REMARKS

ON

THE PREVAILING EPIDEMIC OF SCARLET FEVER
IN BRISTOL.By DAVID DAVIES, Esq.,
Medical Inspector of Health.

THE late Dr. George Gregory, when lecturing on small-pox and vaccination, used to state that the lives saved by the latter were by no means fully represented in the diminution of the bills of mortality, but that, immediately on the suppression of small-pox, scarlet fever and the other exanthems moved to the front, and nearly, if not fully, filled the breach made in the enemy's ranks by the discovery of vaccination. This statement would indicate a recondite system of compensation between diseases specifically different, which in the present state of our knowledge baffles any attempt at explanation. The circumstances under which scarlet fever is widely and fatally prevalent in Bristol, incline me to think that Dr. Gregory's statement expresses a truth which well deserves the serious attention of the students of preventive medicine, the camp of which science is certainly advancing, but with occasional retrogressive movements.

From experience gained as Medical Inspector of this city, and as a private practitioner, I have formed the opinion that the problem of the best means for the prevention of Asiatic cholera, typhus, and enteric fever, has been satisfactorily solved, both here and elsewhere. The result for the last few years had induced me to believe that the diminution of our mortality would prove constant and permanent; but the present weekly returns, in which deaths from scarlet fever figure so largely, claim a considerable deduction from our calculations. If hygienic medicine can at some future period do for this disease what vaccination has done for small-pox, we shall then have reached a considerably advanced post; but it behoves me here to confess that in the presence of such an epidemic as this, with the ignorance of the public, both high and low, on sanitary matters, and with the totally inadequate sanitary laws, I feel myself unable successfully to cope with the evil. The conditions of the spread of the disease are known; the means of prevention have been most graphically, and I believe correctly, pointed out by Dr. William Budd, and also very fully by the Metropolitan Association of Medical Officers of Health. To carry those means out among our present population, would require a new Sanitary Act with clauses so stringent that no legislature would pass them, and no public would submit to them; in the meantime, my best hopes lie in the direction of a better education of the public on sanitary subjects, and more especially in the nature and character of the zymoses.

I will here give a short account of the rise and progress of our present epidemic as well as I am able. Such an account must necessarily be very imperfect, as there is no registration of disease. During the last four or five years, we were comparatively free from scarlet fever. Sometimes several weeks passed successively without a single death being recorded from it. At other times, small and isolated outbreaks would appear, and then vanish without spreading. Occasionally we had one or more deaths recorded, seldom exceeding three in a week. When these outbreaks became known to me, the houses and clothing of the affected were treated with disinfecting chemicals, the drains communicating with the houses were saturated with disinfectants, and all went on well.

Towards the end of last year, or rather at the beginning of the present, the disease appeared over a much wider area, and among classes not accessible to public officers as such, and not subject to their action. Here was at once a difficulty which would, in these cases, render futile the functions of my office. Considering the area over which the disease was spread, it was of a mild and not very fatal type. The weekly deaths recorded varied about the figures 7, 8, and 9. With the advancing spring, cases of convalescents and others were sent hither by rail from public educational establishments in distant parts of the country; the epidemic assumed a more extensive, severe, and fatal form; our deaths rose to the weekly figures of 14, 16, 18, and 23, and last week reached the high figure of 29 in a total mortality of 106, forming, in fact, the exact number of our excess of mortality over the corresponding period of the last three years.

Judging from the class of persons and houses mostly affected by the present epidemic, this disease has but little if any connection with general sanitary conditions, but is propagated from person to person, showing nearly as little natural selection as variola or vaccinia. It has

proved its fatal influence as readily in the well situated and well ventilated mansions of our healthy and rich suburb of Clifton, as in the crowded courts and badly ventilated alleys of the more ancient parts of the city. Indeed, the old and badly ventilated courts enjoy a comparative immunity. I have personally visited hundreds of these courts during the present epidemic, and have found most of them free from the disease. On the other hand, in isolated houses, well drained, supplied with good water, and free from nuisance, I have met with some of the most malignant and uncontrollable attacks. We have therefore before us a problem simple in its terms, but very difficult of solution. We have, on the one hand, an animal poison, specific and distinct in character, its conditions of existence and propagation well and clearly known, the means of prevention having been also ascertained, viz., isolation of the affected, and the destruction of all propagating germs by strong chemicals. We have, on the other hand, a public who in the main ignore these conditions, and who are too frequently supported in their views by members of our own profession. The means of prevention being of such a stringent character as to require compulsory legislative measures which would never be submitted to in a country where the liberty of the subject is valued much more than his life or his morals, I am unable to solve the question, and freely confess my own office a comparative failure as regards this disease under the present condition of things, although I am allowed by the local authority all the means which the legislature has placed at their command. I will simply enumerate the difficulties with which I have met, as *mémoires pour servir* for some future writer on the subject.

1. The error of attributing the disease to pythogenesis is very prevalent in the public mind; hence frequent persecutions of the lower animals in the localities affected, instead of the use of the proper preventive means. Almost every letter addressed to me in my public capacity is founded on this error.

