

of the varieties of colon bacilli isolated from man. This form was isolated by Dr. Ford from the spleen of cases of typhoid in man and has, briefly, the following characters:—It is a stumpy bacillus having a diameter less than 1 mm., motile, forming no scum when grown on broth and causing slight turbidity of that medium. Growths upon agar are smooth and glistening, not very abundant; no liquefaction of gelatin; growth upon potato visible and luxuriant (in the early stages the growth upon this media was but slight); it grew in the closed end of Smith's fermentation tube and best at the body temperature; it can grow in the absence of free oxygen; causes no liquefaction of either gelatin, casein or blood serum; it produces gas when grown in dextrose and lactose broth, but not with saccharose; there is no production of nitrites, but indol is present (originally no indol was present); milk is turned acid and eventually coagulated and there is a slight faecal odor; no production of pigment upon agar; no fluorescence (originally many of the cultures obtained direct from the cattle showed a distinct tendency for the production of a slight yellow color). It grows best in media which are faintly acid and is non-pathogenic for mice (the early cultures of this showed themselves distinctly pathogenic for mice and this I regarded as one of the indications that I was not dealing with the colon bacillus).

It is interesting to note that parallel with this Dr. Charlton studied the colon bacillus obtained from the stomach of a case of pernicious anæmia in man and this gave identical reactions.

It is thus clear on the one hand that the organism of the Pictou Cattle Disease is one of a very large group of colon bacilli, and this alone throws some little doubt upon whether it should be regarded as the specific micro-organism of that disease, because while colon bacilli have pathogenic properties, and, in fact, set up many forms of disease in man, the morbid conditions induced by them are all more generalized and not so specialized a type as that possessed by this disease. But from another point of view, if we are not to regard these as the specific organism of the disease, we are, I think, bound to regard to it as playing some part in the development. For, on the one hand, as pointed out by Dr. Wyatt Johnston and Mr. E. W. Hammond, the blood of cattle affected with this disease agglutinates the micro-organism isolated by them from their livers and this agglutination test is in general regarded as an indication of such relationship between microbe and disease; and secondly, these micro-organisms are present in such abundance in the liver and mesenteric lymphatic glands and that so constantly, that they cannot be regarded as meaningless.