

man to the domestic animals. Besides a great many instances of observation, in which it was plain that poultry had contracted well-marked tuberculosis from eating the sputa from the human lungs, the bacillus from human sputa has been, time and again, cultivated and inoculated into various animals, with the result of giving rise in them to unmistakable tubercular lesions. Bollinger, one of the first German authorities, has inoculated tuberculous matter obtained from man into the dog, and produced typical miliary tuberculosis of the pleura, lungs, liver and spleen; and a great many experiments of a like character are upon record. But I will not dwell upon this settled point.

In the last number (March 2nd, ult.) of that conservative and cautious organ, the *N. Y. Med. Jour.*, the editor, Dr. Frank P. Foster, in an editorial on this very subject, says: "Fowls have become infected by the sputa of tubercular patients, and hogs by the milk of cows in which there was tubercular disease of the udder and teats; the transmission of pulmonary tuberculosis in man from one individual to another is undoubted, and unless the bacillus tuberculosis is greatly modified in its passage through the lower animals, the danger of the infection travelling from animals to man would seem to be very great.

Many classes of the feathered race, I may here observe, are very prone to this disease; especially the common fowl, pigeon, partridge, and other grain-eating birds. Dr. T. W. Mills, Prof. Phys. McGill University, at the last December meeting of the Montreal Medico-Chirurgical Society, exhibited specimens from a tuberculous pigeon, a white Jacobin, bred by himself, which had died two days previously. The bird had been ill only three weeks, and was fairly well nourished at death. The tubercles were very widely distributed; the organs inflamed and bound together by recent adhesions. Owing to enlargement of the organs and pressure, the apex of the heart was squeezed to such an extent that it must have become functionless. Dr. Mills stated that no doubt many birds offered for sale on the market were subjects of tuberculosis.

Now it may be argued that there is no direct proof of the transmission of tubercle from animals to man by the consumption of flesh and milk. "Such proof, it need scarcely be said,"

argues Prof. Walley, of the Royal Vet. Col., Edinburgh, "cannot, for manifest reasons, be obtained, but the mass of indirect proof in favor of such supposition is enormous." But he adds, "Very recently a most striking example of the effects of consuming the flesh of a tuberculous animal has been brought to light by a French physician, in the case of a young woman who rapidly became consumptive as the result of eating the imperfectly cooked bodies of tuberculous fowls.

The flesh of tuberculous animals has evidently been suspected as dangerous from the earliest records. On the authority of Lydtin, Fleming and Van Hertsen, there existed in the Mosaic laws strict legislative rules condemnatory of the flesh of an animal affected with this disease. The laws embodied in the "Mischna" (the oldest part of the Talmud) distinctly refers to the prohibition of the use of such flesh. From that time onward, various ordinances have been instituted, with the object of checking the use of consumptive flesh, especially in France and the German States, and even in Spain, Italy and Switzerland; and severe punishment has at different times been inflicted upon butchers and others who have wilfully sold such flesh for human food.

That the milk of tuberculous cows is dangerous, there is more conclusive evidence than that the flesh is dangerous. Long before Koch's discovery of the tubercle bacillus, it had been accidentally and experimentally demonstrated that milk was infective by ingestion to calves and other young animals; and, as Prof. Walley observes, "there is a mass of evidence in favor of the view that by this vehicle the germs of the disease are conveyed from the cow to the human subject." The question of the infection of tuberculosis being conveyed by milk is of greater importance than is that of infection by flesh; for the two-fold reason, that the former is largely consumed by infants and generally in an uncooked state. The danger of contamination by milk will be more clearly comprehended when it is known that the tubercle bacillus can be readily detected in the lactiferous product of animals in whose udders tubercular lesions exist; and also, as has been shown by Professor Bang, of Copenhagen, in the milk of women in whose breasts the disease existed. Of the 600 cows examined by Dr. Woodward and Prof. McFadyean, already referred to, in six cases they de-