

RABIES.

BY

George Hilton, V.S., Chief Veterinary Inspector.

Rabies has been recognized throughout the world for many centuries, and was described before the advent of the Christian era, but there is probably no other contagious disease in animals which has, from ancient times, caused a greater diversity of opinion among authorities, and produced such erroneous ideas in the minds of the general public. There were those who firmly believed rabies was the result of exposure to intense heat, others thought it was caused by extreme thirst, many maintained that undue excitement, and the ingestion of foods rich in nutritive matters would produce it, while by others, climatic changes and certain seasons were held responsible.

Although the contagious nature of rabies has long been acknowledged and its transmission from animal to animal by means of a bite recognized, the possibility of its spontaneous development was nevertheless until very lately generally admitted. It is only during recent years that authorities have agreed that the causative agent of rabies is, without doubt, a specific micro-organism, which must first be introduced into the system of an individual before it is possible for the disease to develop.

While the actual causal agent has not so far been identified, and all attempts to cultivate it on artificial media have been unsuccessful, experiments have conclusively proved that such an organism does exist, but is of such minute proportions, that the most modern microscopic lenses are unable to detect its presence. This has been demonstrated positively by suspending, in liquids, virulent brain matter taken from a rabid animal, and passing it through a porcelain filter, the extremely minute pores of which do not suffice to arrest this micro-organism, as proven by the fact that the liquid after passing through the filters retains its virulence and produces rabies in healthy animals, when inoculated with it.

MODE OF INFECTION.

The saliva of a rabid animal is its most frequent and so far as at present known, only means of spreading contagion, this being frequently infective one or two days before the advent of any symptoms of disease. The brain and spinal cord, however, contain the most virulent material after death, these tissues, preferably the former, being, when possible, invariably used in confirming diagnosis where suspicion exists. It is claimed by some that other body fluids contain virulent material, and cases of the transmission of rabies from mother to offspring through the medium of the milk have occasionally been reported, but of this there is no satisfactory proof. In no case, however, has the blood of a rabid animal proved to be of a virulent nature.

Pasteur, who devoted the greater part of his life to investigating this disease, is responsible, directly and indirectly, for the great advance in our knowledge regarding it. In the early eighties he discovered that he could produce rabies in a healthy animal by inoculating it with material taken from the brain or spinal cord of one which had died from that disease, and later, after extending his experiments, found that the vitality of the virus could be reduced by passing it through different animals to such an extent as to produce mild symptoms, followed by recovery, and further that animals so treated acquired immunity to such a degree that the injection of virulent material into their systems produced no bad results. This discovery rapidly found favour in scientific circles throughout the world, and energetic measures were