THESIS

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BY

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Subject

Some Difficulties in the Diagnosis of Infectious Diseases with Relation to the Notification Act

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SOME DIFFICULTIES IN THE DIAGNOSIS

of

INFECTIOUS DISEASES

With relation to the Notification Act

To the general practitioner of the present day there is, perhaps, no subject which is a source of more irritation and petty annoyance than the difficulties that occasionally arise in the carrying out of the details which the Infectious Diseases Notification Act devolves upon him. Much of this trouble arises from the impatience or fear which excites the family of those who are threatened with a visit of one or other of the diseases which require to be notified to the

Sanitary authorities. Some people have such an unreasonable fear of all forms of infectious diseases that they would, if possible, deceive themselves and the medical man whose painful duty it is to inform them of the nature of the ailment; and by some strange mental process try to persuade themselves that, in so doing, they are averting the dangers or disagreeable accompaniments. Again, it may be that the family is so eager for an offhand diagnosis and is impatient or unreasonable when the symptoms, or want of symptoms, are such as to render it unsafe or difficult to make a diagnosis at first sight from the symptoms which may be of an indefinite or conflicting character. In such cases one has very often to consider the question whether the penalty paid in the loss of reputation is greater when a case of infectious disease is overlooked than when he notifies unnecessarily and surrounds his patient with the irritating restrictions which notification entails.

If, when you have given your verdict and made known the fact that in your opinion the patient is suffering from one of the diseases scheduled in the Act, the matter were to end there, all might be well, but when the patient or the patient's friends dispute your diagnosis: (and from interested motives this is often done) then the trouble and worry begin. The landlady does not wish the removal of a good paying lodger, the husband says - Who will nurse his wife? - both husband and wife consider that too much fuss is being made about very little, and all the children are being kept from school just as the session has begun and the fees have been paid; or if a child is kept at home who has had a simple rash that could scarcely be seen, all the grown-up members of the family who are at business must meantime leave the house, and so on. Another medical practitioner may be called in, not because the people wish an honest statement of fact, but on

the chance that his diagnosis may be different from yours, and that the removal of a patient may not be enforced or the members of the family may be allowed to go out and in as usual. Or the Medical Officer of Health may be sent for, he may decide that you are right in your diagnosis or he may differ from your diagnosis and tell the people so; or, as is sometimes the case, he may leave the matter of deciding an open question but act on your certificate and compel the law to be observed so far as isolation or removal and disinfection are concerned, and leave you to fight the battle with your patient as best you may, in which case the likelihood is that the patient considers that your want of skill or carelessness has been the cause of all the trouble which the carrying out of the Act entails, and as a result you lose your reputation; and as far as that family is concerned, your practice also. Under these circumstances one is very much

inclined to reason that if municipalities and other bodies of local government are to assume the right to say what is, and what is not right to do in the disposal of cases of infectious disease, they should also now and again take the responsibility of saying what is and what is not infectious. If all the cases of infectious disease which one was called in to see were typical in character, and if the cases were seen from the time when the earliest symptoms became manifest, the matter of diagnosis would be very much simplified, but when the cases are not typical in their character and further, when some time may have elapsed before the medical practitioner has been called, the difficulty of diagnosis is often very great and surrounded with much perplexity. That such is the case is borne out by the fact that a large number of cases sent in to our public hospitals are found, after admission, not to be suffering from the disease

mentioned in the Schedule of Notification. Cases of follicular tonsillitis are sent in as diphtheria, measles as scarlatina, and vice versa. Pneumonia is repeatedly sent in labelled enteric, and not very long ago I remember a case of smallpox, which was seen by two medical men the day previous to admission, being sent in to one of the infirmaries as a case of pneumonia. During the year 1895-96, of 1,202 patients who were admitted to the Hospitals of the Metropolitan Asylums Board certified as suffering from diphtheria 425 cases were afterwards found to have been wrongly diagnosed, a considerable number being found to be suffering from scarlatina and the most of the others being follicular tonsillitis. The superintendents of the hospitals say that although wrongly diagnosed most of the cases were very ill, and all agree in the difficulties that lie in the way of early diagnosis.

Realizing these difficulties, and with the hope of getting to know something more of what

might be called doubtful or uncertain cases, early this year (1896) two wards were set apart in Parliamentary Road Hospital (which is exclusively used for scarlet fever) and into these wards were put all patients said to be suffering from scarlet fever, but having no apparent symptoms thereof on admission. For the first few weeks 39 cases were admitted and treated to their termination, and the after history is curious as well as instructive. 16 or 41% displayed at some subsequent period of their residence desquamation or other confirming signs; 5 or 13% doubtful desquamation, i.e. usually some indefinite kind of shedding little bits of skin about the tips of the fingers, or heels; and 18 or 46% had no after symptoms whatever. Now, how are we to dispose of those 18 cases which showed no signs of scarlet? It would be easy to do so by regarding them as mistakes of diagnosis. Some no doubt were, and as the practi-

tioners who sent them in may have seen the cases only once or twice before certifying, we can easily understand how such mistakes might occur even with men of skill and experience in their profession. It is easy to understand how one might be led astray by the rash of erythema or the throat of tonsillitis, but in whatever way the mistakes arose no doubt there was something in all the cases which suggested scarlet fever when they were notified. But allowing for one or two mistakes in the 18, what about the remainder? Are we to say that because these cases showed no symptoms of desquamation or albuminuria that therefore they were not cases of scarlatina at all? I do not think it would be safe to arrive at this conclusion without further consideration of the questions which these indefinite forms of infectious disease bring up. The questions indeed are such as are almost daily presented to every member of the profession

whenever the nature of an illness is not written in legible characters, but has to be inferred by a balancing of probabilities usually more or less of a destructive order. In such circumstances there is unhappily no short and convenient method or formula by which the question can be worked out, but a frank admission that difficulties exist is the first step towards their discussion and solution.

It now and again happens to every medical man that a given indefinite rash is regarded as measles or erythema when subsequently desquamation and nephritis occur to tell us that we have been misled by the earlier symptoms. But where there is no subsequent development of symptoms (and such cases are by no means rare), in what light are we to regard the earlier ones? We might endeavour to explain all such symptoms by reference to some temporary disturbance of the digestive process, but in doing so we might be

wrong as well as right, as the following case will show.

