site at a distance from the town, got permission to prepare plans, and took other initial steps. But, on communicating with the Board of Supervision, it was pointed out that under the present law the local authority had no power to send patients to any hospital outside the burgh. Thus, unless a hospital be erected where it will be a great danger to the public health, it need not be erected at all, as infectious cases cannot be compulsorily removed to it. So, too, when a medical officer saw continually around outbreaks of infectious disease, that could easily be prevented by compulsory notification, he longed for even an instalment of reform. But, in view of the prolongation of limited sanitary areas, of want of power to prevent the introduction of milk-conveyed diseases from rural to town districts, and of the delay that would likely ensue in the passing of a general Public Health Act, it seemed, to the speaker, that the sanitary clauses of the new Police Bill would do far more harm than good.—**Dr. CORNER** (Poplar, London), said, as illustrating the great necessity of giving to rural populations the same protection as the urban, he would give an illustration of importance to Scotland as a great health resort. Three years ago, in the centre of Sutherlandshire, in a wayside fishing inn, his son sickened with typhoid. Professor Church, of Oxford, another inmate, also was infected and nearly lost his life. The proprietor and other members of his family were similarly affected; and, worse still, he believed they were the means of taking the infection to the next hotel—leading to the death of one of the inmates. On inquiry he ascertained that the origin of this local epidemic was from some labourers who slept in an outhouse belonging to the inn, one of whom had fever and delirium for a day or two. And he knew, from the circumstances of these parts, that, given the importation of a case of typhoid, there was great probability of its spread, both through the water-supply and the character of the drainage.—**Dr. FITZPATRICK** (Liverpool) said that the permissive clauses should be struck out of the Public Health Act. Dual or single notification was useless, unless accommodation existed for isolation. Medical officers of health should be appointed permanently, and should not be engaged in private practice, as otherwise friction must always occur. The State took more care of the health of cattle than of human beings; in the former case they compelled isolation, in the latter they were allowed at pleasure to mix with their fellows.—**Dr. GRAHAM** (Middleton), speaking in support of the resolution, objected to piecemeal legislation and division into urban and rural districts. He was informed that 90 per cent. of cases of infectious diseases were notified round Manchester, where there was no compulsory provision; and he thought even that was satisfactory evidence to make what worked fairly well in some districts compulsory in all. Combinations of districts ought to provide hospitals for infectious diseases as they had done, contributing in proportion to population. The improvement in the law in Scotland, it was hoped, would be followed by the same in England.

It was proposed by **Dr. ALFRED CARPENTER**, and seconded by **Dr. EBEN DUNCAN**:

"That this Section reaffirm the resolution passed already in this Section, and are of opinion that a Local Government Bill, containing provision for the protection of the public health, should be introduced as a Government measure during the next session of Parliament, and that the Council be requested to transmit a representation to that effect to the Lord Advocate and to the Secretary of State for Scotland."

This was carried unanimously.

REQUESTS AND DONATIONS.—**Dame Laura Buchan**, widow of Lieutenant-General Sir John Buchan, K.C.B., bequeathed £1,000 each to the Isle of Man General Hospital, the Middlesex Hospital, and the Hospital for Sick Children, and £500 each to the Hospital for Consumption and Diseases of the Chest, and the Royal National Hospital for Consumption and Diseases of the Chest.—**The Hospital for Diseases of the Throat and Chest** and **St. Peter's Hospital for Stone** have each received £100 under the will of Lord Northwick.—**Mr. John Turner** bequeathed £100 to the Huddersfield Infirmary.—**Thomas S —, Esq.**, has given £200 to the Metropolitan Hospital, Kingsland Road.—**The Hon. H. E. Butler**, of Eagle Hall, Pateley Bridge, has given 100 guineas to the building fund of the Harrogate Bath Hospital.—**The Mercers' Company** have given 100 guineas additional, each to the Royal Free Hospital and the Royal National Hospital for Consumption and Diseases of the Chest.—**Mrs. Dowling** has given £50 additional to the Charing Cross Hospital.

ON EXTENSION OF THE SYSTEM OF NOTIFICATION OF INFECTIOUS DISEASE, WITH ESPECIAL REFERENCE TO A PROPOSED NATIONAL SYSTEM OF DISEASE REGISTRATION.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association, in Glasgow, August, 1888.

