	7,273	21·0	3·6	153	–	1	3	–	5	2	–	5	10	27	19	5
Rathmines,	27,796	21·1	2·1	586	–	15	1	–	4	1	–	9	28	64	95	15
Donnybrook,	24,629	21·5	3·0	539	–	33	3	–	10	3	–	6	20	49	88	15
Blackrock, Kingstown, Nos. 1 and 2,	25,787*	20·9	1·9	529	–	21	2	–	4	4	–	3	15	64	85	16
Total City, North,	116,909	34·5	5·5	4,033	–	289	13	2	56	27	2	72	185	508	830	93
Total City, South,	128,092	32·8	5·2	4,198	–	279	24	3	68	23	2	60	207	498	878	98
Total City, N. and S.,	245,001	33·6	5·4	8,231	–	568	37	5	124	50	4	132	392	1,006	1,708	191
Total Suburbs,	104,593	20·7	2·4	2,164	–	86	12	–	25	14	–	27	92	235	349	67
Total Registration Area,	349,594	29·7	4·5	10,395	–	654	49	5	149	64	4	159	484	1,241	2,057	258
Deaths in Institutions of Persons admitted from without the Registration Area (not included in above).				335	–	2	2	–	1	2	–	23	1	52	26	16

* As a re-arrangement of the boundaries of Blackrock and Kingstown Districts came into effect on the 1st July, 1899, it is not practicable to give statistics for the whole year for each District separately.

TABLE showing the Deaths, by Registrars' Districts and Ages,

(In this Table all Deaths are entered for the District in which they occurred, but in the Tables showing Institutions are distributed according to the District

(Put in by the

		Months.			Years.					
		0	3	6	1	2	3	4	5	10
No. 1, N.E.,*	1894,	33	16	24	27	8	2	2	12	7
	1895,	35	21	30	25	7	4	5	15	9
	1896,	52	16	33	21	9	4	3	15	9
	1897,	53	21	42	56	24	7	10	18	9
	1898,	100	30	52	49	14	8	8	17	12
No. 1, N.W.,*	1894,	110	37	56	52	31	19	11	40	23
	1895,	115	45	58	81	32	23	15	34	22
	1896,	89	43	64	74	26	18	18	56	26
	1897,	109	42	78	109	55	22	22	49	25
	1898,	102	38	71	67	31	20	16	46	28
No. 2, N.,	1894,	99	19	43	45	19	9	8	14	13
	1895,	101	28	56	55	25	20	7	18	13
	1896,	126	41	50	79	21	25	12	24	10
	1897,	120	36	84	119	41	28	16	26	13
	1898,	110	42	56	59	20	15	10	26	14
No. 3, N.,†	1894,	82	37	46	53	19	15	13	28	16
	1895,	103	44	48	71	23	12	9	38	23
	1896,	85	48	44	46	26	18	17	40	22
	1897,	98	36	70	103	58	36	27	54	21
	1898,	83	47	75	67	24	21	10	40	16
No. 1, S.,‡	1894,	132	35	64	65	25	24	15	47	36
	1895,	145	45	68	90	21	12	11	47	22
	1896,	117	56	62	76	42	38	23	80	35
	1897,	120	57	128	150	104	62	47	82	36
	1898,	149	62	86	91	32	36	20	55	34
No. 2, S.,	1894,	48	19	31	35	13	12	4	17	10
	1895,	36	24	23	42	12	7	3	12	12
	1896,	35	22	24	31	12	9	2	14	8
	1897,	42	16	34	70	41	20	9	27	4
	1898,	32	16	21	39	10	2	4	10	5
No. 3, S.,	1894,	91	33	48	59	24	21	12	44	21
	1895,	115	43	48	79	35	8	13	38	20
	1896,	88	36	46	72	35	19	20	49	19
	1897,	106	47	86	134	57	50	29	58	23
	1898,	112	49	57	64	29	16	18	28	24
No. 4, S.,	1894,	86	17	42	35	17	14	12	19	13
	1895,	92	34	45	54	24	6	11	18	18
	1896,	103	30	58	65	17	14	7	31	15
	1897,	119	52	60	77	38	30	18	34	20
	1898,	98	29	48	39	21	18	14	15	21

* A portion of North City No. 1 West District was transferred to No. 1 E. District on 1st April, 1898. The deaths are for the Districts

† The North Dublin Union Workhouse and the Richmond District Lunatic Asylum are in this District.

No. 14.

in the City of Dublin, in each of the five Calendar Years 1894–8.

the Deaths from each District by Causes of Death, compiled from the Weekly Returns, the Deaths in from which the deceased persons were admitted.)

REGISTRAR-GENERAL.)

	YEARS.										TOTAL.
	15	20	25	35	45	55	65	75	85	95 and upwards.	
	7	15	22	26	28	33	24	13	1	–	300
	13	11	22	31	30	36	39	23	5	–	361
	9	11	16	41	24	36	17	7	1	–	324
	14	15	32	23	18	36	21	15	3	–	417
	14	19	26	25	45	53	34	20	6	–	532
	31	45	91	83	83	91	84	58	13	–	958
	40	50	102	102	107	110	92	60	18	–	1,106
	15	34	80	101	101	78	78	42	16	4	963
	37	42	77	87	101	96	79	37	14	2	1,083
	24	35	66	71	86	110	67	33	12	–	923
	11	19	58	56	70	60	52	28	6	–	629
	13	17	57	54	73	87	47	31	5	–	707
	12	15	49	51	72	56	39	20	2	3	707
	12	13	32	58	72	75	41	24	6	–	816
	10	10	57	47	76	57	39	19	6	–	673
	40	48	149	174	201	208	168	56	9	1	1,363
	46	58	142	148	193	231	166	80	5	3	1,443
	29	50	129	150	159	190	144	74	19	1	1,291
	27	42	133	160	162	190	148	78	15	–	1,458
	25	58	158	148	156	216	188	77	12	2	1,423
	35	50	126	159	162	211	221	104	24	–	1,535
	32	46	124	169	208	236	251	135	25	1	1,688
	30	46	110	157	155	205	177	91	28	6	1,534
	37	48	105	125	149	200	188	84	21	2	1,745
	44	42	132	151	169	228	223	119	25	5	1,703
	–	5	27	22	44	38	23	10	2	–	360
	11	10	25	21	46	62	32	12	4	–	394
	5	4	15	20	37	33	26	10	3	–	310
	9	13	22	34	28	55	21	7	2	–	454
	3	6	21	17	30	41	13	16	5	1	292
	30	41	93	87	97	98	65	44	9	–	917
	36	42	90	91	120	124	97	37	11	1	1,048
	23	30	64	93	64	89	79	41	7	–	874
	23	30	62	79	92	107	71	33	16	–	1,103
	27	34	73	86	83	103	81	60	12	–	956
	17	30	60	83	89	75	69	45	11	–	734
	27	40	66	60	79	93	72	45	12	3	799
	21	27	65	60	60	84	44	31	2	1	735
	21	33	83	62	60	82	63	26	8	–	886
	24	30	61	59	83	82	56	42	8	1	749

as constituted at the respective dates.
‡ The South Dublin Union Workhouse is in this District.

APPENDIX No. 15.

TABLE, furnished by the Registrar-General, showing the Mean Annual Number of Deaths and Mean Annual Death-rate per 1,000 living, for the Years 1894–98, in the City of Dublin, at All Ages and in certain Age Groups.

POPULATION, 1891 Census.		Mean Annual Number of Deaths, 1894-98.	Mean Annual Death-rate per 1,000 living, 1894-98.
At all ages, . . .	245,001	7,258·6	29·6
0–1, . . .	5,890	1,447·8	245·8
1, ...	5,223	525·0	100·5
2, ...	5,467	224·4	41·0
3, ...	5,442	148·8	27·3
4, ...	5,362	106·2	19·8
Under 5, . . .	27,384	2,452·2	89·5
5, ...	24,174	267·0	11·0
10, ...	22,118	145·4	6·6
15, ...	24,290	176·8	7·3
20, ...	25,753	242·8	9·4
25, ...	42,329	584·4	13·8
35, ...	31,572	654·2	20·7
45, ...	24,226	742·4	30·6
55, ...	13,995	859·0	61·4
65, ...	6,750	687·8	101·9
75, ...	2,094	357·4	170·7
85 and upwards, . .	316	89·2	282·3

APPENDIX No. 16.

STATEMENT showing Number of Deaths from Intemperance * (Chronic Alcoholism and Delirium Tremens), Convulsions, and Rickets registered in the Five Years 1894–98, with the Mean Annual Death-rates respectively per 1,000 of the Population in the City of Dublin.

[Put in by the REGISTRAR-GENERAL.]

YEAR.	DEATHS FROM			
	INTEMPERANCE.*		Convulsions.	Rickets.
	Delirium Tremens.	Chronic Alcoholism.		
1894, ...	7	21	401	4
1895, ...	11	24	528	1
1896, ...	5	16	442	5
1897, ...	8	16	392	4
1898, ...	11	19	364	3
Annual Average, 94·8, . .	8·4	19·2	425·4	3·4
	27·6			
Mean Annual Rate per 1,000, .	0·034	0·078	1·74	0·01
	0·112			

* Exclusive of deaths of persons admitted into Public Institutions from localities outside the City.

APPENDIX No. 17.

TABLE showing the Density of Population in 1891 in each of the Registration Districts of the City of Dublin, in the North and South Side and in the entire City.

(Put in by the REGISTRAR-GENERAL.)