On the 9th of August last I was called in to see a patient, a married woman about 35 years of age with a young family, who complained of painful dyspepsia with troublesome constipation. She informed me that she had been vomiting, but felt so exhausted for want of food that she could not leave her bed. On my uncovering the chest and abdomen for examination, I found a rash extending to about the knees suggestive of scarlet fever. As the rash had not been observed till I drew attention to it, I could get no history of when it began to come out. Pulse and temperature were normal and there was no hyperaemia of the fauces. I treated the gastric symptoms and ordered the patient to remain in bed, explaining that I was afraid the rash might be scarlatina. The following day the rash was very much less in evidence, but both ears were very painful and

swollen, and presented the appearance of erysipelas. I treated for erysipelas and reported the case as such. On the third day after my first visit the rash had quite disappeared, and the patient felt so much better that I did not deem it necessary to continue further attendance. I left instructions to keep a careful watch for desquamation. The patient had seen and nursed scarlatina patients, and was familiar with the process of desquamation. I also warned the patient against exposure to cold, and explained the reasons why this care was necessary. On the 27th of August, 16 days after my first visit, I was again called in when I found my patient suffering from acute nephritis characterised by albuminuria and dropsy. Feeling quite well again she had ventured out a few days previously, with this result. Desquamation was also present, but had been overlooked, as it was not of a marked character. I reported the case to the Sanitary authorities as Scarlatina, and

took all the precautions necessary to prevent the spread of the disease. Neither the woman's husband nor any of her five children were afterwards affected by the disease. In this case I was led astray by the earlier evidence and assumed that the rash was due to the gastric symptoms, seeing that there was entire absence of fever or throat affection, which are usually so marked symptoms in this disease. In all cases such as this we might endeavour to explain such symptoms by reference to some temporary disturbance of the digestive process, although in this particular case I was wrong. That some cases may be so will be readily granted, if opinion is to be based on the character of the rash alone. Indeed the pathological potency, if one may use such a phrase, of the ptomaines which the alimentary canal in some conditions of digestion, or rather of indigestion, contains, is strikingly displayed in the results which occasionally follow the administration of a simple enema.

Erythemas of the recurrent variety are also very prone to lead one astray by the fact that they are more inclined than the simple form to present a punctate appearance, very similar indeed, and probably owing a similar origin, to those rashes to which I have already alluded as now and again following the administration of enemata. But allowing for all this, the mass of these cases must, in the early stages, begin by creating a suspicion of scarlet fever and their clinical history ends there, but while the symptoms last they are distinguishable by no means that I know from those cases which, doubtful at first, in their subsequent development of desquamation or nephritis, fully establish their claim to be called scarlet fever.

In dealing with such cases in private practice, I think it must be admitted that we have genuine cases of scarlet fever where no rash has ever been observed even when watched for daily (I can remember more than one such case),

and very serious symptoms have resulted from such persons being exposed to cold, the subsequent results in these cases establishing beyond a doubt the nature of the illness. One example of this occurred in a family where I had three children laid up at the same time with scarlatina. The fourth child, a boy aged 12 years, was not at any time observed to have any rash, although this was watched for every day carefully. He was suddenly seized, however, one afternoon with uraemic convulsions brought on by cold whilst the kidneys were inflamed, and the subsequent history showed that he also had had an attack of scarlatina from which he nearly lost his life. No rash was ever seen nor any premonitory symptoms to give warning of what was going on in the child's system. A difficulty one has to contend with in many of these cases is the stupid or unreasonable attitude assumed by the friends of the patients or by the patients themselves. To illustrate what I have to say on this point I shall take as

an example another from my own practice.

A girl aged 16 years, employed in a millinery establishment in town, took ill and I was sent for. I found her with a temperature of 103°, rapid pulse and very slight difficulty in swallowing, this latter symptom being accounted for by a hyperaemia of the fauces and tonsils. Next day these symptoms were supplemented by a fugitive blush over the upper part of the chest, and the clinical picture thus formed was sufficient to suggest an ill-defined attack of scarlet fever. As the girl was in lodgings her parents were sent for, and the father of the girl came as soon as possible. Unfortunately for all parties, he happened to be one of those by no means rare people who are so constituted mentally that the merest suggestion of infectious disease is regarded as a blot on the family escutcheon. His appearance in the field was, therefore, followed by a prompt declaration of hostility to my diagnosis, and a demand for further advice. By this time it was the morning of the fourth day

since the first symptoms were noticed, and when seen by another practitioner in conjunction with myself every symptom had vanished except some hyperaemia of the fauces, the patient seemingly having regained her usual state of health. The medical gentleman called in stated quite frankly that he could see no symptoms of scarlatina, but admitted that I might be right in thinking it so. He, however, was inclined to look upon the case as not being infectious, and to think that nothing should be done. This decision pleased the father; the consultant being an older practitioner, I reluctantly acquiesced in his views of the case and in a few days the patient was allowed to go about and then returned to business. Now in this case, whilst I alone was able to assert quite positively that certain symptoms had been observed by me and that these symptoms were such as to lead me to consider this as a case suggestive of scarlatina and that my conclusions in the circumstances were quite unassailable by the subsequent negative condition when seen at the time of consultation, I did not

press my opinion unduly and in a few days (no other symptoms following to confirm a diagnosis of scarlatina) the patient returned to her situation with the following results. Three weeks after I was again called in to see the same patient. She was unconscious and suffering from uraemic convulsions, and there were abundant signs of desquamation. I saw her on a Tuesday morning and she died on the Friday following, never having regained consciousness. She had got her feet wet going to business one morning, and sat most part of a day with damp stockings on. Coming home at night she complained of cold, and general malaise and convulsions set in early on the following morning. The desquamation and uraemic convulsions left no doubt in my mind as to the cause of death; and confirmed my opinion, expressed at the beginning of the illness, that it was a case of scarlatina with a very mild rash.

In a case such as this, when there is no subsequent development of symptoms, or where the case

may not have been seen by a medical practitioner (there are many such especially amongst children), one can readily understand how a focus of disease may be established in the person so affected, and how wide-spread the results may be. Even in the case just stated it would be difficult to say how far reaching may have been the results of the patient's mixing with the public before being seized with her last illness. To allow a person even suspected of suffering from an infectious disease to go into a common workroom beside other workers, and handle goods that are being sent over the city, is, no doubt, very serious, but unless you can say positively that the person is really suffering from an infectious disease, I am afraid innocent people must suffer till the laws affecting this matter are altered very considerably. It is not such an easy problem to solve as one would think on looking at the matter hastily.

There are so many interests concerned, and so many points to be considered in the reporting

of infectious disease, that the utmost care has to be taken that nothing is done rashly either to give unnecessary trouble to the family affected on the one hand, and on the other hand to protect the public from unscrupulous individuals whose only consideration is their own comfort and convenience.

Many people are perfectly willing to allow others to suffer, no matter to what extent or how wide-spread the mischief may be, so that they can get matters arranged to suit their convenience. In this connection considerable influence is at times brought to bear on the medical practitioner, especially if he be a young man, to put matters in the most favourable light possible, or even to conceal cases that should be reported. When, however, one considers the real hardship which the entrance of one of the scheduled diseases sometimes entails on a family where the various members are engaged in warehouses, or where the younger members are at school, one can understand

how reluctant people sometimes are to call in a medical man in the case of one of these illnesses, just because of the upsetting of the whole arrangements of the family. Scarlet fever in these circumstances means the removal of all the members of the family from school for six or eight weeks, and that the older members (unless the house be very large), must either leave the house or absent themselves from business for the same period. On the other hand the sick member can go to the hospital, but this, in many cases, is a matter which people dread almost as much as death itself, although this feeling of aversion to public hospitals for infectious diseases is rapidly giving place to more rational views on the subject.

