

within the liver cells, and in the liver of a rabbit which had been inoculated with the micro-organism isolated by me, although the animal died before any marked cirrhosis had developed, the liver cells were seen to contain these microbes in very great numbers. As to how the micro-organisms enter these cells, that is a point on which at present I can throw no light, but the appearances given, as will be seen in a specimen under the microscope in the Pathological Exhibit, is that these cells contain large numbers of extremely minute diplococci.

Recently, within the last month, a remarkable case of cirrhosis with pigmentation unaccompanied by diabetes has again drawn my attention to the bacteriology of atrophic cirrhosis. Dr. Maude Abbott, who is working in my laboratory at the Royal Victoria Hospital, showed me some sections of the abdominal lymphatic glands, stained by Weigert's fibrin stain in which, under high power, I noticed a peculiar fine granulation, and upon examining under the 18th inch immersion, these fine granules resolved themselves into minute diplococci.

Examining the liver stained the same way, I there noted large numbers of the same micro-organism, and since then I have gone through all my five cases of cirrhosis which I have had during the last three years; through specimens of four well marked cases of hobnailed liver received from Professor Hektoen, of the Rush Medical College, Chicago, and through a series of sixteen livers, some of well marked atrophic cirrhosis, others of milder stages of cirrhosis sent to me by Dr. Flexner from the Johns Hopkins Hospital. So far in every case of well marked portal cirrhosis, whether of the small shrunken type or of the large hobnailed type, whether associated with jaundice without ascites or with ascites without jaundice, I came across constantly one characteristic form of micro-organism, obtaining the best and most permanent results by the method already mentioned, of staining in carbolised fuchsin and bleaching or partially bleaching in the sunlight.

This micro-organism is extraordinarily minute; by the trained eye, in well stained specimens, it can be recognised under the 12th inch immersion, but for satisfactory work it is absolutely necessary to employ the 18th or 20th inch immersion lens. According to the depth of the stain, so does it appear either as an ovoid bacillus, which might easily be mistaken for some stained deposit in the liver cells, or as a minute diplococcus surrounded by a halo, the explanation being that with strong staining the the bacillus and capsule are stained throughout, with weak, the body of the micro-organism and the capsule are decolorised, leaving simply the polar staining. Even in the tissues