LOCALITIES.	Area in Statute Acres.	Population.	Persons per Acre.
Registrars' Districts :—			
North City No. 1, E., . .	674	27,147	40·3
,, ,, 1, W., . .	321	34,836	108·5
,, ,, 2, . .	232	28,871	124·4
,, ,, 3, . .	564	26,055	46·2
South City No. 1, . .	797	33,194	41·6
,, ,, 2, . .	161	18,547	115·2
,, ,, 3, . .	397	40,558	102·2
,, ,, 4, . .	587	35,793	61·0
Total North City, .	1,791	116,909	65·3
,, South ,, .	1,942	128,092	66 0
,, of City, . .	3,733	245,001	65·6

APPENDIX No. 18.

TABLE, furnished by the Registrar-General, showing in Five General Classes and Eighteen Groups the Occupations or Social Position of the Inhabitants of each Registrar's District in the City of Dublin, according to the Census of 1891. [The Boundaries of North City No. 1 E. and North City No. 1 W. Districts have been altered since that year, portion of the latter District having been transferred to the former: the figures here given are for these Districts as existing at the date of the Census.]

(The 16,944 persons returned under the head "Unspecified" in TABLE 89 of the General Report on the Census have been distributed *pro rata* among the several groups to which they most probably belonged.)

Class	Occupation or Social Position.	Population in each Class and Group in 1891.	North City.				South City.			
			No. 1 East.	No. 1 West.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.	No. 4.
	ALL PERSONS,	245,001	18,260	43,723	28,871	26,055	33,194	18,547	40,558	35,793
I.	PROFESSIONAL AND INDEPENDENT CLASS,	6,769	111	1,553	425	347	399	207	947	2,780
II.	MIDDLE CLASS,	48,236	3,629	10,084	5,642	4,520	5,522	4,453	8,519	5,867
III.	ARTISAN CLASS AND PETTY SHOPKEEPERS,	81,316	5,267	14,383	12,102	7,778	9,490	6,728	16,821	8,747
IV	GENERAL SERVICE CLASS,	103,489	9,253	17,703	10,702	11,256	14,746	7,159	14,271	18,399
V.	INMATES OF WORKHOUSES,	5,191	–	–	–	2,154	3,037	–	–	–
I.	PROFESSIONAL AND INDEPENDENT CLASS.									
	1. Clerical, Medical, Legal, and other Professions; Naval and Military Officers, and Heads of Public Departments,	3,678	94	800	281	221	222	121	554	1,385
	2. Merchants and Manufacturers, Higher Class,	764	16	232	61	79	129	40	97	110
	3. Persons of Rank and Property not otherwise described,	2,327	1	521	83	47	48	46	296	1,285
II.	MIDDLE CLASS.									
	4. General Body of Officials—Civil Service, Banking, &c.,	2,348	302	747	137	341	137	73	404	207
	5. Traders (except Petty Shopkeepers), Business Managers, &c.,	17,763	1,212	2,877	2,454	1,486	2,849	2,572	2,286	2,027
	6. Clerks and Commercial Assistants,	17,009	1,465	3,880	2,089	1,714	1,526	1,391	3,156	1,788
	7. Miscellaneous—including all Householders in Second Class Localities not included in above,	11,116	650	2,580	962	979	1,010	417	2,673	1,845
III.	ARTISAN CLASS AND PETTY SHOPKEEPERS.									
	8. Working Engineers, Engravers, Printers, Watchmakers and Jewellers,	5,934	652	1,363	1,046	628	482	351	937	475
	9. Building and Furnishing Trades,	21,252	1,424	4,191	3,274	1,610	1,890	1,368	4,947	2,548
	10. Clothing Trades,	19,965	978	3,602	2,929	1,744	1,941	1,967	4,636	2,168
	11. Food Supply Trades,	6,754	208	822	879	713	1,893	488	1,224	527
	12. Other Trades and Callings ranking with Trades,	21,469	1,820	3,645	2,902	2,472	2,686	1,834	3,580	2,530
	13. Petty Shopkeepers,	5,942	185	760	1,072	611	598	720	1,497	499
IV.	GENERAL SERVICE CLASS.									
	14. Army, Police, Postal Delivery, and Prison Services, &c.,	8,144	569	1,409	542	1,361	1,908	930	955	470
	15. Domestic Servants,	23,270	1,096	4,478	2,231	2,315	1,847	1,449	3,909	5,945
	16. Coach and Car Drivers, Vanmen, &c.,	8,387	676	1,360	848	876	975	441	1,425	1,786
	17. Hawkers, Porters, Labourers, &c.,	63,688	6,912	10,456	7,081	6,704	10,016	4,339	7,982	10,198
V.	18. WORKHOUSE INMATES,	5,191	–	–	–	2,154	3,037	–	–	–

APPENDIX No. 19.

TABLE showing Social Condition of the Inhabitants of the Dublin Registration Area according to the Census of 1891, distinguishing the City from the Suburban Districts.

(Put in by the REGISTRAR-GENERAL.)

LOCALITY.	Families of the				Total Population.	
	Professional and Independent Class and Middle Class.		Artisan Class and Petty Shopkeepers, General Service Class, and Inmates of Workhouses.			
	Persons.	Percentage of Population.	Persons.	Percentage of Population.	Persons.	Percentage of Population.
City of Dublin, .	55,005	22·5	189,996	77·5	245,001	100
Suburban Districts, .	42,043	40·2	62,550	59·8	104,593	100
Total of above, .	97,048	27·8	252,546	72·2	349,594	100

APPENDIX No. 20.

TABLES showing the Average Annual Mortality in the Dublin Registration Area, in the Upper and Lower Social Groups, in the Six Years 1892–97 and in the Two Years 1898 and 1899.

(Put in by the REGISTRAR-GENERAL.)

YEARS 1892–97.

SOCIAL GROUPS.	Population.	Average Annual Death-rate per 1,000 persons.					
		Principal Zymotic Diseases.*	Phthisis.	Inflammatory Diseases of Respiratory System.	Convulsions.	Other Causes.	All Causes.
Professional and Independent Class and Middle Class.	97,040	1·8	2·2	3·1	0·5	12·4	20·0
Artisan Class and Petty Shopkeepers, General Service Class, and Inmates of Workhouses.	252,546	3·3	4·0	6·1	1·9	14·6	29·9
Total, ...	349,594	2·9	3·5	5·3	1·5	14·0	27·2

YEARS 1898 AND 1899.

SOCIAL GROUPS.	Population.	Year.	Annual Death-rate per 1,000 persons.					
			Principal Zymotic Diseases.*	Phthisis.	Inflammatory Diseases of Respiratory System.	Convulsions.	Other Causes.	All Causes.
Professional and Independent Class and Middle Class, .	97,048	1898	1·6	2·0	2·7	·5	12·4	19·2
		1899	1·8	2·2	3·0	·4	12·7	20·1
Artisan Class and Petty Shopkeepers, General Service Class, and Inmates of Workhouses,	252,546	1898	2·8	4·1	5·8	1·5	15·4	29·6
		1899	5·6	4·3	7·1	1·7	16·1	34·8
Total, . .	—	1898	2·4	3·5	5·0	1·2	14·6	26·7
		1899	4·6	3·8	6·0	1·3	15·1	30·8

* Small-pox, measles, scarlatina, typhus, whooping-cough, diphtheria, simple continued and ill-defined fever, enteric fever, diarrhœa, and dysentery.

APPENDIX No. 21.

TABLE showing Total Deaths and Death-rate per 1,000 Persons in City of Dublin, in Groups of Ages, in Years 1894–99.

(Put in by the REGISTRAR-GENERAL.)

YEAR.	DEATHS.						
	Total.	Under 1 year.		1 year and under 60.		60 years and upwards.	
		No.	Rate per 1,000 Births.	No.	Rate per 1,000 of 1891 Population at these Ages.	No.	Rate per 1,000 of 1891 Population at these Ages.
1894, . .	6,519	1,250	162·2	3,677	16·5	1,592	94·4
1895, . .	7,366	1,391	175·8	4,146	18·7	1,829	108·4
1896, . .	6,707	1,391	165·9	3,863	17·4	1,453	86·0
1897, . .	7,740	1,645	203·2	4,645	20·9	1,450	86·0
1898, . .	6,985	1,559	181·3	3,805	17·1	1,621	96·1
Average, 1894–98, .	7,063	1,447	177·7	4,027	18·1	1,589	94·2
1899, . .	8,231	1,620	187·7	4,925	22·2	1,686	100·0

APPENDIX No. 22.

TABLE showing Total Deaths and Death-rate per 1,000 Persons in City of London, in Groups of Ages, in Years 1894–98.

(Put in by the REGISTRAR-GENERAL.)

YEAR.	DEATHS.						
	Total.	Under 1 year.		1 year and under 60.		60 years and upwards.	
		No.	Rate per 1,000 Births.	No.	Rate per 1,000 of Population at these Ages.	No.	Rate per 1,000 of Population at these Ages.
1894, . .	77,039	18,732	143	41,095	10·4	17,212	61·9
1895, . .	86,937	22,173	166	43,210	10·8	21,554	76·8
1896, . .	83,511	21,853	161	43,288	10·6	18,370	63·8
1897, . .	80,943	21,273	159	40,532	10·0	19,138	67·1
1898, . .	83,936	22,140	167	41,698	10·2	20,098	69·8
Average, 1894–98,	82,473	21,234	159	41,965	10·4	19,274	67·9

APPENDIX No. 23.

TABLE showing Total Deaths and Death-rate per 1,000 Persons in 33 English Towns, in Groups of Ages, in Years 1894–98.

(Put in by the REGISTRAR-GENERAL.)

