

THURSDAY, MARCH 2, 1871

THE SMALL-POX EPIDEMIC

THE present epidemic of Small-pox in London is the most destructive, we are told, that has occurred in London during the present century. This is a very painful disclosure, when it has been almost demonstrated that, of all contagious and epidemic diseases, it is the one over which man has the most control. It is a well-known fact that when persons have once had the small-pox they seldom or never take it again, and that the disease known as cow-pox is a modified form of small-pox, and that persons who have had this modified form of small-pox are as little liable to take this disease as those who have had the small-pox itself. This was the great discovery of Jenner, and the practice of vaccination has more than realised the hopes of its discoverer and his friends. Where vaccination has been carried out with energy, and communities by wise laws or individual action have seen that every child is duly vaccinated, there small-pox has not spread. It appears that where communities are all properly vaccinated, there, even if an isolated case of small-pox does occur, it has no pabulum to feed on, and it does not spread. It is only when the small-pox contagion is communicated to unvaccinated persons that the disease is set up, and has sufficient vitality to spread through a community. Forty-five millions of persons died in Europe from small-pox in the century preceding the introduction of vaccination, whilst it is calculated that it has not killed more than two millions of persons in Europe since the introduction of vaccination. In London, during the last century, one death in every fourteen was due to small-pox. Up to the present time in this century not more than one-fiftieth of the persons who have died in London have died of this disease. Greater differences than even this have been observed in some of the cities and towns of the Continent of Europe. At Trieste the deaths from small-pox have been seventy-five times less than before vaccination; in Moravia, twenty-one times less; in Silesia, twenty-nine times less; in Westphalia, twenty-five times less, and in Berlin, nineteen times less.* These instances might be indefinitely increased, but we are anxious to show to what extent this disease is really controllable.

Supposing even that it is not demonstrated that small-pox can be eradicated by vaccination alone, carefully collected statistics show that when small-pox is taken by the vaccinated, it is much less fatal than among the unvaccinated. In the epidemic now prevailing in the metropolis, it is found that not more than six per cent. of persons who have been vaccinated die of small-pox, whilst about thirty-six per cent. of those who have not been vaccinated die. This is the proportion of deaths observed at the Small-pox Hospital from 1836 to 1851, so that it will be observed that the small-pox has neither lost nor increased in malignity.

There is a question which we ought to allude to here, and that is, Does vaccination lose its protective power? The best observers are of opinion that when vaccination has been properly performed, and the system

* Further facts of this kind are recorded in Dr. Ballard's Essay on Vaccination, 1868.

brought thoroughly under the influence of the cow-pox, a person has no more liability to take the small-pox than if he had had the small-pox itself. But unfortunately, from various causes, vaccination is either improperly performed, or the disease is only imperfectly developed, and in such cases it is desirable that re-vaccination should be effected. It is not however, possible to say by looking at an arm, whether the operation has been properly performed, or the disease has perfectly developed. Under these circumstances it is no doubt desirable that every person should be re-vaccinated at least once in his life. The best time for the performance of this operation, where persons have been vaccinated in infancy, is between the twelfth and twentieth year. But in times of epidemic every person in the household should be re-vaccinated who has not been so before.

Thus much with regard to our knowledge of one means of averting this disease. That this means has not been adopted, arises partly from the ignorance of our population, partly from the perversity of our vestries and boards of guardians, and partly from the feebleness of our legislators.

The ignorance of our population of the means of preventing ordinary diseases is astounding, and if left to themselves with regard to vaccination, they will do nothing, from sheer ignorance of the nature of small-pox or the nature of its great antidote. Our coroners' courts bear testimony to this, where poor people have excused themselves for not having their children vaccinated, by not being aware of its value or of the measures to be adopted to get the operation performed. Surely this is one of the subjects to be embraced by the "relations of man to the universe," recommended by Professor Huxley in his programme of the education of children under the new School Board.

The perversity of vestries and boards of guardians has much to do with the present unvaccinated state of London. This epidemic has not come on London unanticipated. The medical officers of health in many districts warned their vestries of the coming evil, but, unfortunately, from our wholly exceptional legislation in sanitary matters, the power of looking after small-pox and vaccination is given to the Poor Law Board. The vestries have therefore thrown on the guardians the burden of providing for an attack of small-pox; and in many instances little or nothing has been done, either in the way of looking up the unvaccinated, putting in force the vaccination laws, or treating the first cases of small-pox with those precautions which the fearful nature of the disease imperatively demands.

With a bundle of Acts of Parliament passed at different times with different objects, and giving authority variously to the Privy Council, the Poor Law Board, the Home Secretary, and other bodies, it is no wonder that our Government acts feebly in sanitary matters. There have been no vigorous attempts on the part of the Government or the Legislature to meet the present outburst of small-pox. If cows and sheep had been attacked, it is probable that something new would have been done. The old machinery has, it is true, been kept in motion. There is the Vaccination Act, which threatens every person with a fine who does not have

his child vaccinated, but this law is regularly set at defiance. Besides this, even if boards of guardians and vestries are disposed to carry it out, they have no means of finding out unvaccinated children. There is, it is true, the Registration Act, but that Act does not make registration compulsory, and in some districts of London it has been stated that twenty-five per cent. of the population are not registered. There is no machinery yet set on foot to enable the inspectors of vaccination to lay hold of these children. Then there is the emigration of families from one parish to another. There is no plan of action for discovering these unvaccinated children in these families. It is vain for one parish to look after its vaccination, if other parishes do not. This is an Imperial question, and ought not to be left to Boards of Guardians.

