$LaCl_3$ (as well as to isotonic $MgCl_2$ or $MnCl_2$) remain spherical. Thus blebbing of the egg surface is a phenomenon which occurs preferentially but not exclusively in response to high concentrations of exogenous Ca^{+2}. Exposure of spherical eggs to the histamine liberator, 48/80 (0.1-10 mg/ml), causes up to 50 percent of the eggs to form a single large bleb which greatly resembles a normal polar lobe. Treatment of spherical eggs with the divalent cation ionophores, X537A (25-125 µg/ml) or A23187 (10-30 µg/ml) causes almost all of the eggs to form a polar lobe on the vegetal hemisphere, although the lobe neck is not as tightly constricted as after treatment with 48/80. Roughly similar blebs form on eggs even when the three drugs are administered in Ca^{+2}-, Mg^{+2}-free sea water containing 10 mM EDTA. The eggs of *Ilyanassa* may resemble those of *Xenopus* (Baker, P. F., and A. E. Warner, J. Cell Biol. 53: 579-581, 1972) and *Rana* (Schroeder, T. E., and D. L. Strickland, Exp. Cell Res. 83: 139-142, 1974) in being impermeable to exogenous EDTA. The results therefore are consistent with a possible role for intracellular Ca^{+2} in control of cell shape.

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FINE STRUCTURE OF LIVER IN THE SKATE, *Raja erinacea*

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Separately (Bulletin MDIBL 12 and 13, 1972 and 1973, and this Bulletin) J. Boyer et al. have reported on bile production in the little skate. In preparations of the perfused liver the rate of bile production rises with the perfusion pressure. Electron micrographic findings on the bile

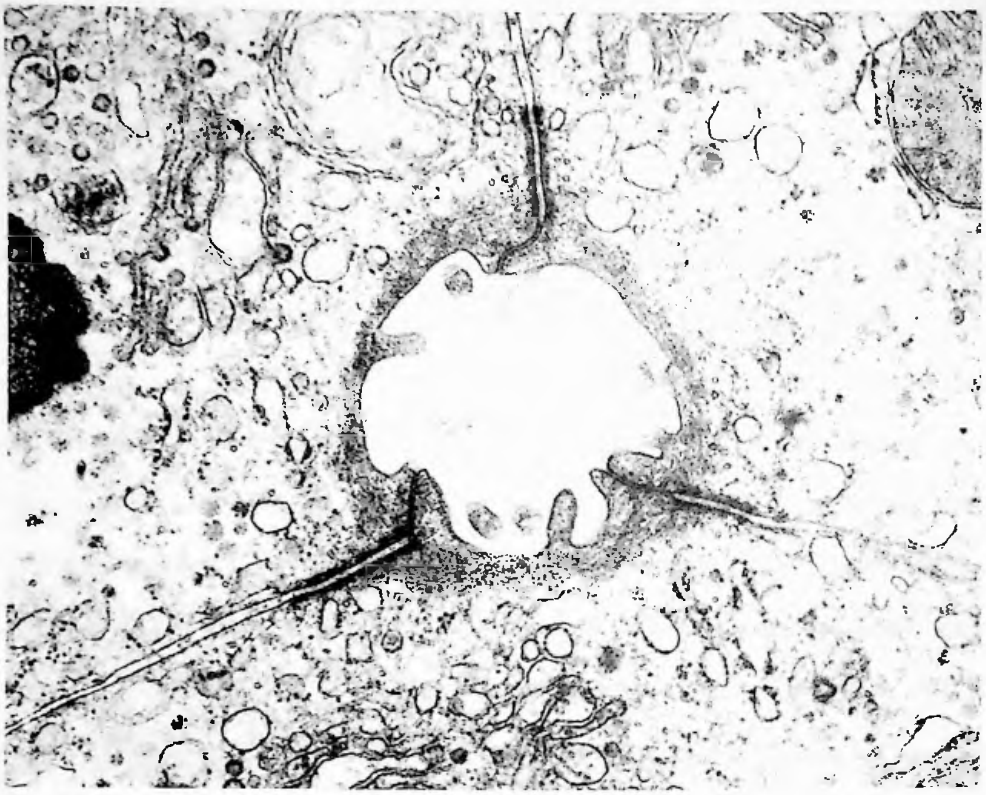

Figure 1: A bile capillary from a liver perfused at normal pressure and fixed by perfusion at the same pressure with modified Karnovsky fixative (4 percent paraformaldehyde, 2 percent glutaraldehyde).

capillaries indicate that the cell junctions have a 125 Å space at the terminal junctions and 275 Å at the zonula adherens. The apical cytoplasm bordering the bile capillary shows conspicuous development of microfilaments. Along the lateral cell boundaries there are some small desmosomes but they are sparse in comparison with mammalian liver. Gap junctions along lateral cell membranes appear to be absent. The space of Disse is frequently enlarged and contains a few lymphocytes; it extends considerably between the lateral borders of the liver cells which may be related to the fact that the liver cords consist of more than two cells in cross section. The morphology is consistent with an interpretation of "leaky junctions" (i.e. patent) between the liver cells at the bile capillaries.