By **JOHN TATHAM, B.A., M.D. UNIV. DUBL.**,
Medical Officer of Health, Salford Borough.

THE general subject of compulsory notification of infectious disease has now been before the medical profession for a considerable period, and the advocates and opponents of the several "systems" have certainly had a fair opportunity of airing their opinions in the medical press.

It is not my object to-day to elicit further controversy on the so-called "burning question," which has been so warmly discussed of late in our leading periodicals. I am content to record and to gratefully realise the fact that, having had experience in my own borough of the concurrent advantages of disease notification and hospital isolation, for a period of nearly six years, I find that these systems have been productive of substantial benefit to the health of the people, and that the advantages which we derive from notification accumulate steadily as time goes on. The public are gradually becoming more accustomed to the visits of the sanitary inspectors, and increasingly appreciative of the advantages of hospital isolation. During the period which has elapsed since the Salford Notification Act was first put into operation, more than eight thousand cases of dangerous infectious disease have been reported to the Health Department; and of this total, not less than 43 per cent. have been removed to hospital. The proportion of cases isolated has steadily increased year by year, for, whereas in 1883, the first year of work under the Notification Act, only 26 per cent. of the notified cases were removed to hospital, this proportion during the last two years has approached 50 per cent. But the removal of even this large proportion of the reported cases, and the consequent disinfection of places and things, is not the only expedient which notification furnishes for the suppression of infectious disease. If it were, there would be considerable force in the objection that the mischief done by the residue of patients who are treated at home would counteract the good effect of removal, and would to a great extent perpetuate the spread of infection amongst the remainder of the population.

In the first place, we are able to control the attendance at school of infective children, by promptly communicating the fact of the existence of infection, in a house containing school children, to the master or mistress of the school attended. On an average, about one thousand letters annually, having this object, are despatched by our health department. We also encourage the school authorities to report to the health office, on stamped forms gratuitously supplied, any cases of suspected concealment of infectious disease in houses containing children of school age, and thus we frequently obtain information of unrecognised or of slight cases, which might otherwise have led to serious diffusion of infection. A vast amount of inspection of premises, together with the adoption of necessary sanitary measures, has been carried out as a consequence of notification, which, without it, could scarcely have been effected; and the operations consequently carried out have, in numerous instances, led to the removal of causes of disease and of ill-health.

Again, the inspectors, in the course of their inquiry, frequently encounter timely evidence of other conditions which in themselves are likely to lead to disseminate infection. Thus, for instance, it is not uncommon to find in a room in which the business of a tailors or that of a laundress is in active operation, a child suffering from scarlet fever, and being nursed by the parent, who devotes her intervals of leisure to her ordinary handicraft. Again, the inspectors frequently discover infective patients in dangerous proximity to milk-supplies, exposed for public sale in premises probably too small, under the most favourable circumstances, for the safe storage of milk. In these and other instances,

the list of which might be extended almost indefinitely, we are able to give advice or to take steps which are certain to be of service in protecting the public against many sorts of infection. It is needless to say that these useful functions would be impracticable, in default of the essential information which notification supplies.

But the advantage which Salford and other protected towns derive from compulsory notification is seriously diminished by the merely local application of the Act, which should obviously be a general measure and should apply to all parts of the country. Again and again have we had to complain of the importation of infection into Salford from non-notification outside districts immediately contiguous to our boundaries. Only recently we had to make serious complaints of the conduct of a neighbouring sanitary authority, for allowing scarlet fever to run riot on the confines of one of our poorer and very populous districts without making the slightest effort to check its spread, or even to keep the convalescents within doors. Against this same authority we were, not long since, obliged to prefer a serious charge before the Local Government Board, for sending into our midst a caravan of typhus-stricken gipsies, which might, and probably would, have spread that pestilence in Salford had we been unprovided with complete arrangements for their isolation.

Compulsory notification of infectious disease ought to form part of the statute law of the land. And the difficulty and expense attendant on private Bill legislation, which at present hinders sanitary authorities desirous of obtaining compulsory powers for this object, should forthwith be done away with.

The Local Government Board have frequently been approached on this subject, and, if I mistake not, by the Parliamentary Bills Committee of this Association. And such has been the pressure which has been brought to bear on the Board that, in the autumn of last year, they issued circulars to the authorities of the forty-eight existing notification towns, asking for particulars and opinions, as to the working of the several Acts. The reply which was sent from Salford has been printed, and, as it shows the scope and general character of the questions proposed, I have brought copies of it with me for distribution.

