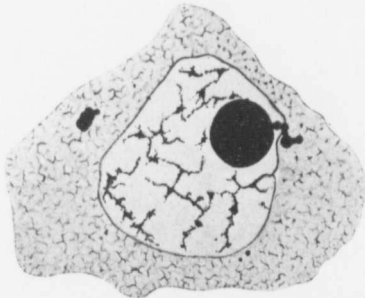


the vacuoles in their nuclei give the reaction for fat, and have sometimes been fixed at the moment of extrusion into the central fatty globule of the cell. It is long since the changes were described which

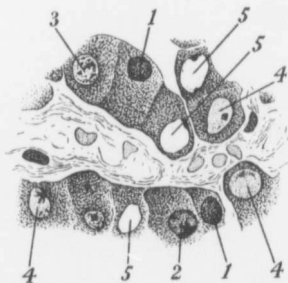
FIG. 6



Developing egg of *Antedon bifida*, showing extrusion of nuclear matter. Young oöcyte, the nuclear chromatin in the form of scattered branching threads. The deeply stained nucleolus is seen in the act of extruding spherules (chromidia) into the cytoplasm.  $\times 2000$ .

the nucleus undergoes in salivary cells during and after secretion, and nuclear alterations have been frequently observed in the nerve cell bodies of vertebrates after natural and experimentally produced fatigue.

FIG. 7



Section from the liver of a child that died from acute sepsis, to show various stages of karyolysis of the first order: 1, unaffected nucleus; 2 and 3, paler staining nuclei, with some swelling and diminution of chromatin; 4, nuclei still more swollen, the membrane only and an occasional nucleolar mass taking on the stain; 5, nuclei present as little more than unstained vesicles.

The changes in fatigue in the Nissl bodies, which are of nuclear origin, are very noticeable. In general it may be said that, taking the resting cell, under moderate stimulation its nucleus increases in size and in the