

DIPHTHERIA IN DOMESTIC ANIMALS AND ITS COMMUNICABILITY TO MAN.

THE British Medical Journal has recently given two editorials (one May 10th, and the other May 31st, 1890) on this important subject. In the former article the Journal says: For some years past the suspicion has been growing that certain of the domestic animals are liable to suffer from a disease which is identical with human diphtheria, and so long ago as 1884 the Medical Officer to the Local Government Board prepared a memorandum for the use of inspectors visiting districts on account of diphtheria, directing *inter alia* that inquiries should be made as to coincident ailments in cows or other domesticated animals. That calves, horses, cats, fowls, turkeys and pheasants are liable to a disease bearing the very closest clinical resemblance to human diphtheria is universally admitted. A certain number of instances have been recorded in which such an epizootic has preceded, accompanied, or followed an epidemic of diphtheria. It is true that these instances bear but a small proportion to the total number of epidemics of diphtheria which have been carefully investigated, still in some cases the facts were very significant.

The writer then gives a number of instances in which it had been clearly shown that the disease is communicable between cats and fowls and the human organism, and refers at considerable length to important investigations relating to this subject, undertaken for the Local Government Board by Dr. Klein.

In the Journal of the 31st ult., we find the following: In a recent article it was pointed out that a series of facts accumulated by the observations of epidemiologists pointed very strongly to the conclusion that certain domestic animals were liable to suffer from diphtheria, and were capable of communicating the disease to man; some bacteriological observations by Dr. Klein, which were in striking confirmation of this theory, were also noted. The same observer made a communication to the Royal Society on May 22nd which advances the matter still further. He believes that not only cats, but cows also,

are liable to suffer from diphtheria. This is an observation of striking importance. for as is well known, some epidemics of diphtheria have been traced to the milk supply. One of the most recent—that at York Town and Camberley, in the neighborhood of Farnham—was most carefully investigated by Mr. W. H. Power, who brought forward very strong evidence to prove that the milk had acquired the quality of infectiousness before leaving the dairy farm, and that people who drank much milk were much more liable to suffer than those who drank little. As to how the milk acquired this quality of infectiousness, however, nothing had been certainly obtained; and Dr. Klein's observations, therefore, are not only important but novel. He inoculated two perfectly healthy cows with a broth culture of the pathogenic bacillus derived from human diphtheria. On the second and third days there was a soft, tender swelling at the place of inoculation, which reached its maximum at the end of a week and then gradually became smaller and firm. The animals had a raised temperature, and left off feeding on the second or third day, then to all appearances recovered; but on the eight or tenth day they were attacked by slight cough, which gradually increased. Both became emaciated; one died on the fifteenth day, the other was killed (being very ill) on the twenty-fifth day. During the illness both animals had an eruption on the teats and skin of the udder, which appeared in successive crops. From one of the cows on the fifth day milk was drawn from a healthy teat, the milk-er's hand having first been thoroughly disinfected. From this milk cultivations were made, and it was found that thirty-two colonies of the diphtheria bacillus, without any contamination, were obtained from a single cubic centimetre. The bacillus was also found in the eruption on the udder, and fluid from the eruption was capable of producing a disease in calves characterized by a similar eruption, together with severe broncho-pneumonia and fatty degeneration of the kidney. These two lesions—broncho-pneumonia and fatty