The proposition that the sanitary authorities of the country, as the responsible guardians of the public health, ought to be kept constantly informed as to the presence of infectious disease in their several districts, is one upon which there is now, amongst medical men, a practical unanimity. At the annual meeting of our Association, which was held in Brighton in 1886, the Public Medicine Section unanimously passed a resolution affirming the opinion of the Section that, even then, the time had fully arrived when the protection afforded to certain urban communities by local Acts for the compulsory notification of infectious disease should be extended to the population generally; and they therefore recommended the Council of the Association, at an early date, to consider the advisability of endeavouring to promote general legislation with this object in view.

Since the passing of this resolution, two years ago, the education of public opinion, municipal as well as general, has progressed apace. The subject can no longer be said to be an exclusively medical one, and for this consummation I for one am profoundly thankful. It gives me pleasure to record that at a meeting of that powerful representative body, the Association of Municipal Corporations, held in London on the 8th of March last, the Mayor of Salford, Mr. Alderman Dickins, introduced the subject of compulsory notification, with a view of bringing pressure to bear upon the Government to introduce a measure for the extension of that system to the country generally. The Mayor was successful in obtaining the unanimous assent of that powerful Association to the following important resolution:

"That a memorial be presented by this Association to the Local Government Board, praying them to introduce, or to give active support to, a Bill for the compulsory notification of infectious disease throughout the country generally."

Very shortly after the passing of this resolution a Bill with the above object in view was introduced into the House of Commons by Mr. Hastings, Dr. Farquharson, Mr. Francis Powell, and others; and the Bill advanced, I believe, as far as the second reading. It was, however, withdrawn as the session drew towards a close, for some unexplained reason, notwithstanding that the Bill had the cordial support of the Government. Whilst the above Bill was still before the House, awaiting its second reading, the following memorial, which was signed by about thirty medical officers of health of the existing notification towns, was forwarded to Mr. Ritchie through Mr. F. S. Powell, M.P.

To the Right Honourable Charles Thomson Ritchie, M.P., President of the Local Government Board.

The memorial of the undersigned respectfully sheweth:—

1. That your memorialists are medical officers of health holding appointments in towns already furnished with powers for the compulsory notification of infectious disease.

2. That, after considerable experience, your memorialists are convinced (a) that the system of compulsory notification, when administered with faithfulness and tact, enables a sanitary authority effectually to protect itself against incursions of infectious disease; and (b) that infectious disease, as it occurs in dense and poor populations, cannot be properly controlled, unless the local sanitary authorities are legally empowered to acquire prompt information of the earliest attacks of those diseases, for in no other way is it possible to secure either isolation or the proper treatment of the sick poor.

3. That your memorialists are pleased to find that a Bill which has for its object the extension to the country generally of powers for the compulsory notification of infectious disease has recently been submitted to the House of Commons by Mr. Hastings, Mr. Powell, and others. Your memorialists are also glad to notice that, at the instance of the Mayor of Salford, the Association of Municipal Corporations have unanimously agreed to memorialise the Local Government Board either to give active support to this Bill, or to introduce a Government measure with a similar object in view.

Your memorialists desire very cordially to support the prayer of the important Association referred to, and they respectfully ask you to lend the weight of your powerful influence to secure the general extension of compulsory notification throughout the country, and to facilitate the acquisition of compulsory powers by any sanitary authority, as provided for in Mr. Hastings's Bill, and without the trouble and expense of promoting a private Bill in Parliament.

And your memorialists will ever pray.

Signed on behalf of the memorialists—

JOHN TATHAM, B.A., M.D., Medical Officer of Health.

Town Hall, Salford, May 14th, 1888.

Mr. Ritchie has also been requested by the majority of the signatories to the above memorial to receive a deputation of medical officers of health, with the object of expressing to him their views personally. We are still awaiting Mr. Ritchie's reply to this request.

