

which is associated with incipient tubercle, the cavernous or bronchial sounds which occur during the passage of air into or out of the cavity in the lung and the humid crackling or gurgling rales, which are pathognomonic of advanced tubercularization, and heard during the later stages of nearly all cases of consumption.

Large crepitation depends upon the passage of air through liquids but when pus or liquid matter of any kind is collected in a vomica, which communicates freely with the trachea through pervious bronchi, the bubbles produced by the entrance and exit of air, will be still more numerous and large, and a sound is then produced, which the word gurgling well expresses. Whenever therefore we hear gurgling during the act of respiration or during the act of coughing, we conclude we have a cavity. Another constant accompaniment of progressive phthisis, is emaciation, and if without apparent cause, an animal grows thin and weak, with a quick pulse, and labored respiration, these indications are pregnant with meaning that tubercular disease is at work in the lungs and is consuming life.

The detection of the disease is sometimes difficult. It is easy when the tubercles are numerous, large or far advanced; difficult when they are scanty in number, thinly scattered and individually small, and in the latter case would not cause any appreciable deviation from the natural resonance of the chest upon percussion, or from the natural smooth, equable rustle of the breathing.

The disease always terminates fatally if the animal be permitted to linger on and it dies in a state of extreme marasmus.

In 1865 Villemin placed tubercular material beneath the skin of rodents, and general tubercle developed; he believed, therefore, that tuberculosis was a disease due to a specific poison contained in the foci of the disease, and capable of being transmitted from men to animals and from one man to another.

The International Veterinary Congress, held at Brussels, in 1883 to discuss the Influence of Heredity and Contagion, on the Propagation of Tuberculosis, in summing up their labors arrived at the following conclusions:

1st. Tuberculosis has been observed in all warm blooded animals submitted to domesticity or deprived of their liberty.

2nd. Tuberculosis in animals and mankind pre-

sents analogous manifestations, in the living as in the dead creature.

3rd. The course and termination of the disease in mankind and animals is the same.

4th. The masses of tubercle and especially the sputa of the phthisical produce tuberculosis in animals when these matters are introduced through the respiratory or digestive apparatus, or through a deep wound. Tuberculosis inoculated from man to animals, may in its turn be transmitted from one animal to another, and always produces tuberculosis.

5th. Tuberculosis of men and animals is transmitted by heredity.

6th. The disease is contagious in man and animals.

7th. Clinical observations prove the transmissibility of tuberculosis from animals to man by consumption of milk of phthisical animals.

8th. Tuberculosis of animals and man is rare in cold climates. It is most frequent in southern countries; the tracings of the geographical propagation of the disease in man and animals are parallel.

9th. It is evidently proved that a pathogenic microbe, having the same morphological and biological characters, exists in the tubercle of man and of animals. This organism, whether it be developed in man or in animals, may induce tuberculosis when cultivated in a pure state and is conveyed to the animal possessing the necessary receptivity.

The importance of obtaining the broadest knowledge regarding the causes of tuberculosis is emphasized by such pointed, yet true, statements as the following, by Dr. I. Watson, of Concord, N. H.:—"It has no pity for age, sex, education, or wealth; it pursues the mendicant; it is domiciled with the rich. Its terrible reality is so interwoven with civilization that we regard it as a concomitant of every community, scarcely inquiring by what degree it becomes a part of our heritage. Public opinion has already too long ascribed the inheritance to the caprices of a much-abused Providence, or to some other mysterious edict, from which there is no escape. It is time that such views be consigned to the great dump-heap where the carts of superstition are—thank God!—unloading the intellectual garbage of generations, and the true relation of cause to effect be studiously and scientifically examined."