It may be said that the medical man has nothing to do with the hardships which the carrying out of the Notification Act entails on families, and that his duty is perfectly clear as to how he should act - report the case and leave the consequences to the families interested. If things

could be done in this easy off-hand way, I should never have thought of writing this paper, and it is simply because they cannot be done in this manner that I have been led to consider the matter. It might do for a Government official or the Medical Officer of Health to treat matters in this easy style, but it does not suit the average medical practitioner who has to conciliate his patients and avoid unpleasantness as far as is compatible with the proper discharge of his duty to his patients and the public. He has to make allowance for want of sense and, it may be, ignorance, and in many cases for want of consideration or judgment at a time when it may be the family are quite prostrated by the sudden invasion of what, to them, is a fearful calamity. He must sympathise with families who are placed in positions of real hardship by the entrance of one of the infectious diseases into the household. But when a case does occur, such as I have described in this girl whose early symptoms were so unsatisfactory from a diagnostic point of view, how are

we to act? This is the real point of difficulty, and it is one of the most difficult of all matters to get some people to understand that a disease such as scarlet fever assumes such a diversity of outward symptoms and gravity of character, from the most malignant type to that where the rash may be of the most evanescent character with little fever and the throat symptoms barely calling for treatment. In some cases, however, if all the usual symptoms are not present, and that in a degree so marked as to satisfy the popular idea of the disease, then the parents it may be of the patient are up in arms, and in the struggle that follows you are apt to lose your temper as well as your patient, and have anything but feelings of benevolence towards the Act which has been the cause of all your trouble. The position in which one is placed in circumstances such as I have described is very well illustrated by a case which came under my observation whilst writing this paper.

On the 20th June I was asked to see a girl aged 16 years who had been removed from Lochgoilhead the previous day as an ordinary passenger, but with a history of having had a scarlet rash all over her body in the early part of the previous week - about 6 days previously. She was seen by a medical gentleman in Lochgoilhead who gave the mother a note certifying that it was not a case of infectious disease and that she might with safety be removed to Glasgow. The girl's mother informed me that this young medical man pronounced the disease either nettle-rash or erythema. After making a careful examination of the patient, I said I had no doubt but that it was a case of scarlatina, there were still some remains of the rash, and distinct throat affection. I reported the case as scarlet fever very much against the wish of the mother who pressed me not to do so, as the "other doctor had said it was only a simple rash and not infectious." I soon found out that the reason why they (the girl's parents) were so anxious that

the case should not be reported was not so much that they doubted the accuracy of my diagnosis, although they professed to do so, as the fact that they had let their coast house to a family who had been allowed to take possession in ignorance of the girl's illness. It can be quite well understood that if they had informed the people who had taken their house of the illness and of their suspicions as to its true character, they would have lost their tenant and a month or two of rental, besides all this there was the fear of a prosecution for damages in the event of the same disease breaking out in the family of the people who had leased their coast house.

In asking the question how we are to act under the circumstances of a case such as this, where another medical man has already made a diagnosis which differs from yours, and which, as in this case, subsequent events proved to be a wrong diagnosis on his part, I do not mean to discuss the question of how the various diseases

under the heading of infectious may be diagnosed.

It might be interesting to discuss the question of the methods by which the various rashes which are suggestive of scarlatina, measles, or even German measles, may be distinguished from those of the diseases which they simulate, but I do not mean to do so now. I think, however, we might profitably consider how we should act in those ill-defined cases which are suggestive of scarlatina in which there may be an almost imperceptible rash or no rash whatever perceptible. Whither, for example, leaving out of account the final issue of the case, there is sufficient reason for regarding symptoms such as were present in the case of the first girl I have mentioned, as being in any way related to what is textually described, and what we daily recognise as scarlet fever. An enquiry of this kind almost of necessity exposes one to the charge of indulging in speculative pathology, but against this I would urge the enormous mass of well ascertained detail which has gathered

round and influenced our conception of the whole doctrine of infection. Dealing, however, as practical men with a practical issue, the question which each of us has now and again to answer for himself is this - should a patient with the symptoms described when I first saw the girl, be permitted whilst so suffering free congress with others, either in the family or the community at large? Should she go to school or work: for many grown up people remain at work whilst suffering even more acutely than she did, and many children go to school under the same conditions? Only about two months ago I sent three children to the hospital - members of one family - two of whom were attending school and had never been off one day from sickness, yet all three were desquamating freely and were undoubtedly suffering from scarlet fever. In this case it was only by the merest chance that the disease in the children was discovered. How far they had been instrumental in spreading the disease amongst others may be

imagined when I add that two of them were attending a public school with about 1,000 scholars. In this case the mother asserted that she did not, at any time, notice anything wrong with any of the children such as would hinder their going to school. It was only when I was called in to see the father of the family, who had been off duty for eight days suffering from sore throat, that the disease was discovered amongst the children. Eight days previous to my visit, the father, who is a railway official, was at Kilsyth on business, and feeling his throat sore, and having some time to wait for a train, he went to the surgery of a local practitioner who looked at his throat and gave him a gargle telling him at the same time that he had caught cold or had a slight touch of influenza. He remained at home for eight days before I was called in as he felt his throat bad still, although much better than it was when he saw the medical gentleman in Kilsyth. He said that he now felt able to resume his duties, but had sent

for me to see if I considered it to be safe for him to do so. I examined his throat, when I found a state of matters at once suggestive of scarlet fever which the further examination of his body showed to be correct. The rash on the body was of the most pronounced character, and left no room whatever for doubt, and the source from which he most likely caught the infection was not far distant - his three children. In this case the desquamation was very abundant, not only on the father, who remained at home for about six weeks, but also on the children who were detained in hospital for a longer period.

So far with cause and consequence thus confirmed there is no reason to doubt the earlier symptoms, indeed it most often happens that the occurrence of the consequence leads to the discovery of the cause though it did not quite do so in this case. But of greater importance from a clinical stand-point is the view we are to take of cases which have no after history in themselves and are not associated with disease in others.

