In the third place influenza spreads along the lines of human intercourse. In that powerful romance of Eugene Sue, "*Le Juif Errant*," the novelist has taken advantage of known facts with regard to cholera, and tacking the infection on to the restless feet of the Hebrew Wanderer, states how cholera was never known to go faster than a man could travel, and was now propagated straight on, now turned on one side to visit, it may be, a lonely hamlet, or an important town, showing all the caprices of an aimless traveller. So it has been with this epidemic; big cities first, because of the greater mass of possible infective material, then afterwards, somewhat irregularly, the village or hamlet, but never quicker than steam or coach.

Lastly, Dr. Sisley lays stress on the important knowledge derivable from the immunity of isolated persons in lighthouses, in jails, or in religious monastic institutions. There is, indeed, in the pages of Parsons and Sisley's books sufficient evidence of immunity from isolation as contrasted with illness in the same neighbourhood to satisfactorily prove the old view of "something in the air" producing influenza erroneous. One cannot conceive the possibility of that something, be it ozone, or mephitic vapour striking the free and sparing the bond, avoiding the prison and entering the mansion. No! all evidence points to a definite particulate contagion striking at short distances, and where it takes root rapidly producing specific effects.

Dr. Sisley's book is illustrated by some good charts and has a most full index. In this latter respect it has an advantage over the official report. Why is not the latter indexed? It must and will be for a long time to come, a valuable storehouse of facts, but those who wish to get at them will have to dig, and dig diligently.

Now that influenza takes its place among, not only infectious diseases, but what the statute would call "dangerous infectious diseases," it comes within the duties of each medical officer of health to combat it as best he may. Dr. Sisley ends his work by hoping that a short Act of Parliament will be passed placing it in the position to which it is justly entitled amongst the infectious diseases for which notification is compulsory. A recommendation in principle good, although there is but little doubt that in practice it would be somewhat of a failure, for the reason that, without a doubt, when influenza prevails, there are an enormous number of slight cases, cases in which the symptoms are not sufficiently pronounced for the patient himself to be more than a little incommoded, and, therefore, he goes about his occupation, neither knowing himself what is the matter with him, nor seeking advice; to these must also be added cases of moderate severity in which the sufferer stops at home for a few days, calls in no medical man, and gets well by the aid of his own vital powers. Hitherto, members of the medical profession have alone

certified under the Notification Act. True, there is a statutory obligation on the householder to notify; but this is, as all health officers know, a dead letter; if the householder only exceptionally notifies scarlet fever accepted by the people as infectious, is it likely that there will be any considerable notification of influenza, which is not accepted by the people generally as infectious? Nevertheless, we may hope for much from the continuing research as to influenza, whether the outcome be a prophylactic in the shape of a drug, or whether it be a vaccine that will be found useful to enhance the natural resistance of the tissues against infection. We believe with Sisley that the same human ingenuity which discovers the cause of an epidemic is able to devise a method of prevention.

DISEASED MEAT.

By J. SPOTTISWOODE CAMERON, M.D., B.Sc., Medical Officer of Health for Leeds.

A CERTAIN cow calved on October 5th, and was attacked on the 7th with what the farmer called "milk fever" and the veterinary surgeon "puerperal apoplexy." The latter gentleman, however, did not see the animal until the 10th, when he ordered it to be killed, which was done immediately. The animal was unable to stand, and had to be struck with the pole-axe as it lay. The veterinary surgeon, however, considering that the carcass was fit for food, gave a certificate to that effect.

The meat is stated at this time to have been firm, though dark in colour, and the defendant's advocate attempted to account for the darkness on the theory that puerperal apoplexy was a nervous disease which prevented the free flow of blood at the time of slaughtering. The defendant's veterinary surgeon saw the carcass between ten and eleven o'clock on Friday, the 10th. It was brought into Leeds by the 4.50 passenger train on the 11th, and was followed from the station to the shop of the defendant by the meat inspector and his assistant. Sanitary Superintendent Newhouse, Mr. Bowman, veterinary surgeon to the Corporation, and myself, were sent for, and we examined the carcass and organs at about six o'clock in the defendant's shop. We were all three agreed that the meat itself was dark, soft, and flabby; that the lungs were congested, that the liver had patches of inflammation, that the kidneys were also diseased, and that the animal had been physicked. The meat was seized at once, and afterwards carried before a magistrate, and an order obtained for its destruction. Proceedings were subsequently taken before the stipendiary, and a fine of £20 inflicted upon the butcher in possession.