YEAR.	DEATHS.						
	Total.	Under 1 year.		1 year and under 60.		60 years and upwards.	
		No.	Deaths under 1 year per 1,000 Births.	No.	Rate per 1,000 of Population at these Ages.	No.	Rate per 1,000 of Population at these Ages.
1894, . . .	188,995	48,862	152	99,603	10·5	40,530	64·6
1895, . . .	218,165	60,254	182	107,511	11·1	50,400	79·4
1896, . . .	208,534	56,768	167	107,009	10·6	44,757	67·7
1897, . . .	209,412	59,591	177	103,458	10·3	46,363	70·3
1898, . . .	212,848	60,418	178	104,515	10·2	47,915	71·2
Average, 1894–98, .	207,591	57,179	171	104,419	10·5	45,993	70·6

APPENDIX No. 24.

TABLE showing Total Deaths and Death-rate per 1,000 Persons in Dublin, London, and 33 English Towns.

Average for the Years 1894–98.

(Put in by the REGISTRAR-GENERAL.)

LOCALITY.	DEATHS.						
	Total.	Under 1 year.		1 year and under 60.		60 years and upwards.	
		No.	Deaths under 1 year per 1,000 Births.	No.	Rate per 1,000 of Population at these Ages.	No.	Rate per 1,000 of Population at these Ages.
Dublin, . .	7,063	1,447	178	4,027	18·1	1,589	94·2
London, . .	82,473	21,234	159	41,965	10·4	19,274	67·9
33 English Towns, .	207,591	57,179	171	104,419	10·5	45,993	70·6

APPENDIX No. 25.

TABLE giving Death-rates from all Causes and from the principal Zymotic Diseases in City of Dublin and in 33 English Towns in the Years 1894–8.

(Put in by the REGISTRAR-GENERAL.)

YEAR.	City of Dublin.		33 English Towns.	
	From all Causes.	Principal Zymotic Diseases.	From all Causes.	Principal Zymotic Diseases.
1894, ...	26·6	2·4	18·1	2·4
1895, ...	30·1	2·2	20·7	2·8
1896, ...	27·4	2·7	18·9	2·9
1897, ...	31·6	5·3	19·1	2·9
1898, ...	28·5	2·7	19·0	2·8
Average, . . .	28·8	3·1	19·2	2·8

APPENDIX No. 26.

TABLE showing the Birth-rate and Infant Mortality Rate in Dublin City, London, and 33 English Towns, including London, for the Five Years 1894–98.

(Put in by the REGISTRAR-GENERAL.)

—		Births.		Deaths under 1 Year.	
		Number.	Rate per 1,000 of Population.	Number.	Rate per 1,000 of Births.
City of Dublin,	1894,	7,708	31·5	1,250	162·2
	1895,	7,911	32·3	1,391	175·8
	1896,	8,384	34·2	1,391	165·9
	1897,	8,094	33·0	1,645	203·2
	1898,	8,600	35·1	1,559	181·3
London,	1894,	130,553	30·1	18,732	143 (Approximately)
	1895,	133,715	30·5	22,173	166 (Approximately)
	1896,	135,796	30·2	21,853	161 (Approximately)
	1897,	133,618	30·0	21,273	159 (Approximately)
	1898,	132,432	29·5	22,140	167 (Approximately)
33 English Towns	1894,	320,497	30·7	48,862	152 (Approximately)
	1895,	330,896	31·3	60,254	182 (Approximately)
	1896,	339,115	30·7	56,768	167 (Approximately)
	1897,	336,740	30·7	59,591	177 (Approximately)
	1898,	339,350	30·3	60,418	178 (Approximately)
Average 1894–98.	City of Dublin,	8,139	33·2	1,447	177·7
	London,	133,223	30·1	21,234	159·2
	33 English Towns,	333,320	30·7	57,179	171·2

APPENDIX No. 27.

TABLE respecting the Death-rates from all Causes and from Certain Causes in the Cities of Dublin and London, giving the Average Death-rate for Years 1888–97 and the Rate for the Years 1898 and 1899.

(Put in by the REGISTRAR-GENERAL.)

—		Rate per 1,000 Population.		
		Average 10 Years 1888-97.	1898.	1899.
All Causes,	Dublin,	28·8	28·5	33·6
	London,	20·7	18·6	19·7
Principal Zymotic Diseases.	Dublin,	2·9	2·7	5·4
	London.	2·8	2·8	–
Phthisis,	Dublin,	3·8	3·9	4·1
	London,	2·0	1·8	–
Mesenteric Disease, Tubercular Meningitis, Scrofula, Tuberculosis,	Dublin,	–	–	2·5
	London,	0·8	0·7	–
Diseases of Respiratory System,	Dublin,	6·0	5·7	7.0
	London,	4·3	3·3	–
Brain and Nervous System,	Dublin,	–	2·9	3·2
	London,	–	1·8	–

APPENDIX No. 28.

RETURN of Sanitary Sub-Officers' Salaries in large Towns in England and Scotland.

(Put in by Sir C. CAMERON, C.B.)

(Except where specially stated the Sanitary Sub-Officers do the duties of Inspectors under the Food and Drug Acts.)

Name of Town.	Population.	No. of Officers employed.	Salary paid to each per annum.	Remarks.
Birmingham, . .	519,610	40	£65 to £156; one at £350.	39 Inspectors of Nuisances; 1 Food Inspector.
Bradford, . . .	291,535	16	£85 to £140; one at £250.	13 Inspectors of Nuisances; 3 Food Inspectors.
Bristol, . . .	324,973	–	£91 to £130.	
Glasgow, . . .	743,969	73	Male, £78 to £156; Female, £52 to £78.	69 Inspectors (63 Male, 6 Female) of Nuisances; 4 Food Inspectors.
Liverpool, . . .	668,645	96	£78 to £170.	93 Inspectors of Nuisances; 3 Food Inspectors.
LONDON—Vestries of				
Battersea, . .	177,571	9	£121 to £160, and one at £260.	
Bermondsey, . .	85,400	4	£130 to £175.	3 Inspectors of Nuisances; 1 Food Inspector at £350.
Bethnal Green, . .	129,200	7	£120 to £200.	
Camberwell, . .	265,385	12	£117 to £175.	11 Inspectors of Nuisances; 1 Food Inspector.
Chelsea, . . .	96,724	4	£125 to £180; one at £200.	
Clerkenwell, . .	66,202	3	£180.	
Fulham, . . .	127,000	6	£120 to £150.	
Hackney, . .	219,540	14	£104 to £180.	
Kensington, . .	173,000	9	£110 to £160.	
Lambeth, . .	308,108	13	£120 to £180.	
Mile End, Old Town, .	112,000	3	£230 to £250.	
Newington, . .	124,166	7	£120 to £200.	
Paddington, . .	–	6	£100 to £220.	
Plumstead, . .	63,000	5	£104 to £130; one £200.	
Hampstead, . .	85,000	4	£140 to £170.	
Rotherhithe, . .	40,379	2	One £150, and one £200.	
Shoreditch, . .	122,358	6	£120 to £160; one at £200.	
St. George in the East, .	–	4	£110 to £200.	
St. George, Hanover-square.	80,000	4	£170 to £250.	
St. George the Martyr, .	64,000	6	£110 to £150; one £190.	
St. James, Westminster,	23,050	2	£190.	
St. Luke's, . .	40,460	3	£120 to £150.	
St. Margaret and St. John, Westminster.	54,000	3	£200 to £250.	
St. Martin in the Fields,	14,500	2	One at £150; one at £182.	
St. Marylebone, . .	141,188	7	£91 to £156.	
St. Pancras, . .	243,173	12	£120 to £150.	10 Inspectors of Nuisances, and 2 Food Inspectors.
Stoke Newington, .	35,000	2	One £210; one £300.	
Manchester, . .	543,902	35	£91 to £104.	33 Inspectors of Nuisances, and 2 Food Inspectors.
Nottingham, . .	242,679	9	£110 to £150.	
Sheffield, . . .	365,922	24	£78 to £150.	22 Inspectors of Nuisances; 2 Food Inspectors.

APPENDIX No. 29.

RETURN showing the Staff of the Public Health Department of the Corporation of Dublin, and their Salaries.

(Put in by Sir C. CAMERON, C.B.)

Sir Charles A. Cameron, C.B., M.D., F.R.C.S.I., Superintendent Medical Officer of Health, Executive Sanitary Officer, Inspector of Explosives, and City Analyst.
£1,000 per annum.

Edward D. Mapother, M.D., F.R.C.S.I., Consulting Sanitary Officer.
£150 per annum.

John G. O'Sullivan, Assoc. Mem. Inst. C.E., M.I C.E.I., Mem. San. Inst. (Lond.), Chief Asssistant to the Executive Sanitary Officer.
£280 per annum.

Sixteen Dispensary Doctors who act as Medical Officers of Health within their Districts.
£25 each per annum.

CLERICAL STAFF—COMMITTEE DEPARTMENT.

One Registrar of Dairies at £93 per annum, and £22 additional as Chief Clerk.
One Clerk, £93 per annum.
One Registrar of Tenement Houses and Common Lodging-houses and General Clerk at £78 per annum.
One Statistical Clerk, £78 per annum.
One Clerk, £58 10*s.* per annum.
One Clerk, £52 per annum.

SANITARY STAFF.

