part of the nucleolar structure and contributes to the formation of the chromocentre and the nucleolar organisers.

Recently, while examining the Sertoli nuclei in the testis of certain Apoda (Amphibia), it was observed that the nucleolus showed Feulgen-positive granules adhering to its periphery. The nucleus of the Sertoli cell in *Siphonops annulatus* has one or more nucleoli and each of them shows a distinctly dual structure. Around the spherical nucleolus (which is Feulgen-negative) there occur a number of Feulgen-positive bodies; two to six bodies could be counted on a single nucleolus. They were larger than the granules figured by Hydén in the spinal ganglion cell of the rabbit and nearly as conspicuous as those found by Koller in the resting tumour cell treated with stilbœstrol.

The possible function of these bodies cannot yet be defined, since the function of the Sertoli cells is itself a matter of doubt in the Apoda. In these Amphibia, the Sertoli cells have undergone a great change in position as well as structure, and there is every reason to believe[5] that the usual function of providing support and nourishment to the growing sperms, assigned to the Sertoli cell of the vertebrate testis, could not hold in the case of these Amphibia. But it is a matter of great significance that unlike the tumour cell which enters on division, the Sertoli cell has no mitotic future and is to be regarded as one which has reached a stage of permanent rest[6]. In this respect the Sertoli cell resembles rather the nerve cell or the liver cell, where also mitoses are rare or wanting. It therefore appears unlikely that these granules could take part in any process associated with mitosis. The other possibility of the synthesis of cytoplasmic proteins, suggested by Caspersson, would also appear to be untenable in the Sertoli cell, where the cytoplasmic equipment is very meagre or often altogether wanting, the nucleus lying naked in the periphery of the testis locule[5]. It would therefore appear that the function of these Feulgen-positive bodies on the nucleolus is linked up with the general function of the Sertoli cell itself, which, in the Apoda, is at the moment obscure. Efforts are being made to determine these functions.

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A Cytochemical Study of the Perinuclear Lipidic Layer in the Liver Cell

THE blackening by osmium tetroxide of the perinuclear layer in various animal cells is well known (see, for example, Hirschler[1]). Recently, with an electron microscope, Gessler and Fullam[2] investigated guinea pig liver fixed with osmium tetroxide and cut with the high-speed microtome; they observed that the 'nuclear membrane' is sharply shown, and that, generally, the fat-containing parts of the tissue appear darker in these electron photomicrographs.

But the blackening with osmium tetroxide is not a sufficient evidence for lipidic constitution of a structure. For this reason, I have undertaken a cytochemical study of the perinuclear layer in the liver cell.

Thin fragments of guinea pig liver are fixed in formalin or Regaud's bichromate-formalin mixture. The frozen sections are treated by different methods for cytochemical characterization of the lipids. With Sudan black, the thin perinuclear layer is stained blue-black, obvious not only on the edge, but also on the surface of the nucleus; so the presence of fats in this layer is shown. The reaction for cholesterol and its esters (Schultze's sulphuric acid – acetic anhydride method) is always negative; nevertheless, it is not possible to affirm the absence of these substances in the thin perinuclear layer, for the coloration is weak, and often not obvious in a very thin layer. The reaction for free cholesterol (Leulier–Revol's method using digitonin) is also negative. In addition, the Smith – Dietrich reaction is clearly positive, and indicates the presence of lipoids (phospholipids) in the perinuclear layer.

With the polarizing microscope, I failed to see in fresh liver cells any birefringence connected with the perinuclear lipoidic layer. In fact, observation is disturbed by the refraction of the cell substance.

The osmiophilic perinuclear layer of the liver cell contains some lipoids, just like those I previously studied in the perinuclear lipidic layer of the histiocyte[3]. Its thickness is irregular; measured on electron photomicrographs, the osmiophilic layer does not exceed 75 millimicrons, and it is much thinner in most segments. It is probably composed of a few sheets of radially ordered lipoidic molecules; each bimolecular film is about 5 millimicrons thick and located between protein layers.

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Staphylokinase: an Activator of Plasma Protease

SEVERAL workers[1] have reported the lysis of fibrin clots by staphylococci, and this has been assumed to be due to a fibrinolysin produced by the bacteria.

In a series of experiments, which will be reported in detail later, twenty-seven strains of staphylococci were examined for fibrinolytic activity. All strains were first tested for coagulase, using human and rabbit plasma in parallel. Fourteen out of twenty-four strains which clotted human plasma afterwards lysed the clots which they produced. Clots were produced in rabbit plasma by twenty-three of these strains; but none of these clots showed subsequent lysis. All tubes were sealed and kept at 37° C. for one week; most of the human fibrin clots were lysed in four or five days.

The twenty-seven strains of staphylococci were then grown in digest broth, centrifuged, and the supernatant fluids dialysed under toluol against tap water for two days in the cold room. Merthiolate was added to the residues after removal from the bags. Sterile residues were shown to contain both coagulase

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