Introduction

LIPOTROPIC agents surely have a relationship to serum lipids. Dr. Cornatzer deals with that subject in his paper on lipid transport. One of the lipids that has received a great deal of attention is cholesterol. Dr. Lucas covers that subject. In the light of new knowledge of the last two or three years about cholesterol and its transport, the earlier work of Dr. Lucas and Dr. Ridout needs review. Dr. Friedman's work on the phosphatides is also very exciting. Some of you know about it; it is opening up a whole new field.

The pathologist has looked at serum lipids for years in frozen sections stained for fat of kidneys, livers and other organs and has recognized it by its sudanophilia. When the plasma becomes coagulated in the fixed tissue sections if there is very much lipid present, one sees it as a red matrix in an oil-red stained section. Sometimes it will look homogeneous and at other times granular.

Lipids can also be visualized with the electron microscope. In a capillary in the liver the lipids appear as little black dots. They lack any demonstrable structure and one cannot see any membranes around them or an internal light area that might represent protein. In sections prepared from rats on a choline-deficient diet, the droplets do not seem as numerous as in those from rats fed a choline-supplemented diet. But, of course, this method is not quantitative. In order to make it so, hundreds of sections would have to be cut and measurements carried out. This might be worthwhile later on if we are looking for special effects, but at the moment we do not propose to go any further with this. We now look to the biochemist and enzymologist for leadership in this area.

W. STANLEY HARTROFT, M.D., PH.D.
Chairman, Department of Pathology
School of Medicine
Washington University
St. Louis, Missouri