			£	*s.*	*d.*	
One Superintendent,			109	4	0	
One Assistant Superintendent,			104	0	0	
31 Sanitary Sub-Officers.	21 District Officers,	1 Sergeant,	97	15	4	
		19 Sanitary Sub-Officers,	78	0	0	each.
		1 Sanitary Sub-Officer,	65	0	0	
	4 Complaint Officers,	1 Sergeant,	97	15	4	
		3 Sanitary Sub-Officers,	78	0	0	each.
	4 Food Inspectors,	1 Constable,	97	15	4	
		2 Sanitary Sub-Officers,	78	0	0	each.
		1 Sanitary Sub-Officer,	65	0	0	
	2 Inquiry Officers,		78	0	0	each.

Lady Sanitary Sub-Officers:—Four Ladies, holding diplomas as Inspectors of Nuisances as issued by the Royal Institute of Public Health, are temporarily employed at £78 per annum each.
One Sanitary Plumber, £130 per annum.
One Inspector of Slaughter-houses, £65 per annum.
Inspectors of Dairies:—One Chief Inspector of Dairies, £83 per annum.
Four Assistant Dairy Inspectors, £78 per annum each.
Clerks in Sanitary Office:—Three General Clerks, £58 10*s.*, £52, and £41 12*s.* per annum.
Messenger, Sanitary Office:—One Boy Messenger, £18 4*s.* per annum.

DISINFECTING DEPARTMENT.

One Superintendent of Disinfection, £200 per annum.
One Chief Disinfector, £84 10*s.* per annum.
Eight Permanent Disinfectors, £65 each per annum.
Five Temporary Disinfectors, £58 10*s.* each per annum.
Two Clerks, £78 and £58 10*s.* per annum.

APPENDIX No. 30.

TABLE showing Number of Notifications of Infectious Diseases received under the Infectious Diseases (Notification) Act, 1889, and Total Number of Deaths from the Notifiable Diseases in City of Dublin, during years 1890–1899.

(Put in by Sir C. CAMERON, C.B.)

Year.	Number of Notifications.	Deaths from Notifiable Diseases.							Total.
		Small-pox.	Measles.	Scarlet Fever.	Typhus Fever.	Diphtheria.	Simple and Ill-defined Fever.	Enteric Fever.	
1890, . .	343	1	67	6	17	22	4	123	240
1891, . .	590	—	2	4	3	12	3	127	151
1892, . .	891	—	432	11	8	4	4	91	550
1893, . .	3,846	—	81	18	11	12	8	218	348
1894, . .	5,821	64	42	38	8	8	5	104	269
1895, . .	2,497	114	3	24	2	12	8	80	243
1896, . .	4,110	3	10	116	9	12	6	101	257
1897, . .	9,399	2	388	102	12	51	4	128	687
1898, . .	3,332	—	3	63	2	47	5	135	255
1899, . .	8,964	—	568	37	5	50	4	132	796
	39,793	184	1,596	419	77	230	51	1,239	3,796

APPENDIX No. 31.

RETURNS showing Number of Cases of different Diseases Notified under the Infectious Diseases (Notification) Act, 1889, during the ten years 1890–1899, in the City of Dublin.

(Put in by Sir C. CAMERON, C.B.)

Name of Disease.	Number of Cases Notified.										Totals.
	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	
Undefined Fever, .	56	105	193	313	264	98	–	–	–	–	1,029
Typhoid Fever, .	153	348	446	1,001	813	516	886	1,110	1,488	1,729	8,490
Typhus Fever, .	42	18	19	17	28	25	40	78	12	39	318
Continued Fever, .	9	–	–	–	1	16	108	149	183	342	808
Puerperal Fever, .	2	2	–	5	3	3	9	9	8	7	48
Gastric Fever, .	34	–	–	–	–	–	–	–	–	–	[1]34
Scarlet Fever, .	4	29	64	383	582	551	1,926	1,297	888	515	6,239
Erysipelas, . .	35	72	137	442	537	345	519	610	470	579	3,746
Diphtheria, . .	4	6	16	32	28	32	45	147	177	174	661
Membraneous Croup, .	3	7	1	18	24	11	42	20	10	14	150
Small-pox, . .	–	3	–	2	614	857	21	3	–	–	1,500
Cholera Morbus, .	–	–	–	–	4	–	–	–	–	–	28
Measles, . .	–	–	–	615	325	43	479	5,886	85	5,554	12,987
German Measles, .	–	–	–	–	–	–	35	90	11	11	147
Whooping-cough, .	–	–	–	669	408	–	–	–	–	–	1,077
Diarrhœa, . .	–	–	–	325	2,189	–	–	–	–	–	2,514
Totals, .	342	590	876	3,846	5,820	2,497	4,110	9,399	3,332	8,964	39,776

APPENDIX No. 32.

PARTICULARS as to Areas cleared in the City of Dublin.

(The sums given are solely for the acquisition of property. No expenditure for works is included.)

(Put in by Sir C. CAMERON, C.B.)

Area cleared.	Total Cost of Clearance.	Sub-District Registration Area.	Date of Clearance.	REMARKS.
	£			
Coombe, . .	24,000	South City, No. 1 District.	1877, 1880	These two areas were cleared by the Corporation, but leased to the Dublin Artisans' Dwellings Co., who have erected dwellings for artisans and labourers thereon.
Plunket-street, .	29,700	South City, No. 2 District.	1880	
Tara-street, . .	17,000	South City, No. 4 District.	1880	A new street constructed through a most congested and insanitary area.
New street, Ellis's-quay to Blackhall-place.	6,845	North City, No. 3 District.	1886	A new street constructed through a most congested area, and Corporation have erected artisans' dwellings and model lodging-houses at a cost of £26,000.
Lord Edward-street, .	61,000	South City, No. 2 District.	1886	A new street constructed through a most congested area.
Improvements to Francis-street.	5,950	South City, No. 1 District.	1888	—
Mullinahack, . .	8,700	South City, No. 1 District.	1887	A new street constructed through a most congested area.
Food Market, St. Michan's-street.	50,000	North City, No. 2 District.	1894	A most insanitary area cleared, and new fish and vegetable markets erected thereon.
White's-lane and Eccles-lane.	10,000	North City, No. 1 (West) District.	1894	A most insanitary area cleared away, and 80 self-contained cottages erected thereon for artisans and labourers at a cost of £13,000.
Bride's-alley, .	35,000	South City, Nos. 2 and 3 Districts, part in each District.	1895	A most insanitary area cleared away, and dwelling-houses erected thereon for artisans and labourers at a cost of £47,000.
Bull-alley, . .	33,000		1895	These two areas have been cleared free of cost to the Corporation, through the munificence of Lords Iveagh and Ardilaun, and they propose erecting on the first-named area dwellings suitable for artisans and labourers, and the second area will be converted into a large ornamental park.
St. Patrick's-close, .	—			

APPENDIX No. 33.

STATEMENT as to TENEMENT HOUSES of DUBLIN.

(Put in by Sir C. CAMERON, C.B.)

RETURN OF REGISTERED TENEMENT HOUSES.

North side,	...	...	2,849
South side,	...	...	3,736
	Total,	...	6,585

The tenement houses of Dublin constitute the homes of at least one-third of the families in the city, and these to a great extent consist of the most impoverished part of the population. About a dozen years ago the tenement houses in Dublin exceeded 8,000 in number. In the large clearance schemes carried out by the Corporation, and by the process of closing under magistrates' orders, their number has been considerably reduced. Many of the houses closed under such orders are put into a habitable state, but many also are allowed to fall into a state of dilapidation through the poverty of the owners or some other cause, and altogether disappear.

APPENDIX No. 34.

COPY of CASE STATED for the OPINION of the QUEEN'S BENCH DIVISION with regard to the interpretation to be placed upon SECTION 21 of the PUBLIC HEALTH ACTS AMENDMENT ACT, 1890, and JUDGMENTS delivered.

(Put in by Sir C. CAMERON, C.B.)

IN THE HIGH COURT OF JUSTICE IN IRELAND.—

QUEEN'S BENCH DIVISION.

Ellen Smith, ... *Appellant;*

Joseph Caffrey and Others, . . *Respondents.*

(Before Palles, *C.B.*, Andrews, Johnson, and Boyd, *JJ.*)

29th June, 1899.

The provisions of Section 21 *of the Public Health Acts Amendment Act*, 1890, "*with respect to any sanitary convenience used in common by the occupiers of two or more separate dwelling-houses, or by other persons*" *are not applicable against the occupants of a single tenement house by whom the same sanitary convenience are used in common.*

Case stated for the opinion of the Queen's Bench Division of the High Court of Justice in Ireland, pursuant to 20 & 21 Vic., chap. 43.

Two summonses were brought by the complainant, a sanitary officer of the Corporation of Dublin (the Urban Sanitary Authority for the City of Dublin) under Section 21, Sub-section 2, of the Public Health Acts Amendment Act, 1890 (53 & 54 Vic., cap. 59.)

The first summons complained "that the water-closet on the premises, 3, Grenville-street, used in common by you, being occupiers of separate dwelling-houses, and the floor of same, and the approaches thereto, are in such a condition as to be a nuisance and annoyance to the inhabitants of the said premises and of the neighbourhood, for want of the proper cleansing thereof, and that the state of such water-closet and the approaches thereto is caused by the acts or default of some or all of the persons having the use thereof in common, including you, the said Joseph Caffrey," and the other six defendants named in the summons.

The second complaint was "that the water-closet on the premises, 3, Grenville-street, used in common by the persons residing in said premises, being persons other than the occupiers of two or more separate dwelling-houses, and the floor of same and the approaches thereto, are in such a condition as to be a nuisance and annoyance to the inhabitants of the said premises and of the neighbourhood for want of the proper cleansing thereof, and that the said state of such water-closet and the approaches thereto is caused by the acts or default of some or all of the persons having the use thereof in common, including you, the said Joseph Caffrey," and the six other defendants named.

