

ing atavism. No predisposing cause with which we are acquainted exercises such a potent influence in the production of tubercle as this; from sire to son, from dam to offspring, from generation to generation—often an unbroken succession—the fatal tendency is transmitted; the more consanguinity is multiplied the more the tendency is increased, and the greater the virulence of the resulting products. No animal whose system is tainted, even in the slightest degree, or in whose history there exists the slightest suspicion of tubercle, should be used for breeding purposes.

Prof. Flint in his "Principles of Medicine" observes as follows:—

"Facts show the tuberculous diathesis in a certain proportion of cases to be congenital and inherited. Why a peculiarity of constitution rendering a person specially liable at a certain age to the development of this disease should be transmitted from parent to child, cannot be explained, more than the fact that peculiar traits of physiognomy or mental character are inherited. The conclusion rests on observation. It is a matter of remark, that the offspring of consumptive parents are apt to become tuberculous."

Dr. Lionel Beale says: "Tubercle and cancer are hereditary disorders, and the immature cancer or tubercle elements may have been transmitted from the parent, and have remained in a dormant state, until surrounding conditions become favorable to the display of their full vigor. This view seems to derive support from the fact that just as in due time, each feature of development appears in the progeny as in the parent, so tubercle appears at a fixed age, which is the same in each."

A remarkable case, proving the transmissibility of the disease from the male parent to the progeny, is published by Zippelius. A stock-breeder purchased a bull, and with him served ten of his cows. The bull was found to be affected with tuberculosis, and for this reason was killed. All the calves of the ten cows which had been put to this bull, had eventually to be slaughtered because of this affection. The first symptoms of the disease in the calves were manifested when they passed to adult age.

And so in human statistics; it is a fallacy to suppose that youth is considered the harvest time of consumption, or middle age the extreme period within which the whole crop is garnered, the

post-mortem records of many hospitals showing that a large percentage of persons who die over sixty years of age are afflicted with pulmonary phthisis; less between the ages of ten and forty than it is between forty and seventy.

It is said that forty is the old age of youth, and fifty is the youth of old age.

The seeds of disease being sown early, the malady matures later in life.

According to abstracts prepared by Goring, on the sanitary condition of animals in Batavia in 1878, 5,052 tuberculous cattle were apportioned as follows:—65 were less than a year old; 551 were from one to three years old; 1,730 were from three to six years old; 2,360 were more than six years old.

Although it is very rare that tuberculosis commences during foetal life, yet it is notorious that a tuberculous cow transmits to its descendants a predisposition to the disease.

Williams says: "It is not only hereditary, but congenital, and he has seen a calf three months old which had thriven well until within two or three days of its death, filled with caseous, calcareous, and grey tuberculous ulcers. In this calf the whole of the serous membranes were affected, which must have been formed *in utero*. The mother of this calf seemed a healthy animal, but was of spare form and had a capricious appetite."

Adam relates an instance from among many others in which the lesions of the disease were observed in a calf which died a few hours after its birth, the mother at the time being affected with tuberculosis.

Semmes relates five cases of phthisis which he met with in the foetuses of cattle, and says these cases sufficiently prove that it can be developed during the embryonic stage.

In human statistics it is abundantly proved that contagious and infectious diseases occur during foetal life, even to the recovery of such without the mother being apparently affected, notably that of variola.

Fleming says: "The influence of contagion on the propagation of tuberculosis has been affirmatively solved, for we have furnished ample proof of its hereditary transmission; this transmission being nothing more than the infection of the ovum of the foetus through the medium of the parents," and further says, "the morbid principle may arrive in