In such cases confirmation of the diagnosis is impossible because the clinical history has been cut short at the introduction, and are we in consequence to reverse it and write down our first impressions as an error? This is a question which will be answered by each one strictly in accordance with the view which he takes of the doctrine of infection. Not so many years ago the question could scarcely be considered. The attack was either scarlet fever or it was not. If the fever was such as to lead to a decision in the affirmative it implied fever of a defined type, sore throat, well marked rash and desquamation - the seed must in fact become not only the sapling but the tree - were the development arrested at any stage that alone raised doubt as to the nature of the development itself. How this disposition arose is not for the present important. It is of importance, however, to discover whether it be correct; in other words, whether, when infectious disease invades

a patient, the clinical history is ever interrupted by recovery at any period short of the full development of the disease? And if we find reasonable ground for regarding this as possible, then to what extent should our view regarding the duration of infectivity be altered? No doubt, in these days of legislative control of infectious disease the tendency is to substitute the legal phrase for the clinical fact, and to measure pathological processes by the inflexible standard of a legal definition. It is an axiom in common acceptance by members of the legal profession that definitions are dangerous things and generally end in obscuring what they were intended to illuminate. This arises, it is true, from the limitation of language rendering every definition of necessity restrictive in its effect. The line has to be drawn somewhere, but the chances are that even the added information of the following years will demand an alteration, so that it may either include more or less than was originally intended.

It is quite evident that a sliding scale of this sort does not tend towards assisting in those snapshot diagnoses, which in common practice one is so often required to make. But, on the other hand, the history of not a few diseases confirms the impression that it is only by defining and reversing, or at least reversing the definition, that accuracy has been attained. The separation of enteric fever from typhus will occur to all as an illustration of this, and something like two or three centuries would appear to have been spent in discussing the various points of difference before it was finally decided that they were in reality two diseases. Measles is a further illustration of the same thing, and whilst we now clearly distinguish between measles and scarlatina it is not so easy in some cases to separate the latter and German measles. That there are very many points of resemblance between German measles and scarlet fever is, no doubt, true and in some cases the likeness is so close that anything like

drawing a hard and fast line of demarcation is out of the question. In a paper read at the Ulster Medical Society on the 4th February of the present year (1897) by Dr. Lindsay on "Helps to Diagnosis in Obscure Cases of Scarlatina," this resemblance between scarlatina and German measles is gone into very carefully, and it is shown that neither rash nor desquamation can be depended on as distinguishing features of scarlet fever. He says that "he had recently treated two cases of scarlet in the same room, one of which desquamated and the other did not. Some strange variations of type might sometimes be seen in scarlatina. Thus, the disease might be nonfebrile throughout, sore throat might be entirely absent and there might be no perceptible rash. Under these circumstances the diagnosis might be extremely difficult or even impossible. It was difficult to prove a negative in the case of scarlatina. The disease most often confused with scarlatina was German measles, and so difficult was, in some cases, the distinction,

that some good authorities still doubted the existence of the latter disease." In closing his paper Dr. Lindsay says (referring to the points of agreement and difference between the two diseases), "Attention to these points would often suffice for a diagnosis, but there is a residue of cases in which distinction between the two affections is practically impossible."

In the month of June last I had three cases of German measles in one family in which I had a rather remarkable illustration of what Dr. Lindsay in his paper endeavours to elucidate. The last of the three members of the family who was attacked was a child aged 4 years. The measles rash was so very slight that it might possibly have been overlooked altogether, but for the fact of the other members of the family being ill. The rash was almost wholly confined to the face and neck, the trunk and limbs remaining free from any symptoms of the disease. There was some hyperaemia of the fauces with considerable swelling of the glands of

the neck. The child was put to bed, but no medicine given. On the second day of the illness, on examining the body, I was surprised to find a well developed rash which I could in no way distinguish from that of scarlatina and which I certainly would have diagnosed as scarlet fever, had it not been for the two cases which preceded this, and these were what we usually call German measles. In the latter case I was simply guided by the history of the other two cases and the probabilities in favour of all the children being affected with the same ailment.

Restricting our view to the clinical aspect of the infectious diseases, it will be seen that variation in type and degree is the key note of every phase of it. Where there is any epidemic of scarlet fever it will be found, I think, that the main current of the outbreak is composed of well defined cases clinically, but presenting every variety of malignancy or its opposite. Forming the margin of the current, however, there is found a fringe of ill defined sore throats and

temporary disturbances which would entirely escape observation but for their association. I understand that, in the days before notification became compulsory in Glasgow, when an outbreak of enteric fever occurred and almost every case had to be hunted out by a house-to-house visitation, a similar fringe was found of temporary departures from health, chiefly in the direction of gastric or bowel disturbance, but not falling into any clinical variety of the disease. In the same way cholera, it would appear, was heralded by, and surrounded with, various forms of gastric disturbance or diarrhoeal illness.

In further illustration of this the last outbreak of smallpox may be referred to (1896). In this epidemic the interruption in development was found in every stage of the disease subsequent to the initial fever itself. I saw one case which had been diagnosed by a general practitioner as pneumonia, but which was in reality a case of smallpox, the pustules numbering only ten or twelve, being scattered over the trunk and absent

entirely from the face. The true nature of the disease in this case might have been entirely overlooked, had it not been that smallpox was prevalent in the locality, and that the knowledge of this was kept in view by the gentleman who showed me the case. If, then, we have a case of smallpox in which only a few pustules are developed, might we not reasonably infer that we might have cases in which there might be the fever of smallpox with no eruption whatever, just as we have scarlet fever with entire absence of rash?

There can be no doubt whatever that in this way there are many cases where persons may really be suffering from some infectious disease in which the symptoms may be abortive in character, but of a nature sufficiently pronounced to give at least temporary protection, and accounting for the fact that some people pass with seeming impunity, even when exposed to personal contact with those affected in the usual manner.

The foregoing remarks have been more particularly directed to the troubles connected with the

diagnosis of scarlet fever because it is with this disease that I have had most difficulty on account of its greater prevalence. When, however, we proceed to the consideration of some of the other forms of disease scheduled in the Act for notification, it will be seen that similar difficulties in diagnosis have to be encountered. Take, for example, the two diseases - puerperal fever and erysipelas. In the latter there is no demand made by the Sanitary authorities for removal to hospital, unless in very exceptional cases, and isolation is not even asked for. Here the principal cause of all the friction and unpleasantness between the doctor and his patients is left out and things made quite comfortable for the medical man. His diagnosis is seldom or never called in question and a consultation is rarely asked for. It does not matter so much to the family by what name the disease is called so long as the patient continues to make satisfactory progress towards recovery. There are no irksome restrictions placed on the healthy members of the family, and consequently

the medical attendant has not the same dread of worry and clamour for an immediate and correct diagnosis as in the case of scarlet fever. There being little or no cause for interference with the diagnosis first given, the result is that where patients may only be seen once (which is very often the case amongst a poorer class of patients), all sorts of things are put down for "rose" or erysipelas wherever there is redness of the skin such as may occur in some forms of acute rheumatic affections of joints, abscesses or the various forms of erythema. If there is any doubt in the case it is usually reported as erysipelas on the principle that no harm is done should the diagnosis turn out to be incorrect. The matter usually ends here, and the worst that may be said about it is that the statistics of erysipelas are swollen to some considerable extent by cases that do not, except by resemblance, bear any relation to this disease. No doubt when erysipelas is fully developed it may be quite easy to make a