The learned magistrate stated that it was proved, and that he found as a fact in each case that the water-closet of the premises, No. 3, Grenville-street, in the city of Dublin, was a sanitary convenience used in common by the occupiers of No. 3, Grenville-street aforesaid, and that the defendants and their families were the occupiers of the premises, each defendant with his family occupying a separate room or rooms in said house, and that the said water-closet and the approaches thereto were in fact, and in the opinion of the complainant (an inspector of nuisance under the Urban Sanitary Authority of Dublin), in such a state and condition as to be a nuisance and annoyance to the inhabitants of the district for want of proper cleansing thereof. He stated that no evidence was given as to which of the persons having the use of the water-closet in common was in default in respect thereof. As to the first summons, he held that the defendants were not "occupiers of two or more separate dwelling-houses," but were in fact together the occupiers of a single dwelling-house, and were not therefore within the words of the section

(53 & 54 Vic., cap. 59, sec. 21) "occupiers of separate dwelling-houses," and he therefore dismissed that summons.

As to the second summons the learned magistrate held that the defendants could not be convicted, inasmuch as the words of the section did not, in his opinion, justify him in holding that the term "other persons" was applicable to the inhabitants of a single dwelling-house, a class excluded from the operation of the words "two or more separate dwelling-houses," by reason of its greater limitation.

The defendants were not represented in the Police Court on either summons.

Upon the request of the complainant, the learned magistrate now stated this case for the opinion of the Court upon the question whether he was in point of law in his determination dismissing both complaints.

Philip White (instructed by Mr. I. J. Rice, Solicitor), appeared for the appellant and argued that on one or other of the summons, the defendants should have been convicted. A tenement house occupied by several tenants, under distinct agreements of letting, should, in a remedial section 21, be construed as within the words "two or more separate dwelling-houses." Under the Franchise Acts these tenants would be held to be tenants of different dwelling-houses. There was no definition in the Public Health Acts of "dwelling-houses," but "house" was defined in section 2 of the Public Health Ireland Act, 1898 (though this did not assist the argument one way or other) as including "schools and also factories and other buildings in which persons are employed whatever their number may be." The object of the Public Health Acts, generally speaking, was to cast the duty of abating all nuisance either upon the owner or the occupiers of all premises—upon the owner (that is the person who received the rack rent for the premises; see *Bowen* v. *James* (10 L.R.I., 26), where a nuisance arose from the want or defective construction of any structural convenience, *and in all other cases* upon the occupier. The six defendants must be treated as the "occupiers" of these premises.

Palles, *C.B.*—Suppose a man has a tenement house containing eight rooms, and that he lets out seven of them and receives the rack rent for these, but remains in possession of the eighth room himself, is he not the occupier of the entire premises?

Philip White.—It has been for that reason held in the Recorder's Court and by Mr. Swifte, one of the Divisional Magistrates of Dublin, that a person who occupies portion of a house, and lets out the rest of it in tenements, is the occupier of the house. There was a decision of His Honour Judge Anderson, the County Court Judge of Tipperary, to the opposite effect, following an English decision, the application of which would seem extremely doubtful, but in Dublin it has been decided as I say.

Palles, *C.B.*—I must say that I think the Recorder was right.

Philip White.—Alternatively, we ask the Court to hold that the defendants are caught by the words "used in common—by other persons," as showing that the section was meant to apply to every possible case in which there was a use in common by several persons of any sanitary convenience. If the appellant is wrong in these contentions then the position of things is that in all cases similar to the present, in regard to nuisance, the prosecution must fail against the occupiers, however flagrant the nuisance may be; the sanitary authority will be unable to prove who the person liable for the nuisance is, and the only available remedy, in the interests of the public, is for the sanitary authority, under the last sub-section of section 110 of the Irish Public Health Act, 1878, to undertake the cleansing of such convenience themselves, unless they choose to leave them alone.

Palles, *C.B.*—If you have not sufficient powers by statute, you must go to Parliament to get them. That is the only answer which can be given you in this Court. All we have to determine here is what are the powers which you possess under the 21st section. Until 1890 you had not even those powers which are given by section 21; the decision of this Court that that section does not apply to the present case will be quite enough to enable you to apply to the Legislature for any further powers you require.

(Counsel also referred to, and by permission of the Court, read a judgment pronounced by Mr. R. P. Carton, Q.C., when Divisional Magistrate of the Dublin Metropolitan Police District, on the 3rd of December, 1898, in a case of *The Corporation* v. *Kelly*).

There was no appearance for the respondents.

Palles, *C.B.*—We think that the decisions of Mr. Mahony and of Mr. Carton were quite right. It is quite clear to me that section 21, sub-section 2 of the Act of 1890 applies only to sanitary convenience used in common by the occupiers of two or more separate dwelling-houses. There could be no doubt about this if the commencement of the section did not contain the words, "or by other persons," so that we have to construe the meaning of these words, "other persons;" but in doing so the general rule of construction of words of this description, *noscitur a sociis*, must be applied. The persons that are first mentioned are persons who have the use of these conveniences by reason of their occupation of the premises mentioned in the section—because they are "occupiers" of those premises. But there may be, and indeed must be, another class of persons who are entitled to the use of these conveniences by reason of their occupation, but who still are not, in the strict sense of the word, "occupiers;" for instance, servants and children of the occupiers, and in my opinion, these words, "or by other persons," were not introduced to extend the provisions of the section to the case of a single convenience in common by reason of the occupation by them of one or more of a number of separate dwelling-houses. If Mr. White's construction were to be given to the Act it would practically be to strike out from section 21 the words "occupiers of two or more separate dwelling-houses" altogether, so that the opening words of the section would be read in this way—"With respect to any sanitary convenience used in common by—— (any) persons, the following provisions shall have effect." The matter is quite clear; *and the Corporation, having now got the decision of this Court upon the subject, should proceed to get statutory powers in regard to nuisances of this kind.* I am not to be taken as saying that there are no such powers already in existence, for our consideration has only been directed to the particular section.

Andrews, *J.*—Nor, of course, do we intend to direct or say what particular powers they ought to get.

Johnson, *J.*—Nor to say in what particular way the section should be amended.

Andrews, *J.*—The answer of the Court will be that the magistrate was correct in his determination upon both complaints, and that the orders of dismissal be affirmed.

I certify that the foregoing is a true and correct report of this case, and of the judgments delivered therein, from my notes.

ALBERT E. R. LANE JOYNT,
Barrister-at-Law,

Reporting in the Queen's Bench Division for the Incorporated Council of Law Reporting in Ireland.

29th June, 1899,
11, Waterloo-road.

APPENDIX No. 35.

STATEMENT relative to Rebate of Rates under Section 75 of the Dublin Corporation Act, 1890.*

(Put in by Sir C. CAMERON, C.B.)

TABLE showing the Number of premises in respect of which Claims were made for Rebate, showing the Number recommended for Rebate and the Number refused during each of the Five Years.

YEAR.	Total Number of Claims.	Number of Premises recommended.	Number refused.
1896, ...	3,941	3,824	117
1897, ...	4,671	4,322	349
1898, ...	4,602	4,369	233
1899, ...	4,792	2,579	213
1900–1, . . .	4,810	3,392	1,418

List of Causes for which Rebate has been refused for the year ending 31st March, 1901 :—

No. 1. Premises the valuation of which exceeded £8, ...	3
No. 2. Premises not occupied by artisans or labourers, ...	34
No. 3. Premises not fronting on streets or places in charge of the Corporation, . . .	284
(*a*) Premises without yards, ...	31
(*b*) Premises whose yards are rough and uneven, ...	546
(*c*) Premises whose drains are not properly trapped, jointed, or ventilated, . .	882
(*d*) Premises with ashpits and not provided with ashbin accommodation, . .	599
(*e*) Premises with insufficient w.c. accommodation, ...	168
(*f*) Premises not clean or in general good repair, ...	775

* Dublin Corporation Act, 1890 (53 and 54 Vic., chap. ccxlvi.)—"75. In cases in which the annual value of any premises does not exceed eight pounds, and the premises are in the judgment of the Corporation suitable as dwellings for and are occupied by artisans or labourers, it shall be lawful for the Corporation to compound with the owner of such premises for the payment of all or any of the rates leviable on such reduced estimate of the net annual value not being less than two-thirds, nor more than four-fifths, of the net value at which the premises are assessed, as the Corporation may deem reasonable. Provided that the year's rates on such reduced estimates are paid on or before the 1st day of March in each year."

APPENDIX No. 36.

RETURNS showing the Number of Licences issued under the provisions of the Act 10 & 11 Vic., cap. 34, the Number of Feet of Sewer Pipe used in the construction of House Drain Connections, and the Total Cost of Construction in 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, and 1899, respectively:—

(Put in by Mr. O'SULLIVAN, C.E.)

NORTH SIDE.				SOUTH SIDE.			
YEAR.	Licences Issued.	Feet.	Total Cost.	YEAR.	Licences Issued.	Feet.	Total Cost.
			£ s. d.				£ s. d.
1891	182	3,806	370 2 9	1891	240	4,445	577 7 3
1892	210	2,868	684 15 2	1892	216	3,321	819 11 8
1893	205	3,103	695 6 6	1893	208	3,193	831 6 8
1894	212	2,709	794 8 9	1894	271	4,511	1,407 4 8
1895	230	3,150	920 12 4	1895	246	3,648	1,103 7 3
1896	147	2,064	605 19 4	1896	213	3,464	927 15 9
1897	179	2,877	703 10 2	1897	243	4,302	1,090 2 8
1898	222	2,631	820 1 7	1898	246	3,519	1,304 4 2
1899	170	2,755	555 13 10	1899	187	3,364	798 17 9
Total	1,757	25 963	6,150 10 5	Total	2,070	33,767	8,859 17 10
Average	195	2,885	683 7 10	Average	230	3,752	984 8 8

APPENDIX No. 37.