But what can we do at once, so as, if possible, to avert the further course of the epidemic? We can hardly hope, from past experience, that the epidemic will cease at present, if nothing further be done. The measures which a knowledge of the nature of the disease would suggest are as follows:

1. There should be a vigorous attempt made at once to secure the vaccination and re-vaccination of all persons who have not yet undergone these operations. It is of no use to wait till such persons seek this for themselves. They must be found out, and found out at once. At the rate at which inspectors are now finding out the unvaccinated, the epidemic will have spent its force, and little, if any, life will be saved. But if the Legislature would at once interfere, and insist on a house-to-house visitation with a body of men armed with vaccine virus, and ability and power to vaccinate, the whole of London might be visited, and every inhabitant inspected or vaccinated, in the course of the next month. These agents must be medical men or medical students, who should be paid so much a day for their trouble. It is this question of paying that constantly hampers vestries and boards of guardians. They would rather see any number of people sick than pay to prevent their sickness. The Government must do it, and do it at once, or it will not be done at all. A few hundreds of pounds will do it, and it will save thousands that the small-pox would cost.

2. Vigorous efforts should be made to stamp out each case of small-pox where it occurs. Every case of the disease should be reported to the sanitary authority of the district, on pain of fine and imprisonment. The person affected should be either removed to a hospital or isolated. If the latter, the isolation should be complete. Satisfactory evidence of the isolation should be given to the medical officer of health, and unless he is satisfied with the means taken, some method of punishing the erring parties should be devised. Contagious diseases of all kinds may be thus arrested. It is the difficulty of discovering the first cases that makes the spread of contagious disease so rapid and extensive.

3. Disinfection should be insisted on. This subject requires more thought and attention than it has yet received. All possible means by which the poison can be conveyed from one person to another should be prevented. The poison of small-pox retains its vivaciousness or reproductive power more tenaciously, apparently, than any other animal poison. It can be conveyed in clothes, paper, thread, string, everything that it is possible to use in the

sick room. The doctor may take it to his patients, the lawyer to his clients, or the clergyman to his congregation if he has been visiting the sick. The Levitical laws against leprosy would be hardly too severe to prevent the spread of small-pox. Rules of the most stringent kind ought to be laid down for the guidance of nurses and all persons entering the sick room. Above all, in every district where small-pox prevails, there should be a disinfecting apparatus. This should be an oven not heated by gas, but by a stove. The oven should be long enough to receive beds and all kinds of bed-clothes and wearing apparel. These things should be conveyed to the store in a covered van, which could at once be placed in the oven without opening it to remove its contents. Filthy rags and beds of straw and shavings should be burned in the stove. Such an apparatus is at present at work in the parish of St. Giles. It should be forthwith erected in every district in London. Even when the small-pox has killed its utmost, such ovens will be useful for a future war with the demon of contagion in some other form.

Will some philanthropic member of the House of Commons draw up a Bill embracing these suggestions, and get it passed into law as quickly as possible, so as to save the lives of some thousands of our population, and the faces and purses of many thousands more?

E. LANKESTER

GÜNTHER'S CATALOGUE OF FISHES

Catalogue of Fishes in the British Museum. By Albert Günther, M.A., M.D., LL.D., F.R.S., F.Z.S., &c. Eight volumes. (London, 1859-1870.)

THE recent issue of the eighth and last volume of Dr. Günther's Catalogue of Fishes brings to a completion one of the most laborious and important zoological works of the present epoch. For Dr. Günther's Catalogue is not a mere catalogue in the ordinary sense of the word, but rather a more or less complete history of all the known members of the class of fishes. Not merely the higher divisions of the class, but the genera and species are all fully characterised, and to each species is appended a list of the specimens of it contained in the British Museum. References to other species, either doubtful or not yet acquired by the national collection, are also added. When it is stated that our national collection of fishes now contains 29,275 specimens, some idea may be formed of the labour that has been involved in naming, arranging, cataloguing, and describing such a vast mass of materials. Each of these specimens has to be carefully examined, in many cases internally as well as externally, and to be compared with its brethren of the same and allied species, before it can be satisfactorily determined. Let our readers go through this process in the case of one fish, and they will be able to form some sort of idea of the amount of toil involved in repeating this experiment some thirty thousand times over. Dr. Günther has in fact expended about thirteen years of unremitting labour on this great work, and has had the good fortune to bring it to a felicitous conclusion. No general account of fishes has been published since Lacépède and Schneider's edition of Bloch about the beginning of the present century, as the celebrated "Histoire Naturelle des