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ON THE INTERCOMMUNICABILITY OF TUBERCULOSIS BETWEEN THE DO- MESTIC ANIMALS AND MAN.*

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Of all the destroyers of human life, tuberculosis stands first. Evidently not less than at least 10,000 lives, and possibly 15,000, are destroyed by it in Canada alone every year. From one-sixth to one-tenth of all deaths, almost everywhere, are caused by tuberculosis; chiefly by that form of it known as pulmonary consumption. The investigation of the cause and the source, then, of this most destructive agent, is a subject of the very first importance, not only to this locality, but to the country at large.

As it is not my object to enter into the unhygienic conditions which give immediate rise to this disease—to suitable soil for its development, or, rather, which so depress the vitality as to enable the bacilli or their spores to take root in the human organism, develop, multiply, and destroy life,—I will now at once endeavor to lay before you some of the evidence which has been recorded to show that the disease may be, and probably frequently is, communicated to the human organism from domestic animals, and more especially from cows.

About seven years ago at this present time, Mr. Vet.-Surg. Shaw, of the U. S. Bureau of Animal Industry, at Washington, said, in the *U. S. Health Bulletin*:—"To-day, after ten years of experimental observations by Villeman, Viscar, Klebs, Zurn, Bollinger, Leisering, Chanveau, Bagg, Semmer, Guenther, Harms, Biffi, Virgad, Gerlach, Buhl,

* Read before the Meeting of the Ottawa Medico-Chirurgical Society, March 8th, 1889.

Tilbury, Fox, Burden-Sanderson, and a host of others, it has been definitely established: 1st, that the tuberculosis can be transmitted from animal to animal, from man to animals, and presumably from animals to man, by inoculation, or by the accidental contact of tuberculous matter with a raw or abraded surface; 2nd, that the raw tuberculous matter taken from man and animals and eaten by other animals, may determine tuberculosis in the latter; 3rd, that even the flesh of tuberculous animals will sometimes produce tuberculosis in animals that consume it, though with less certainty than if the tubercle itself were taken; 4th, that the milk of tuberculous animals will at times produce tuberculosis in susceptible subjects, and, above all, where the morbid deposit has taken place in the udder; 5th, that cooking of the tuberculous matter gives no guarantee of protection, as flesh is a poor conductor of heat, and tubercle that had been boiled from a quarter to half an hour, has readily infected a number of animals that partook of it; 6th, that tubercle matter mixed with water and thrown into the air from an atomizer, causes with great regularity the development of tubercles in the lungs of animals respiring such air.

Within the last seven years the subject has received a great deal of attention, and a great deal of scientific investigation has been the result.

The bacillary origin of tuberculosis, and the transmissibility of the disease from one individual of the human race to another, are points now universally admitted, and not doubted by any one, I believe, whom we can regard as an authority. The disease is the most common of all human diseases, except the ordinary infectious diseases of childhood, and the sources or vehicles of it must be proportionately common.

Dr. E. F. Brush, who is I believe connected with the Bureau of Animal Industry at Washington, and who, as he states, has long been compelled to devote his attention to the subject of diseases affecting dairy stock, in a lengthy article in the *N. Y. Medical Journal*, in March of last year, on the question we are now considering, declared it as his "candid opinion" that tuberculosis "is all derived from the bovine race." The human race is almost everywhere associated with the cow. As Dr. Brush words it, "We are veritable parasites on this animal. We milk her as long as she will