

It seems to me that definite decision cannot be given between the two views. Whether they are leucocytes or not, one may say with some certainty that they are parasitic. In the nipple in Paget's disease the organisms are large, often greatly exceeding in size the original epithelial cell, and they frequently present all the details of structure found in a vigorous cell. If they are leucocytes, then they are out of place in the interior of the epithelial cell; and as they must thrive at the expense of the cell and irritate the latter, they are parasitic. When an epithelial cell is so irritated, its disturbed metabolism must affect the neighboring epithelial cells. An inflammation of a chronic character arises, and if the endocytes are of leucocytic origin, examples of them are multiplied and the area of their distribution increased. That leucocytes penetrate other cells is shown by observations on the livers of patients affected with acute yellow atrophy or pernicious anæmia, etc., and in acute atrophy they give rise, apparently, to structures which are as large as they are in the nipple in Paget's disease. One can readily imagine that in a struggle between a vigorous epithelial cell and a vigorous leucocyte contained within it the victory is not always on one side, and yet there is one constant result: the nutrition of the part is disturbed. This, of course, touches on the question why epithelial cells become so pathologically vigorous as to give rise to neoplasms, but I do not intend to deal with this just now. Why, on the other hand, vigorous epithelial cells should permit the entrance of leucocytes, and under what conditions, is a question which I cannot answer; but vigorous cells do permit the penetration of parasitic elements, as shown by observations on the life history of various sporozoa.

Dr. John Caven said that he had not had an opportunity of studying cases of keratosis such as were spoken of by Dr. Robinson, and could therefore offer no opinion with regard to the psorosperm origin of that disease. He had, however, during the last two years, been making a special study of cancers of all varieties, and particularly squamous epitheliomata, for the purpose of satisfying himself as to their causation. The conclusion he had reached was that so far there is nothing like definite or

even probable proof of the presence of such organisms in carcinomata. That there are bodies present, particularly in epitheliomata, which differ greatly from ordinary epithelial cells, both in appearance and in reaction with staining reagents, of course cannot be denied. These, the speaker at present thinks, to be modified epithelial cells. Certain other elements have been pointed out which, to a certain extent, resemble the so-called psorosperms of Darier. These, the speaker thinks, to be leucocytes. Their position in the centre of the masses of epithelial cells shows that they are not the *cause* of irritation and proliferation. Their absence from the neighborhood of blood or lymph vessels is readily explained by their power of amœboid movement and the fact that minute channels can be seen, in which they are sometimes lodged, between the periphery of the cell masses and the central corneous nest of cells in relation to which the organisms are most commonly collected. The fact that when these so-called organisms are most abundantly present the corneous central masses are always more or less destroyed, points to a *phagocytic* action rather than *parasitic*. Then it is to be noted that very often these cells are multinucleated, just as the supposed *destructive* leucocytes should be. Lastly, that leucocytes enter and destroy epithelial cells in new growths, the speaker can demonstrate from his preparations.

Dr. Robinson replied.

CIRRHOTIC LIVER.

Dr. J. E. Graham presented a specimen from a patient in the Toronto General Hospital. A barber, æt. 38; no previous history of disease before his admission, but no satisfactory history could be obtained. As far as could be made out, he was fairly well until ten days before coming to the Hospital. Then he had pain in the head and back, chills and fever, and had been in bed for some days. On his admission he presented the typical appearance of a typhoid fever-patient: tongue coated, temperature 102° F., pulse 90, respirations 20. Marked tympanites, tenderness in the right iliac fossa, and very much enlarged spleen. On the back there were two or three typical typhoid spots near the spine. On the second or third day after his admission he had an intestinal hemor