1,996,000 ± 127,000. The figures given for 5 carp, same species, are 1,600,000, 1,400,000, 1,700,000, 1,500,000, 1,800,000; for 3 bullheads, 2,800,000, 1,300,000, 1,300,000. From these few data and the results obtained in this study for wild trout, the conclusion would seem to be valid that the total red counts of the liver-fed trout tend to be higher. It seems likely that the liver diet is responsible for these high counts, but other factors may be influential. These factors may be differences in food, other than or in addition to the liver, which have also increased the deposition of fat in the liver-fed trout or they may be connected with the water content of the streams, the relation of which to the physiology of fish is little understood.

4911

Vasomotor Control of the Liver Circulation.

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Our present knowledge of the vasomotor control of the liver circulation is curiously inadequate. In due time the evidence for this conclusion will be reviewed in detail; now we wish merely to record a summary of the results which have been obtained during the last couple of years in a study of this problem, using cats under chloralose anesthesia and the liver plethysmograph previously referred to.[1, 2]

The peripheral vagus has no effect on liver volume; we have stimulated it in the neck (after denervating the heart according to Cannon's method), below the heart in the thorax and after emerging through the diaphragm.

The postganglionic fibers of the hepatic plexus constrict not only the terminals of the hepatic artery but also those of the portal vein.

The preganglionic fibers of the splanchnic (left) have exactly the same effect on liver volume, either by way of the artery or portal vein, as stimulation of the postganglionic fibers in the hepatic plexus.

Reflex pressor responses are accompanied by decreased liver volume; depressor reflexes produce dilation in the liver. If, however, the liver is denervated by cutting the fibers of the hepatic plexus, its volume then follows passively the general blood pressure.

During the generalized vasomotor activity induced by asphyxia

[1] Griffith, York and Zachmys, PROC. SOC. EXP. BIOL. AND MED., 1928, xxv, 399.
[2] Griffith and Emery, *Ibid.*, 1929, xxvi, 628.

(rebreathing the air in a small balloon) the liver constricts powerfully during the rise of general blood pressure and remains constricted even as the heart begins to fail. If it is denervated, however, it dilates for a time as the general blood pressure is rising; but before this has reached its maximum the liver often begins to constrict maximally. This delayed constriction may be prevented by removal of the adrenals; then the denervated liver volume passively follows the general blood pressure throughout the course of the asphyxia.

4912

Evaluation of X-Ray Evidence as Criteria of Intestinal Obstruction.

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Late diagnoses in simple obstruction of the bowel are due in large measure to the absence of local physical findings which help in other abdominal disasters to corroborate the suspicion that a surgical emergency obtains. The usual textbook description of the physical findings in intestinal obstruction is an ante mortem picture. Regurgitant vomiting and abdominal distension are heralds of death and not physical findings significant of the presence of acute bowel obstruction.

The employment of the X-ray to detect bowel obstruction was suggested about 20 years ago, but it is not widely used for this purpose today and several recent writers state that the employment of X-rays is of no value in the diagnosis of obstruction. In this study an attempt has been made to evaluate the X-ray criteria in the early recognition of bowel obstruction.

Normally gas exists throughout the entire intestinal tract, but when an X-ray film is made of the abdomen, gas is discernible only in the stomach and colon, and especially at the flexures. Its intimate admixture with fluid in the small intestine precludes its demonstration on the X-ray film, though tiny bubbles are constantly present at least in portions of the small intestine. The accumulation of the gas in the small intestine is therefore proof of the existence of delay in transit of the content through the small intestine and usually means intestinal stasis.

In this study simple obstruction was established in 20 dogs; 16