

In several places between the liver cells, as indeed also in sections taken at an earlier period, there were to be made out hyaline masses, apparently situated within the vessels, which hyaline masses contained numerous bacilli. We have found some little difficulty in coming to a conclusion as to the nature of these masses; the large ones would seem certainly to be hyaline thrombi, but in the smaller ones it was often difficult to make quite certain whether we were not dealing with some phenomenon in connection with the endothelial cells; for very frequently a nucleus of endothelial type was in close connection with these smaller hyaline masses. We could not absolutely leave out of account the possibility that we were dealing with very greatly swollen endothelial cells.

Up to this point we were unable to recognize in any of the sections of this series indications that the bacilli had been taken up by the liver cells. But in a rabbit killed four hours after inoculation we came across great numbers of extremely minute brownish shadows definitely within the hepatic parenchyma. (*Vide* Fig. 15.) We have been wholly unable to stain these little bodies, and, indeed, only by very careful examination with the $\frac{1}{8}$ immersion lens have we been able to see them distinctly; but with this magnification there they most certainly are, and the more carefully they are studied the more clearly they are seen to be present in general as extraordinary minute little brownish diplococci, at times showing a halo around them. And the more one has studied these appearances the more it seems likely that this apparent halo indicates that these small bodies lie in vacuoles, although in part also the appearance may be due to the existence of an unstained sheath or body-substance.

Evidently, judging by the sections from this stage of the inoculation disease, not only are the bacilli taken up in large numbers into the liver cells, but being taken up they undergo rapid digestion and destruction, so that they can no longer be stained by the ordinary methods, and what we see are essentially the shadows of the bacilli. We have attempted to make out the stages by which the bacilli pass from the endothelium into the liver cells, but so far without great success. Here and there in sections of the two-hour rabbit we have been able to make out that the endothelium appeared to be raised from the underlying cells, and on the inner side of this endothelium very rarely we could see in the spaces between the endothelium and