

before Cohn, Corda had given this name *streptothrix* to a totally different fungus, then it was no longer permissible to use the term *streptothrix*, and Lehmann was justified in renaming this *Actinomyces*, and we find ourselves very largely in sympathy with Lehmann in his making a group of the *Actinomycetes*, to include all those forms of higher bacteria in which branching has been observed, including the diphtheria, glanders and tubercle bacilli and allied forms, and retaining the generic term of *actinomyces* for the genus which includes the *Actinomyces hominis*. As already stated, I regard this as a group intermediate between the bacteria proper and the lower moulds.

Now, it may be asked, is there only one specific *actinomyces* which is the pathogenic organism in both man and cattle? It seems to me that we have definite indications that we have to deal, not with one organism and one disease common to the two species of animals, but that probably in each species we encounter it may be several species or varieties of the Ray fungus. This is still a matter of debate, but one has, I think, only to study the illustrations given by different authorities to recognize that some at least have dealt with wholly distinct forms. In some cases the organism is small, with simple clubs; in others, large with branching clubs. This, indeed, has been explained as due very largely to the reactive powers of the tissues, the formation of clubs being the reaction against the body juices, and, as a matter of fact, in very acute actinomycosis, where there is little reaction apparently on the part of the organism, the clubs may be wholly wanting.

In some cases it seems to be impossible to gain growths in the ordinary media; in others, growth is fairly free in the presence of air, while certain observers have stated that they have obtained most successful growths in the absence of oxygen. Here again there seems to come in a complication, namely, that a large proportion of the granules obtained in pus are already exhausted and dead, the microbe having been destroyed. Thus to fail to get growths does not necessarily mean that we are dealing with different species. One form, the *A. Israeli* of Lehmann and Neumaun, obtained from the human disease, undoubtedly grows best under anaërobic conditions. But, if this is not conclusive, I certainly have noted—herein confirming what Dr. Keenan has pointed out to me—that in some of our Montreal cases the mycelium has been formed of very fine, and in others of relatively coarse threads. This must indicate different species. And, in man, I may remind you, there is one group of species which clearly are distinct, namely, those setting up the chronic localized disease, chiefly of the hands and feet, known as Madura Foot or Mycetoma, the organism from which has been cultivated