

give milk, and we drink it; then we kill her, eat her flesh, blood, and most of the viscera; we skin her, and clothe ourselves with her skin; we comb our hair with her horns, and fertilize our fields with her dung, while her calf furnishes us with vaccine virus for the prevention of small-pox." Now the cow has tuberculosis and we have tuberculosis. If we regard her as a possible common centre of the infection, we have a reasonable and full explanation of the commonness of consumption. Where this animal does not exist, pulmonary consumption, it appears, is unknown. The inhabitants of the steppes of Russia, who have no cows, have domesticated the horse, using its milk, meat and skin, and it is said a case of pulmonary tuberculosis has never been known to exist among them. The Esquimaux have no cows, neither have they pulmonary phthisis; and it appears to be a fact, that, where the dairy cow is unknown, pulmonary consumption does not prevail. Evidence that a certain amount of relation exists between the death-rate of man and animals respectively from consumption, and that this relation is materially affected by the use of tuberculous flesh for human food, is afforded in a chart issued by the authorities of the Grand Duchy of Baden, in the year 1881. The chart applied to 52 towns, and showed that, where tuberculosis was prevalent among cattle, it was proportionately prevalent amongst human beings, and was particularly prevalent in towns in which the number of low-class butchers was greatest. One remarkable exemption to this was, however, found in the town of Wertheim; but it was significantly pointed out, that from this town large quantities of sausages, made from flesh of inferior quality, were annually exported. Many observations of a like nature have been made in the United States; that is, that where tuberculosis is prevalent among cattle, it is proportionately prevalent amongst the human population.

At the Paris Congress on tuberculosis, in July last, Dr. Robinson, of Constantinople, in a communication on Consumption in Asia Minor, stated that, notwithstanding the fact that the inhabitants of this country lived much in the open air, the disease was very prevalent, and ten per cent. of his patients suffered from it. The natives recognized its contagiousness, and always destroyed all articles, etc., used by those suffering from it. The frequency of the disease there, Dr. Robinson said,

there could be no doubt, was owing to the free consumption of milk and of nearly raw flesh by the natives.

On the other hand, the Hebrews are exceptionally free from tuberculosis, as we all know, and they exercise the greatest care in the inspection of the meat they consume. The lungs of all the animals destined for their food are examined, and in all cases where they cannot be fully inflated, or where there are adhesions of the pleura, the animals are rejected.

What are the conclusions we are almost forced to draw from these facts?

I need hardly state here that tuberculosis in the bovine race, once known as the "pearl disease," is now universally regarded as being identical with the tubercular disease in man. Not only are the bacilli in the two cases undistinguishable under the microscope, but their growth in various culture media, and their other biological characteristics are identical. The latest scientific evidence I have observed on this point is this: Dr. Woodward and Prof. McFadyean, last year, examined 600 cows in the Edinburgh dairies. Among other results of their investigations, Dr. Woodward states that he found as great differences in size between the bacilli under the same cover-glass, from sputum of a tuberculous patient, as he had found between bacilli taken from a cow and those from a human subject; and he concluded that any differences there might be between the size, mode of growth, or position in the tissues of the human and bovine tubercle bacilli, was not sufficient to constitute a specific difference.

From our present degree of knowledge of comparative physiology, should we not naturally conclude that any parasite finding a favorable soil for its development in the cow or other domestic animal, would find the soil of the human organism about equally favorable; and vice versa? The bacilli all appear to be very tenacious of life, and a difference of two or three degrees in the temperature of the different organic fluids, they would doubtless readily reconcile themselves to, and likewise to any other slight physiological or chemical differences existing between the internal structure or condition of the human body and of these lower animals.

There is a large amount of the most conclusive evidence that the disease is communicable from