correct diagnosis, but in this, as in other diseases, where the symptoms may not be fully developed and where there is little or no fever, the diagnosis is just surrounded by the same difficulties as other infectious diseases. I have coupled erysipelas with puerperal fever for this reason, that if it be the case, as I think, that there is an over reporting of the former there is a strong tendency amongst practitioners to suppress the truth concerning the latter, and in as few cases as possible to report it. I very much question if more than ten per cent of all the cases of what is undoubtedly puerperal fever are reported as such to the Sanitary authorities. This does not arise from the difficulty of diagnosis so much as from the very general feeling that exists amongst medical men with an extensive midwifery practice against having it said that they have cases of this kind on their visiting list. Cases of child-bed fever are looked upon with much the same feelings as are entertained for those unfortunate cases

which go down the back stairs of our hospitals after unsuccessful operations - the less said about them the better. They reflect no glory on either the physician or surgeon under whose guidance they have bade a final adieu to matters terrestrial, and the men would be more than human who would delight faithfully to chronicle such events with the same degree of accuracy as that with which they publish the brilliant results in medicine and surgery which from week to week adorn the pages of our medical journals. With regard to the notification of puerperal fever, however, this may be said as an excuse or explanation, that, when one considers how difficult it is, even textually, to decide what really is, and what is not, this somewhat indefinable disease the reasons for the present non-notification of all cases of this form of disease on the part of general practitioners can be more readily understood.

Hardly any two authorities seem to agree in their definitions of puerperal septicaemia, and

and it is perfectly bewildering to read in text books on the subject. "If"(said the late Professor Leishman in his text book on Midwifery), "in the expectation that, by an analysis of the opinions expressed by the best authorities, he (the general practitioner) may succeed in formulating an intelligible nosological classification, reliable pathological data, and clear views of treatment, a very short experience will suffice to dissipate this delusion, so that he will soon recognise the difficulties of his position." That we have in this disease anything of the nature of a specific fever, the writer referred to does not believe. "The first question to be determined, then, is," he goes on to say, "does any such specific poison exist? or, in cognate terms - does any such disease occur as specific puerperal fever? To these questions we do not hesitate to give a negative reply; and indeed we confess to the existence of an impression that the term 'puerperal fever' might be discarded, to the ultimate advantage of all concerned" .....

"Nothing, we think, is clearer than that writers have, under the head of puerperal fever, described a number of quite different affections; and if we attempt arbitrarily to state which of these are, and which are not, the true fever, we will only contribute to the chaotic confusion in which the whole subject is involved." Whilst we would not for a moment use the quotation just made in support of the doctrine that there is no such disease as puerperal fever, or that Dr. Leishman ever taught any such doctrine, yet it goes so far in this direction as to show the uncertainty in which the subject is involved and that the greatest laxity may exist in the reporting of cases, where there may be present what is usually looked upon as puerperal fever. Dr. Leishman's opinion (as far as I can grasp his meaning in his work on this subject, and also from notes of his lectures), was, that it was not a specific fever such as typhoid or scarlatina, but an undefined fever peculiar to women on child-bed and

caused, it may be, by the absorption of septic matter, or by poison from specific fever, such as scarlatina or erysipelas. The peculiar connection, indeed, between this fever and erysipelas is certainly very intimate, and, amongst those which favour the idea of the existence of specific puerperal fever, has given rise to the belief that the poisons of the two diseases are identical. However this may be we shall not now argue, but as proving the fact that it is really not a specific fever but still is contagious is very well illustrated in a paper read three years ago by Dr. Fotheringham of Motherwell to the Scottish Midland Medical Society on puerperal fever. He described the beginning of periods of puerperal fever in his neighbourhood in mild febrile disturbance, probably autogenetic in origin but displaying again a progressing intensity, so that ultimately puerperal fever, easily recognised as such, became the declared form of the affection. Looking at the subject from the notification point

% of the total number of births
- not necessary of confinements
- because of plural births - SL

of view we do not think that there is any probability of difficulties arising between the Sanitary authorities and the general practitioner in the same way as occurs in cases of scarlatina. That a very large number of cases of what is undoubtedly child-bed fever are not reported is quite evident from a perusal of the total of the births in the Registrar's returns, the total of cases reported to the Sanitary authorities, and the death rate of such cases. Take, for example, the years 1895/6. In 1895 there were only 74 cases of puerperal fever reported for the whole city of Glasgow whilst there were 43 deaths from the same disease - the death rate here given being quite out of proportion to the number of cases reported. In 1896 there were 24,030 births registered, 105 cases of puerperal fever reported and 74 deaths registered. Now if .43 represents the whole of the cases of puerperal which occur in Glasgow in a year then we may say that it is rather an uncommon ailment, and if 71.42 be a true proportion of the deaths

then we would say that it must be very fatal. One feels rather at a loss to understand what purpose is served by the inclusion of this disease in the list for notification. In my own experience, extending over ten years, I have only reported nine cases of this disease and of these, seven were cases in which I was not in attendance at the time of the confinement, but simply called in in case of emergency by the midwife or a friend of the patient. Being under the necessity of stating distinctly the nature of the illness it was, as a matter of course, necessary to report the cases to the Sanitary authorities. In the nine cases reported there were only two deaths, which is not at all in proportion to the percentage of deaths just quoted from the Sanitary and Registrars' Reports, and leads one to think less of the correctness of reports and to question the good that is likely to be derived from the reporting of a disease such as puerperal fever. As one

rarely or never has the same amount of worry regarding the notification of this disease as in the case of scarlatina, we shall pass on to make a few observations on typhoid fever; the object of the paper now read being not so much the difficulty of diagnosing any particular form of infectious disease as the trouble caused to the general practitioner by the enforced notification of such diseases.

Whilst there are not the same difficulties to be encountered in the diagnosis of Typhoid fever that one meets with in scarlatina or diphtheria, yet sufficient difficulty exists here also to call for a few observations. In general practice one is often called in to see cases the history of which is presented in a most confused and unsatisfactory manner, and on this insufficient data he has to make up his mind whether he has to deal with a case of infectious disease which should be sent to the hospital, or whether it is only one of

gastric disturbance of more than usual severity. These remarks, it will be understood, do not apply to that class of patients who can afford to pay for the services of a doctor to attend, it may be, for two or three weeks whilst the case is under observation, but to the poor who have neither the means to pay for medical attendance nor the necessary accommodation to nurse the patient at home. If it were the case that time was given for diagnosis and one could see the patient from day to day and watch the progress of development, then a mistake in diagnosis would be the less excusable; but when it is the case, as we have already mentioned in our reference to enteric fever, that 425 cases wrongly diagnosed as such were admitted to the hospitals of the Metropolitan Asylum Board during the two years 1895/6 it follows that diagnosis is not always an easy matter. In making a correct diagnosis of enteric fever one must have time, must see the patient frequently so as

to note the morning and evening temperatures and so on, and it is the want of this knowledge that is the cause of wrong diagnosis in most cases.