National Registration of Infectious Disease.—And now I come to a subject which is certainly complementary to that of compulsory notification, and which I believe to be of almost equal importance to the public health and to scientific medicine. I refer to the great need which exists for the establishment of a national system of disease registration, limited in the first instance to that of dangerous infectious disease. I am, of course, aware that the present is no novel proposal, but I think that the present time is peculiarly opportune for a revival of the scheme. Many years ago, Dr. Richardson, F.R.S., carried on for some time, and at his private expense, a voluntary system of sickness registration, which he was eventually obliged to relinquish, as, at that time, impracticable; and Dr. Ransome, F.R.S., of Manchester, carried on for twenty-five years a similar but more successful system in connection with the Manchester and Salford Sanitary Association. This latter project was discontinued only on the establishment of a compulsory system of notification in Manchester and Salford, and the record is now kept up by the health department of these towns. Although powers for the compulsory notification of infectious disease exist in fifty-two important British towns, nevertheless no machinery at present exists by which the information locally collected may be published and rendered generally available. As an instance, however, of what is practicable in this direction, I may briefly relate the history of a private arrangement, which, with the co-operation of thirty-two of my colleagues in other notification towns, and with the approval of my own sanitary authority, I have been carrying out since the beginning of the present year, to secure the end in view. This arrangement has for its object the circulation confidentially, amongst the contributing medical officers of health, of weekly returns of infectious sickness reported in the several areas. It was brought about as follows: Early in January last I wrote to the medical officers of health of all the towns which at that time possessed notification powers to the following effect:—

"Urban Sanitary Authority,

"Town Hall, Salford, January 5th, 1888.

"MY DEAR SIR,—At their meeting this morning the Health Committee of this borough had under their anxious consideration the rumours now current with respect to the alarming spread of small-pox, scarcely a day passing on which we do not hear of the invasion of some previously uninfected town by this disease.

"My Committee view with great concern the fact that, even between towns which possess powers for the compulsory notification of infectious disease, there exists at present no organisation by which one sanitary authority may receive timely warning of the existence of infectious disease in the district of a neighbouring authority. My Committee are of opinion that the collection and publication of this information at short (say weekly) intervals is a duty which ought to be undertaken by the central authority

But, failing this, they direct me, on their behalf, to suggest to the sanitary authorities of other protected towns in this neighbourhood that an arrangement should be previously adopted by which, to some extent, the object alluded to may be attained. I shall, therefore, be happy to forward you, at the termination of each successive week, a list of the cases of infectious disease reported to me under the Notification Act, and shall be obliged if you will kindly favour me with similar weekly information respecting your own district. I have the pleasure of forwarding you herewith my return for last week, and beg to remain, my dear Sir, yours very faithfully,

JOHN TATHAM.

To this appeal I received favourable replies from thirty-two health officers; and, thus powerfully supported, I set to work forthwith. With a view of rendering the circulation of local returns as little irksome as possible to my fellow contributors, I at once made arrangements for the tabulation in my own office of the weekly returns from the several towns, and the construction of a table which, by the aid of a copying-press, I was able to circulate early in each week to my several colleagues.

The object which I had in view in undertaking the collection and circulation of returns, as here described, was that of testing the practicability of establishing a register of infectious disease. This practicability having been established, I at once took steps to introduce the matter to the notice of the Local Government Board, with the suggestion that they, as the central authority, should take the matter in hand as a "going concern," and relieve me of a duty which appeared to belong more fitly to a State department.

In order to enlist the support of my colleagues in this appeal to headquarters, I addressed a communication to each of my colleagues, asking their co-operation, as follows:

"Urban Sanitary Authority,

"Town Hall, Salford, March 19th, 1888.

"MY DEAR SIR,—The project of collecting and circulating returns of infectious sickness, which, with the co-operation of my colleagues of the Public Health Service, I have been privileged to carry out since the beginning of the year, has been very successful; and I hear from many correspondents that the timely information—especially as to small-pox incidence—which I have been the humble means of distributing, has proved of great assistance to the authorities concerned.

"The returns from the several towns have been regularly sent in, and I have been able to present a copy to each of my contributors on the Thursday in each week.

"Situated, however, as I am—with a small and an over-worked clerical staff—you will easily understand that I should like to be relieved of my self-imposed duty, if only I could secure that it would be faithfully discharged by others. Whilst, therefore, I have no immediate intention of discontinuing the circulation of these returns, I think you will agree with me that the proper authority to publish them is the Local Government Board; and the object of the present letter is to ask you to help me to induce that Board to take upon themselves this important function.

