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THE EPIDEMIC ZYMOTIC DISEASES OF ANIMALS AND HOW THEY ARE COMMUNICATED TO MAN.*

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GENTLEMEN,—With your kind permission, I will digress from the usual path in delivering an annual address on the progress of medical science, and confine the few observations I have now to offer to "The Epidemic Zymotic Diseases of Animals, and How they are Communicated to Man." For many years, while directing some little attention to Natural History, I have noted points in pathological anatomy closely allied with the diseased manifestations in the "genus homo," and being a wide field for the practical exercise of pathological research, I felt confident such would not be uninteresting to the members of our Society. The subject is one of vast importance to our common country, inasmuch as it involves millions, in our live stock, irrespective of its scientific aspect. Endemic and epidemic diseases are not alone confined to the human species, but extend alike to animals, and the manifestations are doubtless of peculiar interest. The analogy is so close, that they are designated by the same names. Several are propagated in the human organism, and many present pathological information of great importance. The late Dr. Farr, of England, specified these as diseases which distinguish one country from another, and whose occurrence form epochs in chronology. The exact cause of these diseases, although not positively known, is supposed in the

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animal organisms to act like a ferment, hence the term "Zymotic." According to the most recent enquiries the generation of "organic germs," originate in the individual, or by fermentation in the diseased excretions of the organism, and thus transmitted through various media from body to body, at sensible and insensible distances.

It is a well recognized fact that the death rate, in almost every country, from such sources of disease, is very considerable. The result of literally packing animals together, which can doubtless be scarcely avoided, as in the trains of our various railroads, cannot escape the attention of the most ordinary observer. The atmospheric signal is perfect in its way. Thus infection rapidly spreads, where diseased germs exist, and the consequences are frequently most serious. According to Prof. Law, since 1842, England has lost over 450 millions of dollars through the contagion of cattle imported from the Continent. The stamping out process by slaughtering all the diseased cattle, and thorough disinfection afterwards, and the exclusion of all diseased animals from the country, has been productive of the best results. Diseased germs are doubtless the very foundation of the diseases of animals, and the early recognition of incipient development is of vast importance. Diseases in animals are divided into two classes: the *Exotic* or *uncommon*, and the *indigenous* or *common*. Of the first class, we have *small pox in sheep and birds*, Pleuropneumonia of cattle, Rinderpest, Malignant diseases of the generative organs of the horse kind, Malignant cholera of animals, Aphthous fever, known as foot and mouth disease. Of the second class, or indigenous diseases, belong Glanders, Rabies, Contagious foot rot, Tuberculosis, Malignant asthma, Hog cholera, or intestinal fever of swine, Influenza, Strangles, Canine distemper, and Horse pox, seen in the cow, goat, and pig. In each of these diseases there is a zymotic influence at work, precisely as in the development of disease in our own species. Hippocrates, in his time, enunciated clearly the influence of impurity in air, soil or water, as factors in the development of disease zymotic in character. The impurity of soil has much to do with the production of disease, in both milk and meat, thus influencing the human family and spreading the germs of disease of a most serious character. The death rate in man and animal, from foul stock yards, and filthy alleys in towns