TABLE showing the General Mortality Rate in the Dublin Registration Area as compared with London.

(Put in by Professor SMITH.)

The respective death-rates in a series of years are :—

Year.	London.	Dublin.	Dublin Rate per cent. of London Rate.
1887	20·3	30·5	150
1888	19·3	25·2	131
1889	18·4	25·6	139
1890	21·4	26·8	125
1891	21·5	26·3	122
1892	20·7	29·2	141
1893	21·3	26·9	126
1894	17·8	24·7	139
1895	19·9	27·9	140
1896	18·6	25·3	136
1897	18·2	28·9	159
1898	18·7	26·7	143
*1899 1st Quarter	20·5	28·5	139
*1899 2nd ,,	16·6	25·7	156
*1899 3rd ,,	20·6	29·6	143
*1899 4th ,,	21·4	35·2	164
Average, 1899	19·8	29·8	151

* The figures for 1899 are obtained from the Annual Return of the Medical Officer of Health for the City of Dublin. The average represents the average of these figures.

APPENDIX No. 38.

TABLE showing the Mortality Rate per 10,000 persons from Fever in the Dublin Registration Area compared with London (1881–90 and 1890–98).

(Put in by Professor SMITH.)

Year.	London.	Dublin.	Dublin Rate per cent. of London Rate.
1881–1890	2·2	7·2	327
1891	1·5	5·8	387
1892	1·1	4·0	364
1893	1·7	8·8	518
1894	1·5	4·8	320
1895	1·5	3·5	233
1896	1·4	4·5	321
1897	1·3	5·8	446
1898	1·3	5·4	415

Figures for 1899 not available.

The fever is mainly enteric in both cities; there are a few cases of ill-defined continued fever included, but these are probably unrecognised enteric. In Dublin, however, there is still an appreciable amount of typhus. In the seven years 1891–1897 seventy-one deaths were referred to typhus in Dublin, against forty-three only in London, with a population nearly thirteen times as great. In the year 1898 two deaths from typhus occurred in Dublin as against four in London.

Enteric fever appears to be nearly four times as fatal in Dublin as in London, when the difference in population is taken into account.

APPENDIX No. 39.

TABLE showing the Mortality Rate from Zymotic Diseases in the Dublin Registration Area compared with London for Year 1899.

(Put in by Professor SMITH.)

—	London.	Dublin Registration Area.	Dublin City.	Dublin Rate per cent. of London.	
				Dublin Registration Area.	Dublin City.
1st Quarter . .	1·71	1·6	—	·94	—
2nd ,, . .	1·66	1·3	—	·78	—
3rd ,, . .	4·58	7·7	9·3	·168	203
4th ,, . .	1·96	7·3	8·7	·372	443

The figures in this table are obtained from the Annual Report of the Medical Officer of Health for Dublin.

APPENDIX No. 40.

TABLE giving particulars as to Number of Cases of Typhoid Fever, Diphtheria, and Scarlet Fever Notified in London and in the Dublin Registration Area during the Year 1899.

(Put in by Professor SMITH.)

Notifications of Typhoid Fever in London and Dublin, 1899.

—	No. of Notifications.		No. of Notifications per 1,000 living.	
	London.	Dublin.	London.	Dublin.
1st Quarter . .	781	251	—	—
2nd ,, . .	446	254	—	—
3rd ,, . .	1,070	705	—	—
4th ,, . .	2,155	519	—	—
	4,452	1,729	·97	4·9

Notifications of Diphtheria in London and Dublin, 1899.

	13,346	174	2·9	·49

Notifications of Scarlet Fever in London and Dublin, 1899.

	18,089	515	3·9	1·4

APPENDIX No. 41.

TABLES showing Death-rate per 10,000 persons living from Phthisis, other Constitutional Diseases, Diseases of the Nervous System, Diseases of the Circulatory System, and Diseases of the Respiratory System in London and in the Dublin Registration Area during the periods 1887–96, 1897, and 1898.

(Put in by Professor SMITH.)

1887–96.

——	London.	Dublin.	Dublin rate per cent. of London rate.
Phthisis	18·8	35·0	186
Other Constitutional Diseases .	19·3	26·0	135
Diseases of Nervous System . .	21·3	34·9	164
,, Circulatory System .	15·9	20·7	130
,, Respiratory System .	42·3	53·7	127
Total of above Diseases . .	117·6	170·3	145

1897.

——	London.	Dublin.	Dublin rate per cent. of London rate.
Phthisis	17·6	32·8	186
Other Constitutional Diseases .	19·3	31·8	165
Diseases of Nervous System . .	18·0	29·3	163
,, Circulatory System .	15·6	21·2	136
,, Respiratory System .	31·3	56·1	179
Total of above Diseases . .	101·8	171·2	168

1898.

——	London.	Dublin.	Dublin rate per cent. of London rate.
Phthisis	17·7	35·0	198
Other Constitutional Diseases .	19·4	30·2	156
Diseases of Nervous System . .	18·5	27·6	149
,, Circulatory System .	15·1	21·4	141
,, Respiratory System .	33·0	50·0	152
Total of above Diseases . .	103·7	164·2	158

The Fever mortality, though very excessive, accounts for only a small proportion of the total excess of mortality over that of London. Comparing some of those causes of death which bulk most largely in the returns for both cities, it is found that the excess is in great part made up of Phthisis, other Constitutional Diseases (including Tubercular Affections other than Phthisis, Cancer, Rheumatism, &c.), and Diseases of the Nervous, Circulatory, and Respiratory Organs.

APPENDIX No. 42.

TABLE showing Rate of Infant Mortality in the Dublin Registration Area as compared with London during the Years 1887–1898.

(Put in by Professor SMITH.)

YEAR.	Deaths of Infants under One Year per 1,000 Births.		Dublin Rate per cent. of London Rate.
	London.	Dublin.	
1887,	158	200	127
1888,	146	167	114
1889,	141	180	128
1890,	163	163	100
1891,	155	166	107
1892,	155	180	116
1893,	164	180	110
1894,	143	152	106
1895,	166	171	103
1896,	162	155	96
1897,	159	192	121
1898,	167	174	104

APPENDIX No. 43.

TABLES showing the General Mortality Rate in the Dublin Registration Area as compared with London in different Age Groups during the Years 1897 and 1898.

(Put in by Professor SMITH.)

The excess in the Dublin death-rate affects all age groups. Taking the figures for 1897 and 1898, they are as follows:—

1897.

AGES.	Death-rates per 1,000 living at the several Ages.		Dublin Mortality per cent. of London Mortality.
	London.	Dublin.	
Under 5,	60·6	104·2	172
5–20,	3·4	8·5	250
20–40,	6·6	12·4	188
40–60,	19·5	27·2	139
60–80,	58·6	74·5	127
80 and upwards,	187·7	200·8	107

1898.

AGES.	Death-rates per 1,000 living at the several Ages.		Dublin Mortality per cent. of London Mortality.
	London.	Dublin.	
Under 5,	63·7	7·9	124
5–20,	3·1	7·2	232
20–40,	6·5	12·6	194
40–60,	19·8	27·6	139
60–80,	60·6	82·3	136
80 and upwards,	201·2	225·5	112

No figures for 1899.

The excess is generally shown in the mortality of infants under 1 year to 1,000 births, but not to the same extent as in the mortality of children under 5 years of age taken in the aggregate. The inference is that the conditions in Dublin are *specially* unfavourable to children at some of the ages between 1 and 5. This is consistent with the very heavy mortality in the next two age groups (5–20 and 20–40).

APPENDIX No. 44.

Report made by Joseph O'Carroll, Esq., M.D., F.R.C.P.I., in the year 1898, on the Duties of the Community with regard to Tuberculosis.

The first hope excited by Koch's discovery of the bacillus of tuberculosis was that a method of destroying that organism, or neutralising its mischief, would soon be found. That expectation has not yet been fulfilled, and we have been driven back, for a time at least, to a lower aim—the limitation of the spread of tuberculosis in the community. I cannot present you in my remarks with any novelty, whether of discovery or of exposition; I can only go over ground which has been trod before, with little advantage, perhaps, other than making the path more unmistakable. It may be stated in advance that there is now a perfect agreement that tuberculosis is an infective disease in exactly the same sense that small-pox is infective, the duration of one disease being measured, perhaps, by years, while the other lasts only a few weeks. Further, it attacks animals as well as man, and mainly those animals which are domesticated or used for the food of man. Lastly, it may be introduced into the body by the entrance of any tuberculous (or tubercle-bacilli-bearing) material into any internal part of the body, or through broken or fissured skin.

