

white; then slowly, in the course of the fifth day or so, a fine pink color was developed in the medium; the milk is coagulated at the end of a week. Growth upon broth was definite, but not abundant, and was associated with singularly little turbidity, a white somewhat stringy precipitate being slowly formed. In the fermentation tube the open limb became opalescent or moderately turbid in the course of forty-eight hours, the closed limb remained perfectly clear, and, in addition, in neither glucose nor in lactose broth was there any production of gas; further, there was and is no indol reaction, and if turbidity be present it is still singularly slight.

It is unnecessary here to describe all the methods that we have employed in order to cause these forms to revert to type. Briefly, we may say that we have obtained the greatest change by culture for twenty-four hours upon broth rendered 1.5° acid, according to the method recommended by the Committee of Bacteriologists, to which 2.5 per cent. of lactose has been added. In this medium, already at the end of twenty-four hours, there is abundant growth and well-developed turbidity, and the individual forms are relatively large and ovoid, frequently arranged as stumpy bacilli. (*Vide* Figs. 6 and 7 Plate I.)

When this form is inoculated into the guinea-pig intraperitoneally and cultures made from the peritoneal fluid at the end of nine hours, both upon agar and glucose broth, growth upon glucose broth in the fermentation tube is much more active than before inoculation; and, whereas, previous to inoculation, only the open end of the tube had been rendered opalescent, now there is turbidity throughout both tubes. As already stated, after passage through three guinea-pigs and growth on this medium the form produced is undistinguishable from the normal colon bacillus.

It is possible that this remarkable and somewhat persistent diplococcoid form, obtained both from the bile of the inoculated guinea-pig and from the ascitic and peritoneal fluids, has become attenuated during its stay in the body, and that in the case of the bile, for example, during the passage through the liver, the colon bacilli have been markedly modified. We have taken sterilized human bile and added to this a minute quantity of a stock culture of the colon bacillus, and have not been able to obtain in the bile the diplococcoid form alone, although it is true that diplococcoid forms have been relatively abundant.