

## ON THE CAUSES AND PREVENTION OF TUBERCULAR CONSUMPTION IN MANKIND AND THE DOMESTIC ANIMALS.—*Continued.*

### ON THE INTERCOMMUNICABILITY OF THE DISEASE BETWEEN MANKIND AND THE DOMESTIC ANIMALS.

That this disease may be communicated from man to the lower animals and from these animals to man has been long believed, and now appears to be a well established fact.

As already has been stated tuberculosis in the bovine race, once known as the "pearl disease," is now universally regarded as being identical with the tubercular disease of man. Not only are the bacilli in the two cases indistinguishable under the microscope, but their growth in various culture media and their biological characteristics are identical.

Theoretically, and from our present knowledge of comparative physiology, we may 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 animals they would doubtless readily reconcile themselves to, and likewise to any other such slight physiological or chemical differences existing between the internal structure or condition of the human body and that of the lower animals.

There is a large amount of the most conclusive evidence that the disease is communicable from man to the domestic animals. Besides 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 tuberculosis.

### THE BOVINE RACE, AND ESPECIALLY THE COW, AS A POSSIBLE CHIEF SOURCE OF THE INFECTION.

This disease is the most common of all diseases, except the ordinary infectious diseases of childhood, and the sources or vehicles of it must be proportionately common. What are they? Dr. E. F. Brush, who is, I believe, connected with the Bureau of Animal Industry at Washington, besides being himself a stock grower, and who, as he states, has long been compelled to devote his attention to the subject of diseases afflicting dairy stock, declares it as his "candid opinion" that tuberculosis "is all derived from the bovine race." During the last two or three years he has frequently brought this subject to notice in the medical press and before medical societies, and has brought out a good deal of evidence in favor of this theory.

The human race is almost everywhere very closely associated with the cow. As Dr. Brush words it: "We are veritable parasites on this animal. We milk her as long as she will give milk, and we drink it; then we kill her, eat her flesh, blood and most of her viscera; we skin her, and cloth ourselves with her skin; we comb our hair with her horns, we fertilize our fields with her dung, while her calf furnishes us with vaccine virus for the prevention of small-pox. 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."

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, consumption does not prevail.