It has been said that there is a disposition on the part of some medical men when in doubt regarding cases of this nature to call it enteric when the fever is of an ill defined type, and the following out of this rule may not be a bad thing for the patient if he resides in a locality where removal is desirable, or possibly urgent; the chances being that, when careful investigation does not reveal the true nature of the ailment at the time, the fever really is enteric. But not only is there a difficulty surrounding uncomplicated cases of enteric, but when to this is added the fact that enteric and scarlet fevers are found to exist simultaneously, then the difficulty of diagnosis is rendered a matter of great danger and perplexity. That such a thing exists as concurrent scarlet and

enteric we think there can be no doubt as cases of such have been recorded lately, the incubation and pyrexial stages of the two diseases beginning at the same time, and what is remarkable in one of these cases recorded is, that one of the parents of a boy of six years infected his sister with scarlatina and his father with enteric fever:-

Lancet 1893 Vol. II. p. 1307
" 1894 " I. p. 1137
" 1894 " I. p. 1246

Dr. Murchison says (The Continued Fevers of Great Britain Ed. III p. 586), "In the London Fever Hospitals, where it was the practice to treat all forms of fever in the same wards, it was not uncommon for a patient suffering from enteric fever to contract scarlet fever and I have notes of eight cases in which the eruptions of the two diseases co-existed." Writing also on the same subject Dr. John Harley in Reynolds System of Medicine - Article on Enteric Fever - announced

his theory that enteric fever and scarlatina were manifestations of the same poison, and on December 12th 1871 he read a paper at the Royal Medical and Chirurgical Society arguing, from the general inflammation of the lymphatic glands sometimes occurring in scarlatina, that "the pathological changes accompanying an ordinary attack of scarlatina include all those of the first stage of enteric fever, and that the transition from one disease to another is but a natural pathological sequence, readily determined by any cause which may increase the intestinal lesion."

A note of five cases of concurrent scarlatina and enteric which occurred in the Cork Fever Hospital during 1895/6 under the care of Dr. Ernest A. Bourke, Assistant Resident Medical Officer, are fully recorded in the British Medical Journal for January 1897 and also several other cases of the same kind which have occurred at various times lately are reported in the same journal for the year 1897.

After very careful investigation by those interested in this subject the conclusion arrived at seems to be that there is a remarkable affinity between the two diseases, and also that a severe attack of scarlatina may mask the enteric, and on the other hand that the enteric seems to have a mitigating effect on the scarlatina. Of the close connection between the two forms of disease much might be said of an interesting nature, and numerous cases cited to show that in the diagnosis of enteric fever one requires to exercise the greatest care, and even then be found now and again wrong in diagnosis. In notifying cases for removal it has been suggested that the bacteriological test might be brought into operation, and it has been tried in a great number of cases but not with results that would warrant its being applied as a test in difficult cases. Where it comes short is just in those very cases where one wants some confirmatory test or sign, as in cases which are wanting in the symptoms by which satis-

factory diagnosis is made possible. In well marked cases in which there are no doubts as to the correctness of diagnosis from the usual symptoms of this ailment the bacteriological test is generally found to be satisfactory and gives confirmatory evidence; although even in these cases it has been found that three or four examinations have to be made before the bacilli are found. To keep patients at home, however, whose surroundings are such as point to the desirability of immediate removal to hospital till the bacteriological test should be applied would cast an onus of responsibility on the bacteriologist that few would care to face, and, in the imperfect state of our knowledge of the true pathology of the disease, be the means of possibly leaving at home many cases that should be removed to the hospital and placed in an observation ward. For it so happens that those ill defined indefinite cases are just the ones in which the reliability of the bacteriological test is least to be depended on, and the results are often quite negative. Till our know-

ledge then of the bacteriology and pathology of enteric fever is more perfect and, in fact, absolutely reliable the admission or refusal of patients to public hospitals by this test is still a matter for future consideration and research by both bacteriologist and clinician. Till that desirable time comes when, by placing a drop of blood drawn from the finger of the patient suspected of enteric fever under the microscope, the bacillus is revealed and doubts put to rest so far as diagnosis is concerned, the general practitioner must arrive at his conclusions by slower and possibly less reliable methods, and act a good deal on the rule already referred to as practised by some medical men:- "When in doubt, call it enteric." In this way, no doubt, many cases may find their way into the wards of our fever hospitals that should never have been there, but we think it better that mistaken cases should be removed from our slums even though one should get into trouble over such now and again, than

that cases of real enteric or scarlet fever should be left to spread infection all round a locality for fear of making a mistake or sending a wrongly diagnosed case to the hospital. As illustrating how mistakes may arise, and also how harm may be done by mistaken diagnosis, I shall just refer to a case which came under my own observation about two years ago.

On the 22nd of August 1895 I was called in to see a young woman aged 19 years suffering from gastric disturbance of a character not very pronounced, but still giving one the idea that it might possibly be the initial stage of enteric. On the fifth day of my attendance on the case I was able to pronounce it to be one of enteric, and whilst the provision for nursing was not of the most suitable character, yet the parents desired to nurse the patient at home, and arrangements were made accordingly. On the sixth day of my patient's illness I was informed by her mother that another sister who was serving in a

dairy on the south side of the river was also ill and that her illness began about the same time as my patient's. I was informed that the doctor in attendance had pronounced the case to be of no importance, being only a slight disorder of the stomach and bowels, and assured them that she would be better in a few days. Her parents, however, thought that she should be brought home, and called on me to say what they purposed doing, at the same time telling me that the doctor in attendance had no objection to their doing so. Something in the history of the cases made me suspect that possibly the doctor in attendance on the sister in the dairy might be mistaken in his diagnosis, and that this might be another case of enteric. Acting on this supposition I accompanied the parents when they went to take the girl home, and found that I was right in my suspicion as to the nature of the illness. I found the girl very ill, and had no hesitation in saying that she should not be taken home, but

removed to Belvidere immediately, as she could not be properly nursed in her present quarters. It can be quite well understood how undesirable it was to have a patient suffering from enteric fever in the house adjoining a dairy and with other girls who were assisting in the dairy sleeping in the house, at the same time I quite realized how serious a matter it was to remove a person in her condition. The pulse was about 140 per minute, temperature 104.2°, the patient tossing restlessly in a muttering delirium and altogether she seemed to me to be very ill. The practitioner in attendance on the case had just seen the patient at 5 p.m. It was now 9 o'clock and yet after five days' attendance he failed to recognise the nature of the illness. We had the girl removed to hospital the same night, but she gradually became worse, and died on the third day after her removal to Belvidere. My own patient was also removed to hospital beside her sister and ultimately made a good recovery.

