

- August 10: **Gordon W. McKey**
 "Phase Contrast Film of Meiosis".
Warren H. Lewis, his own films of
 "Pinocytosis" and "Chaos chaos".
- August 16: **Frank Winton**
 "Intrarenal Pressure".
- August 17: **Robert F. Pitts**
 "Glomerular Intermittency".
- August 24: **W. Parker Anslow**
 "Excretion of Strong Electrolytes and Water".
- July 29, August 5th, 12th, 19th, 26th; **Theodore T. Puck**:
 "The Physical Chemistry of Solutions".

The General Form of Circulation in the Lobster, Homarus

J. Wendell Burger and Cheves McC. Smythe*
 Trinity College and Columbia University

Data were secured to the end of developing an integrated picture of circulation in the lobster. In the quiet animal, the most common blood pressures (mm. Hg) were: intraventricular, 13/1; aorta immediately posterior to the ventricle, 13/8-10; hemocoel, 0-5; branchio-pericardial sinuses, 0-1. While pressures rise in the whole system on muscular movement, the cardiac systolic pressure is always superior to other pressures. These pressures were secured on unopened lobsters by blind cannulation, recording through a strain-gauge activating a string galvanometer.

Blood flow in the hemocoel is about 0.3 - 0.6 cm. per sec., and is normally unidirectional to the gills. The blood flows in vein-like streams. Stroke volume was crudely determined as 0.1 - 0.3 ml. The T-1824 space was about 75 cms.³ for lobsters averaging 450 grams. The blood therefore circulates moderately rapidly. Some pharmacologic data were secured. Crabs, **Cancer irroratus**, showed pressure relations similar to the lobster, but with a lower cardiac pulse pressure, averaging 8 mm. Hg. It is concluded that in the lobster and crab, the circulatory system is primarily heart driven, and that as in the vertebrates, the skeletal muscles are a circulatory adjunct. No evidence of the cardiac aspiration of the blood was found. Our data and observations do not support the widely held view that the hemocoelar blood is erratically moved about like water agitated in a tank.

* Fellow of the Life Insurance Medical Research Fund.