"If, therefore, you would obtain from your Health Committee an expression of opinion (in the form of a resolution to be forwarded to the President) affirming the desirability of the weekly publication by the Local Government Board of sickness returns for the several notification towns, I think that the object would eventually be attained. I have myself obtained the concurrence of my own Health Committee in this view, and I have little doubt that if the Local Government Board found that a similar desire obtained amongst a considerable number of the notification authorities, the Board would accede to the request.

"Kindly send me a reply, saying whether or not you will help me in this way; and, in the event of your consenting to do so, be good enough to obtain the resolution and have it forwarded to the Board on the earliest practical occasion.—I remain, my dear Sir, yours very faithfully and obliged,

JOHN TATHAM.

I also obtained from the Salford Health Committee the following resolution, which was duly forwarded to the President of the Local Government Board:

"The Health Committee of this borough having had under their consideration the representations of their medical officer of health on the subject of disease registration, are of opinion that a system of central registration of infectious disease is desirable (similar to that of the Registrar General in respect of deaths), whereby sanitary authorities of one 'notification town' may be warned in time of the approach of any infectious disease from other towns

of the country. And this Committee therefore respectfully urges the Local Government Board to undertake the collection and publication of weekly returns of infectious sickness for all the towns which are provided with legal powers for the compulsory notification of infectious disease."

On the receipt of this resolution, together with a large number of similar communications from other notification towns, the Local Government Board addressed a circular of inquiry, not to the medical officers of health, but to the sanitary authorities themselves, of all the towns possessing notification powers, asking whether, in the event of the Board's undertaking the publication of weekly returns of sickness, the authorities individually would agree to furnish the Board with the requisite local returns. I do not know the exact number of favourable replies which the Board received to their circular, but I have received information from my colleagues that the Board's proposal has met with general approval.

Why the Board should still hesitate to perform what would appear to outsiders a peculiarly appropriate function, it is a little difficult to understand. The suggestion, however, has been offered to the Board as a practical one, and I hope shortly to see it carried into effect.

THE SEWAGE QUESTION IN GLASGOW.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By J. B. RUSSELL, M.D.,

Medical Officer of Health, Glasgow.

THE disposal of sewage is a subject which has a very present interest to the community of Glasgow; and I am sure no part of the proceedings of the British Medical Association will attract more public attention or raise greater hopes of local advantage than the discussion now to be begun. In this view I think the most useful contribution I can make to the proceedings is to give a very condensed statement of the history and present position of the question of sewage disposal as it affects Glasgow. The Association could not do a greater service to the community which is now honoured with its entertainment than by giving the discussion special reference to the difficulties of their sewage question. The practical utility of the advice of experts depends upon the extent to which their individual theories are adapted to the circumstances of the case upon which they are consulted. Within the drainage area of the Clyde there are "large towns," "small towns," and "country districts" presenting such variety of circumstances, that nothing which can be said on sewage disposal can be entirely destitute of application to some item in the vast problem of its purification. The question which most interests the great community of which Glasgow is the centre is what method is on the whole best suited to their circumstances.

The history of the Glasgow "sewage question" is the same as of every other sewage question which exercises, or has exercised, the minds of the inhabitants of cities. The successive steps are sewers, water-supply, water-closets, polluted tributaries, then pollution of the main stream. The first common sewers were formed in 1790. The first common water-supply was taken from the Clyde above the town in 1806, and supplemented from the same source in 1808. In 1831, we are told that "Till the formation of the Glasgow Water Works in 1806, there were very few water-closets in the city, but they are now to be found, not only in the first, but in the second and third rate houses." At this date there were five miles of sewers laid down in forty-five streets. They had been extended to forty-one miles by 1848, and to sixty miles in 1860. Just as sewers extended, complaints of the foulness of the numerous local tributaries of the Clyde arose; beginning with the Molendinar, on whose banks the city was first planted. The visitations of cholera in 1832, 1848, and 1853, increasingly virulent within the area of the river water-supply, showed that even two miles and a half above Glasgow Bridge the Clyde had, from pollution of its upper reaches, ceased to be fit for dietic use.

The Gorbals gravitation water, introduced to the south side of the river in 1846, shielded that portion of the city from the cholera in 1853; and Loch Katrine water, introduced in 1859, com-