TUBERCULOUS MILK AND MEAT AND CONSUMPTION IN MANKIND.

SYNOPSIS OF A PAPER READ AT THE JULY ANNUAL MEETING OF THE SANITARY ASSOCIATION OF SCOTLAND, BY J. McFADYEAN, M.B., B.S.C., F.R.S.E., &C., DEMONSTRATOR OF PATHOLOGY IN THE ROYAL VETERINARY COLLEGE, EDINBURGH.

THERE is not any one, Professor McFadyean thought, either in Scotland or abroad, whose opinion upon the point carries any weight, who does not now admit the complete identity of the diseases termed tuberculosis in human and in veterinary pathology. "They are indentical in the sense that the cause of the disease in each species is the same—viz., a minute vegetable parasite termed the bacillus tuberculosis, or, as a well merited tribute to its discoverer, Koch's bacillus." Koch showed that the morphological and biological characters of the bacillus cultivated in a state of purity from the diseased products of man, were identical with those of the bacillus obtained from the tubercular lesions of the lower species, that invariably when such pure cultures were inoculated into susceptible animals such as guinea pigs and rabbits, tuberculosis was produced, and that the resulting lesions were the same whether the culture had been started from human or from animal sources.

A tuberculous patient, whether a man or one of the lower species, is to be regarded, speaking figuratively, as a sort of accidental hothouse for the propagation of the tubercle bacillus. There is reason to believe that outside of the animal body the utmost that the bacilli ever do in a state of nature is to conserve their vitality. At temperatures below 86° F. the tubercle bacillus does not grow or multiply even when kept on the most suitable materials. Within the animal body the bacillus grows and multiplies more or less rapidly, exciting, where it propagates, the tubercles and other deviations from the normal structure that constitute the lesions of the disease. We can generally demonstrate the presence of the bacilli in these morbid parts, frequently in inconceivable numbers; and even when our present microscopic methods fail to bring the germs into view, we can still prove that they are present (probably in the form of spores), by showing that materials taken from the tuberculous organs or tissues are capable of exciting tuberculosis when introduced by inoculation or otherwise into the bodies of susceptible species.

But not only are the germs of tuberculosis thus cultivated in the diseased parts of a tuberculous patient; they are passed out of the body of such an animal while it is still alive, being frequently found in one or other of the natural secretions, such as that of the air passages, the urine, fæces, or milk. Tuberculous men and animals are thus constantly contaminating the earth's surface with the specific bacilli, where, there is reason to believe, the spores, if not the bacilli, may conserve their vitality and power of infection for considerable periods. Consumptive human beings are probably a far more active source of dissemination of the bacilli in this way than any of the lower species: (1), on account of the great number of human beings attacked, and (2) because destructive lung disease, with abundant bacilli in the sputum, is vastly more common in man than in animals. And, in passing, it may be observed that to impress upon phthisical patients and their relatives the great importance of taking precautions against the wholesale dissemination of the germs in the sputum is a duty too often neglected by medical attendants.

A tuberculous animal, then, while it is still alive, and apart altogether from the consumption of its milk or flesh, adds to the risk of infection which every human being runs, and we have here one of the reasons for putting an end to the life of every animal that is known to be the subject of tuberculosis. But the chief interest of animal tuberculosis to human sanitarians unquestionably lies in the fact that the milk and flesh of one of the lower species frequently attacked constitute common articles of human food.