2. When disinfectants are used they are viewed more as charms with transcendental properties than as chemicals; hence the want of thoroughness in their application; and as the strength of every chain is known by its weakest link, they very frequently fail.

3. When the first case breaks out in a crowded house, the spread of the disease is favoured by the want of compulsory power to isolate the patient, and to adopt a complete system of disinfection. In many cases, a whole family live in one apartment; yet they will object to have a child suffering from the disease removed, and in many instances will object to the use of disinfectants, especially if they have any odour or gaseous exhalation.

4. Very mild cases of the disease occur, in which medical assistance is not called in, or is so only at a late period. These cases are found frequently amongst the poor; and the children affected pass through every stage of the disease, playing with other children in our crowded courts. I have now under my care the child of a respectable tradesman, suffering from scarlatinal drowsy, in whom the primary symptoms and efflorescence were not detected even by his parents; he continued to attend as a day-pupil at a very large and respectable boys' school until disabled by acute albuminuria. The state of the scarf-skin and the tongue alone revealed the past history.

5. The removal of patients suffering from scarlet fever by rail and cab; the exposure of them in the street during the desquamative stage; the taking of them, by ignorance or otherwise, to the crowded waiting-rooms of public institutions and the consulting-rooms of private practitioners; all promote the spread of the disease. On several occasions scarlet fever patients have been brought into my own house. The mother of the child, when remonstrated with, invariably pleads ignorance.

6. In consequence of the late period at which the family medical attendant is consulted and the disease is detected, very frequently all possible mischief is done before any preventive measures have been adopted.

7. The disease spreads through the sending of children to boarding and day-schools when convalescent from the fever, without taking any sufficient measures for the disinfection of their persons and clothing, and through the return of children into private families in the same condition from infected schools. If space allowed, I could enumerate several pointed instances of both cases.

8. In some instances, I have known the disease to spread by imperfect drains, which, containing the excreta and the copious secretion of infecting mucus from the throat, have conveyed it to a distance; but this source of infection cannot apply to any extent to Bristol now, as the ejects on the whole are in a sound condition, and the connecting sewers of any infected locality are regularly disinfected with carbolic acid. Notwithstanding the statements which have appeared in a highly respectable contemporary (*The Builder*), none of the Bristol sewers empty themselves by open mouths; all of them have a fly-trap door,

which opens at low water to let out the contents of the sewer, but is so arranged as to prevent the ingress of either water or air. The engineer has also made provision for the prevention of too much pressure of sewer-gases on the higher levels. I am not aware of any part of Clifton where the pressure of sewer-gas is sufficient to pass through two inches of water in a properly constructed trap.

The above are some, but not all, of the difficulties connected with the prevention of scarlet fever. I have never at any period apprehended that I was able to cope with it in an epidemic form. In a paper which I had the honour to read at the meeting of the Association at Leeds, when alluding to this disease, I spoke in the optative mood; but I was not prepared for such results as the present epidemic has produced. Highly as I think of the preventive measures previously alluded to, and practicable as they may be in a large well ventilated house, under the direction of an able physician, and with disciplined attendance on the sick, I am convinced that without isolation they will prove only very partially successful. In no disease will the motto *Obsta principiis* hold better than in this. Frequently the removal, or complete isolation, of a first case, with preventive measures, would save a large number of lives; and I would fain credit myself and co-workers with having on several occasions accomplished this, and staved off more than one epidemic; but at last the enemy appeared at too many points, and among a class of the population who would consider any interference or advice from the public sanitary authorities as intrusive.

The Board of Health of this city have established an ambulance of a superior construction for the conveyance of persons suffering from infectious disease, and have placed this at the command of every qualified medical practitioner; yet I am morally certain that cases of scarlet fever are frequently conveyed in vehicles used by the public, and it is but seldom that our ambulance is required, although it is so constructed as externally to resemble a gentleman's private carriage.

The Boards of Guardians of the Clifton and the Bristol Unions have recently directed their medical officers to give an order of removal to their fever hospitals to every patient suffering from this or any other infectious fever; and the Bristol Guardians have requested their medical officers to send to me, as Officer to the Board of Health, notice of the locality of each case. Every house reported, if belonging to a pauper or situated in a poor locality, is visited and disinfected; and disinfectants are supplied gratuitously to the poor. The result, I have no doubt, will prove excellent. Our real difficulties lie with the classes above paupers, or those inhabiting our badly ventilated and over-crowded courts and alleys. The health enjoyed by these has almost inclined me at times, when inspecting them, to think that the subject of ventilation has been made too much of. I do not mention this as a fixed opinion; but my experience as a public officer leads me to consider good water, free from the slightest contamination with sewage; good drains and ejects, and consequent complete exemption from sewer-gases; good and water-tight surface to the surrounding grounds, and the careful and prompt destruction of any germs of zymotic disease which may appear, by isolation and the use of disinfectants; to be the prime conditions of a good sanitary state.