I merely mention this case as an instance of how a practitioner of many years' experience, and with every facility for making a correct diagnosis, was found to have entirely overlooked, or failed to recognise, a pretty well defined case of enteric fever. I will just mention one other case to show the difficulty that sometimes attends the diagnosis of this disease. Two medical gentlemen whom I called in to see the patient failed to make a correct diagnosis even under what we might call favourable circumstances.

On the 22nd September 1897 I was called in to see a domestic servant in Doune Gardens, Kelvinside, suffering from what was described as a very bad cold. I found the patient in bed with a racking cough, sore throat, rapid pulse and a temperature of 103.5°. I examined the chest for symptoms of pneumonia, but the examination did not yield anything of a definite character. Next day I examined the body carefully for the rash of scarlet fever as there was considerable

hyperaemia of the fauces, but with negative results so far as scarlet fever was concerned. I could only say that she had many of the symptoms of influenza, but that the patient would require to be kept under observation for a few days before anything definite could be said. On the following Saturday (I saw the girl first on the Monday), I was forced to say that in my opinion the patient was suffering from an infectious fever, but that the symptoms were so very unsatisfactory, from a diagnostic point of view, that I could not say anything more definite meantime. The girl's parents, having been advised of the illness, had just come from Ardrossan to remove the girl home, if I considered that she could be removed, and her master and mistress were most anxious that she should go home as they said they were expecting visitors. I could only say that I did not consider that she was in a fit state to travel and that even if she was, they could not take her by rail suffering from symptoms of an infectious fever. I now advised that another medical man

should be called in as I did not feel inclined to take the responsibility of advising what course should be taken under the circumstances. The services of one of our best known professors of medicine in Glasgow were now called to help the solution of the difficulty. He could not say anything very satisfactory to any of the parties concerned. He did not agree with my diagnosis of enteric, but was inclined to look on the case as one of influenza. He said that the patient was too ill to be removed and advised waiting a few days, when he thought she was likely to be so far recovered from her illness that she might go home with her mother who was to wait and nurse her for the next few days. Unfortunately for all parties concerned the next few days brought no improvement in the patient's condition. On the following Wednesday her master asked if I would meet another medical gentleman in consultation, seeing that the professor's diagnosis of the case had turned out to be incorrect, so far

as any improvement in the patient's symptoms was concerned. I agreed to the master's proposal, and another well known and able practitioner saw the patient. I told him of the previous consultation and gave him the whole history of the case as far as I could. I also told him of my views of the case and my reasons for considering the symptoms to point in the way of enteric. He also examined the patient carefully, but was unable to agree ~~to~~ with the view of its being enteric, mainly on account of the peculiar manner in which the temperature had varied, and the fact that there was no pain in the abdomen, and no diarrhoea. On the following Saturday (four days after), the symptoms seemed to me so pronounced as to warrant my again desiring a consultation for the purpose of deciding about the patient's removal to hospital. The same gentleman who had seen the patient with me on the Wednesday again saw her. After another careful examination and consideration of the whole history of the illness, he could not see that he

would be warranted in saying that it was enteric. His opinion was that the symptoms were unsatisfactory and conflicting in character, but that they pointed in the direction of enteric fever so far that he would advise the patient's removal, if the hospital authorities would take her without the usual certificate declaring it to be a case of enteric fever, and keep her in an isolation ward for such time as was necessary to the proper diagnosis of the case, after the symptoms were more fully developed. By this time, however, my mind was so far made up that I wrote out the usual form and had the patient removed the same day to Knightswood Hospital (Saturday the 2nd October, being about twenty days from the beginning of the patient's illness). In this case there was no rash, no diarrhoea, nor symptoms of gastric disturbance such as are usual in this disease, and it was also marked by the absence of the usual morning and evening temperatures which characterise enteric fever.

It would have done no harm to the patient to

have waited a few days longer, as her state was quite satisfactory, and giving no cause for alarm, but her employers wanted - and pressed for - her removal. On the other hand her mother declared that she had nursed cases of enteric fever, that she did not consider her daughter suffered from that disease and that she objected very strongly to her being removed to an hospital.

After her removal to Knightswood the symptoms became more marked, and she had a protracted illness from which she ultimately recovered. Her fellow servant - a young woman about 20 years of age - was removed to hospital three days afterwards also suffering from enteric fever from which after a severe illness she recovered, was dismissed well, took a relapse, returned again to the hospital where she died.

Turning now to the consideration of the various affections of the throat in which there may be the presence of a false membrane, it must be admitted that the diverse views held by the

bacteriologists and the clinician are, to say the least of them, rather bewildering, and, occasionally, even contradictory. I think I am correct in saying that in Glasgow all cases of membranous croup are looked upon as infectious and are amongst the diseases mentioned in the Schedule as coming under the Notification Act: yet, the Local Government Board in reply to a question asked by the Metropolitan Asylum's Board as to whether, having regard to the fact that in the new edition of the Nomenclature of Diseases recently published by the Stationery Office with the authority of the Royal College of Physicians, "membranous" croup is stated to be a synonym for laryngeal diphtheria, the Board consider that patients suffering from "membranous croup" without qualification may properly be admitted into the hospitals of the Asylums Board, the Board say No, whilst in Glasgow the Sanitary authorities say Yes, and admit at once to the public hospitals all cases sent in as "membranous croup." The Local Government

Board replied that the term "membranous croup" - per se - is not sufficiently definite, inasmuch as membranous inflammation of the larynx may arise from causes other than diphtheria. Whilst the Nomenclature recognises the fact that "membranous croup" is allowed to be used as a "synonym for laryngeal diphtheria," but objects to the use of synonyms, and in an explanatory note to the index states that they are not to be employed in the registration of disease. This certainly makes a distinction between membranous croup and diphtheria, and implies that all diphtherial cases are to be returned as laryngeal diphtheria, and not as membranous croup. It certainly is a disputed question whether there is, or is not, a membranous inflammation of the larynx apart from diphtheria, and whilst, as I have already said that in Glasgow all cases of membranous croup are looked upon as infectious, and practically as being diphtherial, yet the Nomenclature of Diseases leaves this an open question, if it does not decide that they

are distinct diseases. Accordingly, we find that in the list of diseases of the larynx the Nomenclature provides a place for the return of non-diphtherial membranous croup. The simple term "membranous croup" is not recognised and should the term be used it certainly does not imply, as we do in Glasgow, that the case is one of diphtheria. How these cases are to be distinguished clinically by the general practitioner in the midst of his many duties, except by bacteriological examination we do not know, and for such examinations few general practitioners have the time at their command, even had they all the apparatus ready, and the necessary skill required to use it. There can be no doubt whatever that very many cases of throat ailments are returned as infectious which are not so, from the fact that general practitioners have not the time or opportunity for bacteriological examination, even though this should give a more certain result than it has yet done, even in the hands of experts.