The case has several points of interest, from the public health side. The meat, as seen at the time of seizure, would probably not have been passed

by the veterinary surgeon who had ordered the animal to be killed, and if the description given of its condition on Friday morning was, as I have every reason to believe, correct, very rapid changes must have taken place in the meat in the course of thirty hours.

This is exactly what one would expect in an animal suffering from "fever" after calving. There seems a tendency on the part of some of those dealing with cattle to call any kind of illness occurring in a cow in this condition "milk fever," and on the part of others to use the phrase "puerperal apoplexy," in a manner pretty nearly as general. "Puerperal apoplexy" is a term which would be correctly applied, first, to a group of symptoms of which the more important are: suddenness of attack, stoppage of the flow of milk, inability to stand, with paralysis of the limbs, and more or less insensibility; secondly, it might mean the rupture of a blood-vessel in the brain, producing the symptoms just stated; thirdly, it might signify the presence within the vessel itself of a clot which would prevent the flow of blood to a portion of the brain, would itself act as an irritant to the brain substance, and produce the symptoms first described, and which are generally and more correctly known by the name of "apoplexy." The two latter uses of the term are attempts at explanation of the first.

A disease called by the same name is common enough in the human subject, where it usually takes the form of a clot of blood within the vessel.

The human disease is probably, however, quite distinct from the bovine. The latter is regarded by high authorities as a disease *sui generis*.

In the cow the pathology of the somewhat definite group of symptoms known by the veterinarians as "puerperal apoplexy," is not yet very fully made out. On post-mortem examination the blood is found dark, the veins distended, small hæmorrhages are sometimes found on the serous membranes, the brain and spinal cord are congested, and may contain clots of blood. The symptoms are explained by Gamgee and others on the theory of a specific infection. Barlow, Williams, and Steel adopt a nervous theory, while Franck, Fleming, and others regard the disease as practically a form of blood poisoning produced by the previous condition of the animal, the interference during parturition with the proper conduct of the chemical processes which take place in health, and a defective elimination of waste and morbid products.

This is usually distinguished by pathologists from the ordinary fever of parturition on the one hand, and from the group of infective diseases called "the puerperal fevers" on the other—diseases due to various forms of blood poisoning. Puerperal apoplexy, even using the term in the restricted sense of a clot within a blood vessel of the brain,

is not so much a brain as a blood disease. Changes have taken place in that fluid which render it prone to coagulate—which healthy blood in the vessels should not do.

Parturition itself, whilst a natural process, is one attended by a very serious disturbance of the nutrition of the whole body. The constituents of the blood and of the tissues might be described as in a state of unstable equilibrium. In this condition the poison from a foul drain, from another puerperal case which has gone wrong, the poison from offensive discharges, or other similar causes, may set up a fever. This fever is often by a euphemism called "milk fever."

As, however, it is not always easy at the commencement to distinguish between ordinary simple parturient fever, puerperal apoplexy, and the first stages of some of the infective puerperal fevers, it has become a not uncommon practice with cow keepers to kill puerperal animals who show any unusual symptoms as early as possible; and meat of this kind has been frequently sent hitherto into the Leeds market. The very day on which the carcass of which I am speaking arrived, a case of this kind occurred. The meat was seized and destroyed by order of the magistrate. In this case, however, the meat was not so obviously—on the face of it—unfit for food, and it was not thought necessary to prosecute the owner. It is, of course, not usual for milk dealers to sacrifice a cow likely to give them an ample supply of milk. It is presumably only where there are strong reasons to suspect that if the animal is not killed it will die, that such carcasses find their way into the meat market, and they are always to be regarded with suspicion.

The case just quoted was fought out with legal assistance on both sides; the Town Clerk prosecuting and a barrister being retained for the defendant. The latter called two veterinary surgeons, one who had seen the animal and by whose directions it was killed; the other was called as an expert to give his opinion upon the evidence, although he had seen neither the animal, its carcass, nor any of its organs. We were fortunate in this case to have the advice and assistance of my friend and colleague, Mr. Bowman, veterinary inspector under the Contagious Diseases (Animals) Act. I am always glad when the corporation allow me to have the advice and assistance of Mr. Bowman or Mr. Mason in cases of difficulty. From both of these gentlemen I have frequently received the greatest assistance in dealing with cases of diseased meat. Medical officers of health of course do not profess to be veterinary surgeons, any more than they profess to be analytical chemists, or plumbers, or architects, though a certain amount of knowledge in all these branches is demanded of health officers. Under the 116th section of the Public Health Act, 1875, the duty is, however, imposed primarily upon the medical officer of health, and secondarily upon the inspector of nuisances, of examining meat and

deciding whether or not any meat that he deems unfit for food shall be seized and carried before a justice. It is not, of course, the medical officer of health, but the magistrate who condemns the meat. On the other hand, a medical officer of health may not shirk his duty, and cannot transfer his responsibility to the shoulders of a veterinary expert.