I will not trouble you with a laborious array of statistics. Let it suffice to say that tuberculosis is far and away the most fatal disease which afflicts the human race. From a valuable paper read by Dr. John William Moore before the British Medical Association in 1896, I draw the following comparison of the mortality in the various parts of the United Kingdom. For the fourteen years ending with and including 1894, the ratio of deaths from tuberculosis to the total number of deaths from all causes was :—

In England and Wales, .	12·3 per cent.
In Scotland, . . .	13·8 do.
In Ireland, . . .	14·9 do.

while in the combined districts of North and South Dublin Poor-law Unions the tuberculosis mortality was 18 per cent. of all deaths, and within the city of Dublin proper the tuberculosis mortality is higher still. But this does not at all adequately represent the extent of the plague. For everyone who dies of tuberculosis there are a large number of the living who are its victims—how many it is impossible to say. In a district like Dublin, where one-fifth of the deaths or more are from that cause, it is probable that at least one-third of the population suffers from it at one time or another. We are accustomed to hear of the group of zymotic diseases as the enemy against which hygiene should concentrate all its forces. No one can deny the great diminution in these diseases brought about by improved sanitary conditions, but there is an even greater enemy yet in the field. From the Report of the Registrar-General for Ireland for the year 1896, I learn that the average yearly mortality in Ireland from zymotic diseases for the decade 1886–95 was 7,997, or practically 8,000, while the average mortality from the commoner tubercular diseases was 11,916, or practically 12,000. Yet this latter total is by no means a complete estimate of the total fatality of tuberculosis; for the zymotic group includes not merely small-pox, measles, scarlet fever, typhus, whooping-cough, diphtheria, enteric fever, and puerperal fever, but also influenza, a large proportion of the deaths in which are notoriously due to antecedent tuberculosis, simple continued fever which, when fatal, is often only a name for some form of tubercular invasion, and diarrhœa, dysentery, and simple cholera, which are often only tubercular manifestations. So that the probability is that the actual number of deaths due to infective diseases not tubercular ought to stand at much less than 8,000, and the actual number of deaths to be ascribed to the tubercular infection ought to be very much more than 12,000. Within the sanitary area of the city of Dublin proper the excess of deaths due to tuberculosis over those due to the diseases ordinarily included in the zymotic group is relatively much greater; but I cannot give exact figures on account of the very indefinite, if not misleading, classification adopted in the annual report of the Sanitary Department.

But a further unpleasant fact about tuberculosis has to be faced—namely, that while in England, Wales and Scotland the mortality from tuberculosis, and especially from its commoner manifestation, phthisis, has been steadily diminishing, in Ireland the mortality is increasing. And it is to be remembered that the death-record is not the full measure of the evil of tuberculosis. While the so-called zymotic diseases either "kill or cure," so to speak, within a few weeks, and most other diseases kill either in infancy or towards the close of the natural span of life, tuberculosis claims a large proportion of its victims at the period which should be the prime of life, and after, perhaps, months or years of illness. This is the plague to which, as to the Cretan monster of Grecian fable, we pay tribute yearly in this small country of at least 12,000 lives, and to whose exactions we exhibit a callousness born of familiarity or of hopeless apathy. Not that we cannot proclaim our enthusiasm for hygienic measures. In the years 1894–5 we had an epidemic of small-pox in Ireland. In the whole of Ireland there were 218 deaths, of which 189 were in the Dublin registration district. Practically all these deaths could have been prevented by efficient vaccination. The deaths from phthisis or pulmonary consumption alone, not to speak of the other forms of tuberculosis in Dublin during those two years reached the total of 2,419, yet the small-pox epidemic begat a proposal for a new hospital for infectious diseases for the city, while not a word was said as to the method of limiting the blood-tax levied by tuberculosis. I quite see that the methods which would be useful in combating the greater plague would have little of the expansive publicity-compelling character entailed by, let us say, two hundred thousand pounds spent on a fever hospital, with an annual subvention of perhaps twenty thousand pounds a year. If half that sum were intelligently spent in fighting tuberculosis the annual mortality in Dublin from that source would not be quarter what it is, and the expenditure would repay itself in the corresponding reduction of the poor rate.

It is practically certain that the bacillus or exciting germ of tuberculosis enters the body either in the food or in the air respired. Of foods, meat and milk are the chief bearer of the bacillus. Tuberculosis is exceedingly common in cattle, and more particularly in cows. The disease varies in the extent of its dissemination in different districts and countries, but a low estimate for dairy cattle would be from 15 to 20 per cent., especially in urban or suburban districts in Ireland, where the tuberculosis mortality among human beings is so very great. Yet, when last year Dr. T. P. Kirkpatrick drew attention, in an able paper read before the Dublin University Biological Association, to the danger of a tuberculous milk supply, he was met by an organised outcry to the effect that wherever else there might be cattle-tuberculosis, there was certainly none in Dublin.

Now, there is a well-recognised way of finding out whether a given animal is tuberculous or not. If a small quantity of Koch's tuberculin be injected into the animal, and if it harbour within its body any substantial focus of tubercle, it will show a marked rise of temperature within twelve to twenty hours

That test has not been applied to the Dublin cattle, and whenever it is applied it will almost certainly reveal that we are no better off than continental countries, in which the proportion of cattle recognised by this test as tuberculous varies betweeen 30 and 50 per cent., and even more. Tuberculin reaction is a test for living animals; but official inspection by trained observers corroborates its information, for the statistics of abattoirs on the Continent and in England show a per-centage of carcases with tuberculosis varying, for example, from 12·7 in Prussia to 27·5 in Saxony, and 29·4 in Manchester.

We derive a large portion of our meat supply and the whole of our milk supply from animals which are more liable to the disease than man himself. It has been abundantly proved that tuberculous meat, and especially tuberculous milk, are fruitful sources of the disease in human beings; and infected milk is probably the cause of more than 90 per cent. of the fatal diseases of children under three years of age. As to meat, if not very extensively infected, it may possibly be deprived of all danger by efficient cooking. But in a city where it is almost a boast that the abattoir is boycotted, what guarantee have we as to the extent of the infection which is surely present in a certain number of cases, and what hope for efficient cooking among a population ignorant of any purpose in the process except the satisfaction of the palate? Cattle should be killed in the official abattoir under skilled inspection. When the carcase is found extensively diseased it should be absolutely condemned; when not too extensively diseased the parts allowed to be sold for food should be efficiently sterilised before leaving the abattoir. If these measures were put in force cattle-rearers and dealers would be supplied with the strongest motive for stamping out tubercular disease, and would soon discover the importance of separation of diseased from healthy animals, and of thorough cleanliness in the surroundings of both classes. All measures which deal with the meat supply necessarily improve the milk supply, but there should be extra and very special sanitary inspection of milch cows, dairy-yards, milk-shops, and I will also add of dairy hands. And here I shall venture to say parenthetically that sanitary officials not specially trained ought to be selected because they are reliable and capable of being trained for the work they have to do, and not because they have failed at every other calling. To return to the milk question, I shall add that, even with the fullest inspection, I agree with those who hold that there is no security unless it be efficiently sterilised or, for practical purposes, boiled. Poor and rich cannot have the fact too strongly driven home to them that all milk ought to be cooked before being consumed. It has lately been proved that butter also may carry the tubercle bacillus, and, unfortunately, one cannot sterilise the domestic supply of butter. But butter could, I believe, be just as well made from milk which has been sterilised by being kept for a sufficient time just below boiling point; and the butter of the future must be made with some such precaution. Need I add that if fresh milk be dangerous unboiled, skimmed milk and buttermilk are doubly so, seeing that they are liable to contain a proportionally greater number of the bacilli. Boiling the milk in the first instance would remove suspicion from the milk and its after products, assuming that they were not subjected to new contamination.

I now come to the consideration of the danger which man incurs by contact with his fellow who is the victim of tuberculosis. Most frequently phthisis or consumption is the form from which the danger arises, because the consumptive is ever disseminating bacilli about him. At every cough he scatters from his mouth a fine, perhaps imperceptible, rain in which the organisms have been found. His expectoration dries in his handkerchief, on his hands, his lips, his floor, and on the pavements, and is there pulverised and carried on every gust of wind into his neighbour's lungs or into his food. If it does not scatter itself in this somewhat natural fashion the sanitary scavenger takes care that it shall be disseminated from the rubbish buckets or carts.

Among the poor, who have to live in closer contact with one another than the rich, the danger of direct transference of infection is greatly multiplied.

What does all this lead to? Simply to the deduction that the same measure which I hinted at as necessary for the restriction of tuberculosis among cattle must be applied as far as possible among ourselves. The first of these measures may be briefly described as the improvement of the hygienic condition of the population, and especially of the poor; and this improvement must include attention to their food, their conditions of work, and their housing. Various factory Acts have much improved the condition of work. I have indicated at least one direction in which their food can be improved—namely, its sterilisation if suspected of tuberculous contamination; and I shall only say as to the housing that, apart from a few model dwellings in this city, one has only to go through Dublin to discover what the tenements of the poor ought not to be. Insufficiency of light, of air, especially, and often of water; a repulsive pretence of sanitary accommodation common to several tenements, stairs and passages and yards grimy or filthy; doors which do not shut and windows which do not open are rather the rule than the exception in Dublin tenement houses. These are ideal conditions for the growth of the tubercle bacilli, and of a race of feeble, unresisting human victims. The ordinary sanitary law, vigorously administered, ought to be able to remedy these conditions.

In the next place, the public should be instructed as to the elementary facts of sanitary science, and I venture to think that in any attempt to introduce practical teaching into our schools there is no subject more useful or important than this. The germ theory of disease, the value of nature's disinfectants—light, air, and water—the elementary facts of drainage are so easily explained, and so important in relation to the life of man, animals, and even the vegetable kingdom, that I can hardly conceive any subject of wider practical bearing.

