

1951

SCIENTIFIC PERSONNEL

Name	Department	University
*W. Parker Anslow, Jr.	Physiology	New York
*Cecil P. Baxter	Surgery	New York
*E. Lovell Becker	Physiology	New York
*Gerald S. Berenson	Medicine	Tulane
*William D. Blake	Physiology	Yale
*J. Wendell Burger	Biology	Trinity
*Alfred P. Fishman	Physiology	Harvard
*Roy P. Forster	Zoology	Dartmouth
*Willoughby Lathem	Medicine	Columbia
*Preston Lowrance	Medicine	Virginia
Gordon McKey	Biology	Colby
*James Nickel	Medicine	Columbia
*Lot Page	Physiology	New York
*Harriett Phillips	Medical Illus.	Hunter
*Theodore Puck	Biophysics	Colorado
*Maria Rudzinska	Biology	New York
*John C. Scott-Baker	Physiology	New York
*Warner F. Sheldon	Pathology	U. of P.
*Homer W. Smith	Physiology	New York
*Cheves Smythe	Medicine	Columbia
*John Taggart	Medicine	Columbia
*Karlman Wasserman	Physiology	Tulane
**Philip R. White	Oncology	Jackson Mem. Lab.
Charles E. Wilde, Jr.	Histology & Pathology	U. P. Dental School
*George A. Zak	Physiology	New York

*Renal and Cardiovascular Physiology

**Tissue Culture

STAFF

Caretaker: Nelson Mitchell, Salisbury Cove, Maine

Collector: A. Edwin Clattenburg, Brown University

Secretaries: Emily N. Taylor, Bryn Mawr College

Margaret Shute, New York University

Co-op Manager: Erna Bamford, University of Maine

SEMINAR PROGRAM

Evening Seminars

- July 10: **Roy P. Forster**, Dartmouth College.
"The Role of the Kidney in the Evolution of Terrestrial Animals from Water-Dwelling Ancestors".
- July 18: **Theodore Puck**, University of Colorado.
"The Action of Inorganic Ions on Virus-Host Attachment".
- July 24: **Homer W. Smith**, New York University.
"Plato and Clementine".
- July 31: **Charles E. Wilde**, University of Pennsylvania.
"The Neural Crest, The Germ Layer Theory, and the Classification of Tumors".
- August 7: **Alfred P. Fishman**, Harvard Medical School.
"The Respiratory Dead Space".
- August 14: **E. K. Marshall, Jr.**, Johns Hopkins University.
"Antibiotics".
- August 21: **Charles G. Zubrod**, Johns Hopkins University.
"Chemotherapy of Tuberculosis".

Informal Seminars

- July 6: **Homer W. Smith**
"Localization in the Renal Tubule with Respect to Water and Salt Reabsorption".
- July 13: **E. K. Marshall, Jr.**
"Cinchoninic Acid Derivatives".
- July 20: **William D. Blake and Cheves Smythe.**
"The Effects of Epinephrine on Electrolyte and Water Excretion in Dogs".
"The Effects of Epinephrine on Electrolyte and Water Excretion in Man".
- July 27: **Homer W. Smith**
General discussion of the physiology of marine animals.
- August 3: **Homer W. Smith**
General discussion of renal physiology.
- August 8: **John Taggart**
"Renal Tubular Transport Mechanisms".

- 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.