made up of diplococcus-like members lying in the common sheath. I made out a similar condition of affairs in connection with the Pictou cattle disease, but do not remember to have come across such long filamentous forms.

We seem thus to be dealing with a form totally unlike any which to the best of my knowledge has been described; the polymorphism is remarkable. It is most difficult, however, to determine how to describe the appearances seen, and I am at a loss whether to state that we are dealing with an encapsuled diplococcus or with a bacillus having inclusions taking a peculiar deep staining, just as in the ordinary cell the nucleus stains deeper than the surrounding protoplasm. The general appearance in the tissue is certainly that of an encapsuled diplococcus, but on the other hand, grown outside the body and upon agar and then treated with Loeffler's methylene blue, the whole of that portion which plays the part of a capsule to the diplococci takes on a stain with as great intensity as do ordinary bacteria. On the whole at present, I am inclined to the latter view, because examining tubes in which proliferation is most rapidly proceeding, I find upon staining with carbol fuchsin and decolorizing with alcohol, that one has in the youngest ovoid forms what is most suggestive of the polar staining such as one sees in the bacteria of hæmorrhagic septicæmia, that is to say, there is at either pole not a complete coccus form, but a generally deep staining concavo-convex segment, the two parts being separated by a clear space and the membrane joining the ends of the opposite crescents being clearly visible.

If this form coincides in other respects with the micro-organism of Pictou cattle disease, it will grow rather more easily upon slightly acid media, it will grow upon serum and very slowly in gelatine without marked liquefaction, and will be fatal for animals of the laboratory at a relatively long period after inoculation.

It so closely resembles the micro-organism of the Pictou cattle disease that I feel that I may safely prophesy this, for the time taken in unravelling the mutability of growths upon agar agar has prevented me from working out these points till the last few days.

The great similarity in appearance presented by growth upon agar agar under ordinary staining to the colon bacillus may perhaps make it necessary to say a few words about the relationship of the micro-organism isolated by me, to the bacillus in question.

I have made growths side by side, and find that in broth the colon causes a greater turbidity and appears to grow more freely upon agar agar and also to be endued with greater motility. While upon staining an eighteen hour broth culture of the micro-organism by the Nicolle Morax method, in order to demonstrate flagella, I found that the micro-organism, which are even stumpier than the colon bacillus, under similar circumstances to be possessed of terminal flagella, either one or two, and not of lateral. This, if it were necessary, would seem distinctly to prove that the micro-organism is wholly distinct from the colon group. However, I make this statement provisionally, and will give fuller details as to the characters of the micro-organism within the next few months, probably in the *Journal of Experimental Medicine*.*

I trust, however, that I have said sufficient to prove: 1st, That in at

*August 20th.—Fuller studies have shown me that these statements need amending. While the bacilli at first caused no fermentation of glucose and lactose broths, later growths gave definite gas production, though not so extensive as the atypical colon bacillus. The broth growths also remain atypical, but undoubtedly the bacilli when growing freely have, like the colon bacillus, lateral flagella. The germ belongs to the colon group. Fuller details of its characters will be given in a later communication.