But to fight the plague of tuberculosis at closer quarters still further measures are necessary. If one had a free hand one would separate at one stroke all those who have the disease from those who have not, and one would use every necessary measure to disinfect the dwellings and surroundings of the tubercular portion of the community. It is easier to recommend these measures than to carry them into effect. The sentiment of family affection, of private liberty, of personal property, will always impede a rigid application of sanitary laws. But such sentiments have been overcome to a large extent with regard to other diseases. A solitary leper found his way to Dublin some few years ago. His personal liberty was so unfairly limited as a result of a childish panic that I have often regretted having had any share in making his case public. No doubt leprosy has been eradicated from the greaterpart of Northern Europe, in large part by the application of the principle of separation. I believe we shall have to adopt that principle, perhaps in a modified form, in any vigorous attempt to cope with tuberculosis. We shall have to found in every county, or group of counties, tuberculosis colonies—hospices, where those who are so far advanced in the disease as to be a threatening danger to their neighbours shall be nursed as well as in city hospitals, but in better surroundings of light and air; and we shall require, in addition, consumption sanatoria, where those who have contracted the disease, but are not as yet broken down by it, can undergo a course of treatment by rest and stimulating atmosphere, and good feeding, and such medication as may seem advisable for their cure. I believe that a few consumption hospitals throughout Ireland, like the

National Hospital at Newcastle, with which I have the honour to be connected, would work wonders on the consumption death-rate. Not that a few weeks' residence in such an hospital would cure consumption; it can in many cases only put the drag on its downward course. But if such hospitals were larger and more generously supported, one could keep the suitable patients longer, or take them in again and again as the disease seemed from time to time to re-assert itself. Consumption hospitals are not a benefit to the patients only; they remove the disease from the healthy at the periods when infection of the healthy is most likely to occur. But however I should like to see such hospitals multiplied, I confess I think them only half measures till the consumption hospices are also established for the more advanced cases. The sanitary authorities will have to prepare for large outlay in these directions before the next century is many years old.

I now come to a measure which I believe we have no excuse for omitting any longer. I mean the disinfection of the dwellings of tubercular patients. This may be done while in occupation by the diseased person, removed of course for the occasion, or after his death or departure to another dwelling. If the more exacting measure—that is, periodic disinfection during occupation—could be carried out, so much the better; but the second alternative ought under no circumstances to be neglected. The amount of perfectly avoidable consumption or other tubercular disease brought about by allowing healthy people to succeed tubercular ones in tenement dwellings without disinfection is probably much greater than we have any notion of. That the thing occurs is certain; there is hardly a doctor whose experience does not prove it; many such instances have been published of healthy families coming into infected dwellings and dying off one by one like their predecessors. Is that a right thing to occur in countries which boast their civilisation, and believe that they set the world the pattern in sanitation? I am quite aware that disinfection implies notification; and I should certainly wish to see tuberculosis, or at least consumption, put on the list of notifiable diseases. I do not quite see how otherwise to secure disinfection of dwellings from which consumptives have removed, unless, indeed, it were made obligatory on owners of tenement property to have holdings disinfected at every change of tenant. But there ought to be no difficulty in the case of death, seeing that the Medical Officer of Health for Dublin publishes a report on the deaths within his district weekly. All that is required is that the fact of tuberculosis being a highly contagious disease should not be ignored.

I may recapitulate this paper as follows:—Tuberculosis, including its commonest form, consumption, is a disease due to organic disease germs conveyed into our bodies either in the air we breathe or in the food we eat. The germs which reach us in food occur mainly in the flesh and milk of animals which were themselves diseased. Those which we take in in respiration are borne on the dust formed of the dried expectoration or other secretions of tuberculous persons. To limit the spread of tuberculosis all improvements in the comfort of the population are efficient as raising the standard of resistance to infection, and this particularly holds for improvement of their dwellings. But a special need exists for supervision of their food supply, so as to exclude all manifestly infective material from consumption. There ought to be public instruction as to the need of efficient cooking of all food liable to tuberculous contamination. The regulation of the milk and meat supply, whether from home or foreign sources, is especially urgent.

The separation as far as possible of the tubercular from the healthy is desirable, that method being already in use in every other infectious disease which has been the object of sanitary control, and only neglected in this one because of ignorance or apathy. The erection of consumption hospitals is a crying need all over the world, but nowhere more urgent than in Ireland. The disinfection of the dwellings and belongings of consumptives is as urgent as disinfection in the case of any other contagious disease.

Lastly, the sanitary service of the city ought to be organised on the basis of intelligence and efficiency, and on none other.

APPENDIX No. 45.

EXTRACT from THIRD ANNUAL REPORT of the PHILANTHROPIC REFORM ASSOCIATION for the year ended 30th April, 1899, on the subject of TENEMENT HOUSES in Dublin.

(Put in by Mr. EASON, J.P.)

At the Congress of the Royal Institute of Public Health, in Dublin, in August, 1898, a paper on Tenement Houses was read by our Secretary, Mrs. Tolerton. The insanitary condition of many houses, and the need for more stringent regulations and more energetic enforcement of the Bye-Laws relating to such dwellings, were forcibly pointed out. The *Daily Nation* published during September a series of most important articles, describing in detail the shocking condition of many tenement houses, and the failure to enforce the Bye-Laws in regard to them. On September 23rd, 1898, a general meeting of this Association was held, at which our President, the Right Hon. the Earl of Meath, occupied the chair. The following resolutions were passed:—

(I.) That the Public Health Acts and Bye-Laws which require the owners of houses occupied by members of more than one family, to provide sufficient sanitary accommodation, and a sufficient supply of pure water, and to have the courts and court-yards properly paved, are not universally enforced, and that more vigorous efforts on the part of the Corporation to compel the carrying out of these obligations is urgently required.

Proposed by Sir W. Stokes, M.D

Seconded by Alexander Conan Esq.

(II.) That inasmuch as the existing Bye-Laws do not provide effectively for the punishment of tenants who misuse the fixtures and appliances provided by the landlord, and do not throw upon the tenants the obligation of keeping the rooms and passages clean and well ventilated, immediate steps should be taken to revise the Bye-Laws, and to obtain additional legal powers, if necessary.

Proposed by Dean Dickinson.

Seconded by J. Hatchell, Esq., D.L.

(III.) That to secure the more thorough inspection and supervision of lodging-houses, the appointment of some women as Sanitary Inspectors is most desirable.

Proposed by W. Field, Esq., M.P.

Seconded by Rev. J. D. Osborne, M.A.

The Lord Mayor of Dublin and Sir Charles Cameron were present, and stated that steps were being taken to revise the Bye-Laws relating to tenement houses, and also that they were in favour of appointing some women as sanitary inspectors.

APPENDIX No. 46.

STATEMENT as to EMPLOYMENT of PLUMBERS as SANITARY INSPECTORS in large towns in England and Scotland.

(By Mr. ROSS, M.INST.C.E.)

I have ascertained that Edinburgh, with a population of 256,000, employs 13 plumbers as sanitary inspectors and inspectors of water fittings.

Glasgow, population 588,000, has 19 plumbers so employed.

Manchester, population 505,000, has 15 plumbers employed as inspectors.

Bristol,	population	221,000	has	7	plumbers,
Leeds,	,,	367,000	,,	12	,,
Bradford,	,,	216,000	,,	8	,,
Nottingham,	,,	214,000	,,	6	,,

all employed as sanitary inspectors, and in addition the London County Council, ten London Vestries and District Boards and Birmingham, Derby, Eastbourne, Plymouth, Southampton, Southend. Stockton, Wolverhampton, &c., employ registered plumbers as sanitary inspectors or inspectors of nuisances. registered plumbers are also employed as inspectors of water fittings at Belfast, Birmingham, Leeds, Bradford, Liverpool, Nottingham, and Southampton. The average salary of the whole of these instances is about £2 per week. The new River Company, one of the largest London water companies, requires all plumbers authorised to connect water fittings to be registered plumbers. The governing bodies of several infirmaries, hospitals and school boards also require the employment of registered plumbers. In all the cases quoted the authorities recognise the security of employing Registered Plumbers.

APPENDIX No. 47.

REPORT by Dr. JAMES LITTLE, Regius Professor of Physic in the University of Dublin, Physician to the Adelaide Hospital, Dublin, giving his views as to the CAUSES of the HIGH DEATH-RATE in Dublin.

I gave evidence before the Commission of 1879. My conviction remains that a great cause of the high death-rate is the habits of the people. It has, I believe, been brought out in evidence this time. High mortality is not among the professional or business population, but among the labourers and artizans, &c. The want of cleanliness, ventilation, good beds, warm clothes, properly cooked food, is great. This arises from want of forethought, want of thrift, giving way to impulse of moment without any thoughts of the wants of to-morrow, but chiefly to intemperance.

Intemperance has diminished during the last forty years among people of independent means, professional men, and business men, but has increased among clerks, artizans, and labourers—a great number of these who sell drink are intemperate. Quite young men have constitutions so undermined that they have no resisting power. Intemperance has spread among women, and is accountable for the wretched state of their homes. If a respectable girl is married she is dragged down by the example and the ridicule of the other women occupying the same house.

I am familiar with most towns of the size of Dublin in Europe, and nothing like the dirt and dilapidation of Dublin exists anywhere.

Wages in Dublin have increased 50 to 100 per cent. during last forty years, but the additional money so gained has to a great extent only produced more idleness and more drunkenness. It has also been, I fear, injurious in stamping out some trades—the goods now being imported which formerly were manufactured.

The buildings of the Artizans' Company and of the Guinness Trust have done good; the visits of the Nursing Sisters are useful. I think if there were more places where labourers could get meals and lodgings it might do good.

Question of large Isolation Hospital—Small-pox; scarlatina—does not believe small hospitals danger to neighbourhood.

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