Since this paper was commenced I have just noticed a paragraph in the British Medical Journal of the 14th August , pp. 440 stating: "The excellent system of supplying culture outfits for the diagnosis of diphtheria has been adopted by the health department of St. Pancras. Every medical practitioner is supplied with a diagnosis box containing two sterilised tubes. When charged in accordance with the directions enclosed in the box it is forwarded to the Medical Officer of Health, and an uncharged box is returned in exchange. A report of the bacteriological examination is sent within twenty-four hours, Sundays and holidays excepted." Until some such plan is adopted in Glasgow I fear there will still continue to be a certain amount of friction between the general practitioner and the Sanitary authorities with regard to mistakes in the diagnosis of real or supposed cases of diphtheria, and such a state of matters will, in all likelihood, continue till our knowledge of throat diseases is very much

advanced from what it is at present. Meantime it may be said that the bacteriologist and the clinical observer cannot always agree as to what is, and what is not, diphtheria. To the former diphtheria means one thing definitely, viz:- the life history of Klebs Loeffler bacillus. In the laboratory this yields him the toxin which in time becomes the anti-toxin of the bedside, and from no other source can it be obtained. Clinically considered, one variety of the disease may be said to correspond with this pure culture, characterised by slight rise of temperature, some acceleration of pulse, patches on the throat, and prostration of a more or less pronounced character. To these may be added glandular enlargements in the cervical region, a higher range of temperature, and other symptoms indicating danger in the direction of septic poisoning. As we sometimes, however, have severe complications of the throat arising in, and added to, an ordinary case of scarlatina, so here, the bacteriologist and clinician are at

one in regarding this latter form as arising from some other condition complicating or grafted on a pure diphtheria. In those cases, however, where there is an absence of the Klebs Loeffler bacillus, and in which the symptoms may be much more severe than in the cases where the bacillus exists, and where the mortality may be much higher than in either of the varieties just described, what are we to say? There can be no doubt that in these days of legislative control of infectious diseases the tendency is to substitute the legal phrase for the clinical fact, and to measure pathological processes by the inflexible standard of legal definition. Till that time arrives, however, when, by the aid of the microscope and the serum method of diagnosis of disease we are able to reach a stage of certainty in our diagnoses of infectious diseases that does not at present exist, we must, I think, be content with a more flexible standard of legal definitions. Diphtheria is now known to be associated with

probably several other forms of throat ailments, the inter-relationship of which are by no means clear, and to expect a general practitioner to be perfectly accurate in his diagnosis of these affections by simply examining the patient in his ordinary round of calls is only to expect what cannot be done with any degree of satisfaction. There are those abortive or imperfect forms of diphtheria, as of other infectious diseases, which defy for the time classification and which lack intensity in the diminuendo varieties to raise them to the level of easily recognisable forms of the disease. I do not think that this can be said to be mere matter of speculation, for it must be remembered that we are dealing with two vital factors - mutually antagonistic - an invader and an invaded, and the struggle does not end with the invasion. The whole question of the use of vaccines and antitoxins - eminently speculative as are the views that are held as to their methods of action yet

not less eminently practical in their issues - assumes that interruption by recovery in the development of a disease may take place at any part of its course. Amid the doubts and difficulties that one meets with in the attempt to make a correct diagnosis, one is forced by parity of reasoning to grasp at apparently parallel conditions presented by other diseases. The special aetiological conditions that existed for a time after the opening of the Victoria Infirmary may be here referred to. A few months after the opening of the new wards there was a remarkable outbreak of sore throat which soon proved to be endemic. First a ward maid was removed to Belvidere Hospital certified to be suffering from diphtheria, and when an examination was made in the usual way by culture the bacillus was found. In the next case, that of a house surgeon, who was also removed to Belvidere a few days after the previous case, cultures from whose throat were also made ~~but~~ proved negative. A few days later, a patient in the wards, dying

from heart affection, exhibited on the evening of his death throat symptoms, and a swabbing from his throat contained numerous diphtheritic bacilli. Other cases followed of a character more or less pronounced, but after the lapse of two or three months, when the cases came to be arranged, it was found that they had all arisen from the one source - viz: air passing from the post mortem room to the wards - and that when this source of infection was cut off not only did the cases of diphtheria cease, but also the other forms of sore throat resembling diphtheria, but not so pronounced in character.

Dr. Thorne, now P.M.O. English G.B. first formulated the expression that given a condition of surroundings which foster the continuance of simple tonsillitis - (his illustration was from a row of cottages on a hillside liable to become damp from subsoil water in autumn) - you may watch a progressive severity in the cases until finally they become clinically indistinguish-

able from true diphtheria.

Nasal discharge, sloughing throats, glandular affections, so long regarded as evidences of malignancy in scarlatina, can now with some certainty be regarded as purely septic complications, not necessary to a clinical picture of the disease at all, but finding in the depraved condition of the scarlatinal throat a congenial soil for their activity, but probably capable of quite independent existence. When we are compelled, as is often the case, to make a diagnosis in circumstances where symptoms that should stand as landmarks are in abeyance, and other symptoms which are merely complications assume a degree of unusual prominence, altogether unusual difficulties always (and mistakes sometimes) will occur, and it is only when the Sanitary authorities come to the help of the general practitioner that we can look for more accuracy in diagnosis and fewer mistakes. Such help, I mean, as is given by the health department of St. Pancras just referred to, and by

the Health Committee of the City Council of Birmingham who have made an arrangement with the medical faculty of Mason College whereby any medical practitioner who has a patient in the city supposed by him to be suffering from diphtheria can have his diagnosis confirmed by the Bacteriological Department of Mason College. In this case, not only does the Department provide a culture outfit, which, when inoculated from the throat and returned to the Department according to instructions furnished with the outfit, is examined bacteriologically. Within twenty-four hours a report is returned to the medical man in charge of the case; but should it prove to be one of diphtheria a supply of anti-toxin together with the necessary infecting syringe is sent, if asked for on the form provided for the purpose. Only very recently has evidence been forthcoming which places several of the malignant and fatal features of some of the infectious fevers in quite a new light. The science of contagion, and the knowledge of micro-

organisms, and the spread of literature bearing on the study of microphyte life, has made such strides during the last twelve years as almost to revolutionise the whole literature of the contagious diseases. Our knowledge of the subject is still advancing, and there can be no doubt but that in the near future our methods of diagnosis will be more scientific and accurate, and the systems of law and administration, which have for their object the guarding of society against the ravages of infectious disease, made more in harmony with our advancing knowledge. Meantime the question may be asked - do we even yet know sufficient of the life history of micro-organisms as the power of the metabolic contagia, to support any dogmatism, especially of the negative sort, which would deny to any disease its name because all the characteristic phenomena of such are not present in all the classical colours of the text books?
