SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

One hundred fourth meeting.

College of Physicians and Surgeons, New York City, January 21, 1920. President Calkins in the chair.

38 (1498)

The relation of the portal blood to liver maintenance.

By PEYTON ROUS and LOUISE D. LARIMORE.

[*From the Rockefeller Institute for Medical Research.*]

The occlusion of portal branches to a portion of the rabbit's liver leads to a progressive and ultimately complete atrophy of the parenchyma in the region deprived of portal blood and to hypertrophy of the hepatic tissue elsewhere, which receives such blood in excess. Three fourths of the liver may thus be reduced to a fibrous tag within two months, while the remaining fourth attains the bulk of the entire original organ. The atrophy is simple, unaccompanied by obvious degenerative changes or by the least connective tissue replacement. More important, it is conditional in nature, failing to progress when the bile duct from the proliferating liver tissue is ligated and hypertrophy checked in this way.

Preliminary experiments indicate that these facts hold for the dog, though the changes go on more slowly in the canine liver. After three months the tissue deprived of portal blood has diminished to about one third of its original bulk. That such atrophy is conditional is proven by its relative failure to occur in the absence of a compensating parenchyma, as when the portal stream is completely diverted from the whole liver by way of an Eck fistula.

The bile secreted from a portion of the rabbit's liver far advanced in an atrophy of the sort described, and competing with a large liver mass which received the entire portal stream, is almost colorless and may give but a weak Pettenkofer reaction. Glycogen, though, is present in the atrophic cells in approximately the same amount and distribution as in the hypertrophic parenchyma of the same animal.

The type of local liver destruction here considered, which is dependent upon hypertrophy elsewhere, contrasts interestingly with the local hypertrophy dependent upon destruction which has long been familiar to pathologists.

The fact that a parenchymal shift follows local changes in the portal stream has a bearing on the cause of certain alterations in the shape of the normal liver which have been attributed to pressure from the surrounding organs.

39 (1499)

The utilization of the calcium of carrots by man.

By **MARY SWARTZ ROSE** with the coöperation of **RENA S. ECKMAN, EDITH D. BROWNELL, EDITH HAWLEY** and **ELLA WOODS.**

[*From the Department of Nutrition, Teachers College, Columbia University.*]

Four healthy young women were given rations with a calcium content approximating their minimum requirement, and calcium balance determined from analysis of food, urine and feces. In two cases the experimental period was about two weeks, and in the other two, about three weeks. In two cases the carrot period was preceded by a period in which the calcium was derived chiefly from milk. In all cases the subjects had had their digestive capacity tested by previous digestion experiments.

About 400 grams of cooked carrot were eaten by each subject daily, furnishing from 55 to 84 per cent. of the calcium ingested. In all cases but one there was a positive calcium balance, and in this case the loss was small. In one case, the balance was nearly the same on a diet in which 55 per cent. of the calcium was derived from carrots as on one in which 70 per cent. was furnished by