It is much to be desired that some one competent for the task should undertake to instruct the press and the public generally on these matters. At present, the former take the figures returned by the Registrar-General, varying as they do from week to week, as truly indicative of an altered sanitary condition of a town, although the highest figures may have been produced by bronchitis from an east wind or the prevalence of scarlet fever among persons who will not adopt preventive measures; and thus the post of a health-officer is not a sinecure of comfort when the mortality is high. In letters to the local press and in leading articles by the editors, the mortality is attributed to every cause but the right one. Any stray donkey or pig which may have found a night's lodging in the place is charged with murder; every bit of cabbage-stalk which the scavengers may have neglected to remove becomes a fever-producing agent; and thus it requires a very high moral courage in a health-officer not to bend at times to the public prejudice for the sake of peace.

I have, in this cursory review of the subject, taken some things for granted which at another time I should be glad to treat more at length, and I have avoided some interesting points which, if touched upon, might have led me away from the hygienic view of the subject which I proposed to treat of. Some of these points are the following. The relative mortality from scarlet fever in the upper and lower classes; the natural selection of the disease as shown in certain families; the exemption of some whole families from the disease however exposed to infection; the caprice displayed by the disease in its attacks; its occasional recurrence in the same individuals; its analogies with others of the zymoses, etc. At some future period, I shall probably recur to the subject.

CLINICAL MEMORANDA.

LOCOMOTOR ATAXY.

A WELL-MARKED case of Duchenne's locomotor ataxy, which has recently been under my care, affords grounds for surmising that this complaint may be a peculiar form of rheumatism, and not a disease *sui generis*.

The patient was a middle-aged labouring man, who attributed his complaint to having worked in a wet and malarious district five years ago. For the last two years, the disease had been stationary. With the exception of the peculiar muscular affection, he was in fair bodily health, and able to follow his daily occupation. He walked as if he were treading on spring-boards. He said that, if he had to step over a kerb-stone, he should fall if he did not look at his legs; and that in the dark, he was obliged to support himself by his hands. Before I saw him, he had been taking strychnine for several weeks, without any benefit. He informed me that nearly all his fellow-workmen who were associated with him at the time he contracted the complaint, suffered from rheumatism or ague. From this circumstance I inferred that his malady might have a rheumatic origin, and prescribed iodide of potassium. After taking the medicine for some time, the man called to say that he felt very much better in every respect. I then lost sight of him. I hope this case may tend to throw some light on the nature and treatment of a painful and obscure disease.

J. M. WINN, M.D., Senior Physician to St. George's and Harley Street, August 1870. St. James's Dispensary, etc.

OBSTETRIC MEMORANDA.

PUERPERAL CONVULSIONS, CAUSED BY UNWHOLESOME FOOD.

A. O., AGED 32, stout, strong, thick-necked, was, on the 2nd July last, safely delivered by an old midwife of her second child. Everything went on well till the day following, when her mother, unwittingly enough, cooked for her a meal of potatoes, which she greatly relished. A decided change for the worse almost immediately took place. She complained of a most acute gnawing pain in her stomach, which in about two hours resulted in a severe convulsive paroxysm. It appears that she recovered consciousness from the first seizure, and drank a quantity of dissolved common salt for the purpose of dislodging the obnoxious matter. However, the paroxysms continued, and after the third seizure she became quite comatose. By the time I arrived (having a journey of nine miles), she was being seized with the ninth fit. The paroxysm having subsided, she lay in a state of complete stupor, with stertorous breathing. The countenance presented a most repulsive aspect, swollen and livid; the tongue was much bitten, and deglutition was at a stand-still. Finding that the stomach had already been freely acted upon, I proceeded at once to relieve the congested state of the brain by means of a copious bleeding, which was not very easily accomplished; then a strong enema of turpentine and castor-oil was administered, and a blistering solution was also freely applied to the calves of the legs and soles of the feet. By the combined action of these means, the impetus of the paroxysms was broken in a very marked degree; the seizures returned at longer intervals, and were of a shorter duration; and upon visiting her the day following, she was found to be slowly gaining consciousness. The lochial discharge, which had been entirely checked, reappeared; and from this date (4th) she progressed favourably, harbouring in the meantime the thought of paying a little more attention to her articles of diet in the future.

Penygroes, Carnarvon.

JOHN WILLIAM.

HARD TO REGISTER.—Among the most recent additions to the ranks of the medical profession in New York are Lum Ling Wan, latter Doctor of Medicine, Ah Mok, Ah Sam, and Lu Sing. The two are apothecaries, and the last is interpreter. They are well provided with a varied assortment of drugs. It would probably puzzle our own Medical Council to register these gentlemen. But no such difficulties will exist in America; and, judging from the importance which enterprising medical advertisers here have at various times attached to the announcement of drugs from Arabia, it is fair to anticipate that this highly authentic detachment of medicines and physicians from heathendom will achieve at least a success of novelty. After a time, we might expect to see them here.