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MEAT AND MILK SUPPLY IN RELATION TO TUBERCULOSIS IN CATTLE.

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THE question of consumption of not only the flesh of animals, but the milk of cows and the eggs of poultry suffering from tuberculosis (or consumption) is of the gravest importance, especially seeing that it does not confine its attacks to animals, but affects the human subject also: and in order that you may be able to estimate the possible effects of the flesh and milk of such animals upon the human frame, it is necessary that a few words should be devoted to the consideration of the nature and progress of the disease itself.

THE TERM TUBERCULOSIS applies only to a diseased condition in which growths resembling little *knots* or *kernels* are formed within, or upon, the different organs of the body. These little knots are technically termed "tubercles." At one time it was thought that they were the result of ordinary inflammatory action in the organs of persons or animals who had inherited a scrofulous or consumptive tendency from their parents, but, while it is a fact, and a very important one too, that such hereditary tendency is a powerful factor in its production, the healthiest man or animal may become the victim of the malady.

Of the domestic animals, cattle, pigs and poultry, are pre-eminently the hosts of this disease; sheep and goats are rarely if ever spontaneously affected though the disease can be readily transmitted to every living creature (and it has been stated by Villemin to plants also) by inoculation with particles of the so-called tubercles.

THE BACILLÆ.—Up to the time of Koch's

discovery of the bacillus, the actual nature of the disease was unknown, but many of those who had studied the question had long before that date arrived at the conclusion that it was due to a germ or virus. In 1872 I publicly expressed (at a veterinary meeting held in Glasgow) the conviction that the disease was of a specific nature, and was capable of being propagated from animals to man.

The first evidence of its true nature was obtained by the carrying out of a large number of experiments by a well known pathologist of the name of Villemin, and during the last fifteen years hundreds of animals of various species have been sacrificed by experimentalists with the object of determining the actual nature of the malady. . . . It has been found that the inhalation (or taking in by the breath) of dried particles of tuberculous matter or of dried discharges from the lungs of consumptive animals or of man, is sufficient to propagate the disease.

As has already been observed, it was not until the date of Koch's memorable discovery of the bacillus that the true nature of this disease was known. Koch, a German pathologist, after a very patient examination, discovered in tuberculous matter a microscopic organism of a vegetable nature. This fungus belongs to the class of *fission fungi*—i.e., it has the power of multiplying by division, and from its elongated staff-like shape it is known technically as a *bacillus*: some idea of its minute size may be gained from the fact that it requires a magnifying power of 600 degrees to render it visible to the eye.