While, personally, I should be the first to admit that a veterinary surgeon is *prima facie* more likely to be correct in his diagnosis as to the disease from which an animal slaughtered may have suffered than a medical man; especially so if he has had the advantage of treating the patient during life, and while I regard his opinion, and the grounds on which it is based, as of great value and assistance, I still feel that the question whether a piece of meat in a certain condition—the carcass of an animal suffering from some particular disease—is fit for human food or not is a medical question entirely, quite as much a medical question as whether a wall paper alleged by a chemist to contain arsenic is or is not likely to be injurious to health—just as much a question for a medical officer of health as whether a soil pipe found to be defective is or is not likely to cause disease to the inmates of the house.

Our first duty in this matter is to protect the public from unwholesome food, and the training which enables a medical man to know how and where to obtain and use the information he may require in order to say what food is wholesome and what food is not, is a necessary part of the education of a practising physician, much more of a medical officer of health.

Protection of the public is the health officer's first care. It is, of course, his wish in no way to be unfair to the necessary and important trade which provides so essential a part of the food of the community. Every ounce of meat destroyed is so much food lost to the country, and there is no desire on the part of any Corporation, least of all of its health officer, to diminish unnecessarily the amount of available meat, or, by so doing to raise the price of animal food. But it is the duty of a Corporation, and of its health officer especially, to protect the weak. It is not the wealthy that suffer most by the introduction of unwholesome food; it is those who, without special knowledge of their own, are apt to purchase what is cheapest because it is cheapest. The danger, for instance, from the consumption of tuberculous meat is not so much to those who live in large and well-ventilated houses as to those whose surroundings otherwise predispose them to this particular disease.

DUST AND REFUSE OF MALDEN.—The Local Board has now taken some decided action in reference to the removal of dust. The Board will undertake the task of clearing away all refuse, instead of leaving it to be done by the householders.

THE VENTILATION OF THE HOUSE OF COMMONS.

MR. WILLIAM PRIM, consulting engineer to her Majesty's Office of Works, has recently given evidence before a Parliamentary Committee as to the ventilation of the House of Commons, and as to the improvements which had been effected in the ventilation of the kitchens and in the air intakes in the "No" division lobby. In the "Ay" division lobby no change had been made, but it was proposed to make a great alteration where the tellers stood, so as to take off some of the air from there while a Division was in progress. There were complaints now of draughts by reason of the opening of all the doors right through the House down to the terrace to allow the rush of members for a division. Members as a rule wore their hats, so that it was no worse for them than being out of doors, but attention had to be paid to the suggestions of the Whips and the officers of the House, who were obliged to be there without their hats. Explaining the system adopted to keep out fog, he said the openings from the courtyards were closed and the chamber sealed as much as possible against fog coming in from the sides. Air was drawn in from the terrace and passed through jets of water, so that the heavy particles might be deposited. It was then driven by a fan through layers of cotton-wool, six feet thick, and after thus filtered it passed through the body of the House. In a very short time the wool became black and full of an oily and sooty substance, which had the smell of a very bad fog. There was a considerable difference between the colour of the outer and inner layers of cotton, the latter, of course, being much whiter. When they changed the wool they put the inner layer outside and a fresh layer inside. It depended upon the density of the fog how often the wool required changing; he had known it need renewing after forty-eight hours on one occasion when they had a continuous fog for that time. Last winter it was changed three times, at a cost each time of £20, so that the air of the House was filtered at a cost of £60, the original expense of the steam that worked the fan having been £200 or £300. The present filter could be extended further along the vault, but he left that question over till it was decided what should be done in other directions, Sir Henry Roscoe, for instance, having expressed an opinion that the filter should be in constant use. Speaking of the quantity of air supplied to the House, he said that on the second reading of the Government of Ireland Bill in June, 1886, the quantity of air supplied to the House of Commons was 1,200,000 cubic feet per hour, while the number of persons in the chamber at the time of the division was 905, made up as follows:—Members, ayes, 311, noes, 341, total of 657; strangers, including the occupants of the ladies' gallery, 232; and clerks, doorkeepers, and attendants, 11. Thus the air supplied per individual