

NIH



record

DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE September 9, 1957, Vol. IX, No. 20PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH**HEALTH OFFICERS HERE DISCUSS ASIAN FLU**

Surgeon General Leroy E. Burney (center) discusses steps in the influenza vaccine testing program with Drs. Keith E. Jensen (left) of the PHS Communicable Disease Center, and M. R. Hilleman, Walter Reed Institute of Research.

A special meeting of State and Territorial Health Officers, called by Surgeon General Leroy E. Burney to discuss plans for dealing with a probable epidemic of Asian influenza, was held at NIH August 27. The meeting was continued at HEW August 28, when a summary was presented by Surgeon General Burney.

The two-day meeting was called to review the current Asian influenza situation, to discuss plans for use of vaccine, and to ascertain emergency medical care that may be needed. The Health Officers normally meet with the Surgeon General in November.

The morning session, with Dr. Burney presiding, included a talk by General S. B. Hays, Surgeon General of the Army, on influenza activities in the Armed Forces, and a historical review of influenza by Dr. F. M. Davenport of the Armed Forces Epidemiology Board. The

(See Meeting, Page 4)

**Commemoration Planned To Honor Wm. Harvey**

Seven noted speakers, including Nobel prize winner, Dr. Andre Cournand, will participate in a program at NIH September 17 to commemorate the 300th anniversary of the death of William Harvey, the English physician who discovered the circulation of the blood.

NIH employees and the public are invited to attend the commemoration, which is co-sponsored by NIH and the National Library of Medicine. Also included in the program is an English color-sound film on Harvey's work, to be shown at the morning session.

An extensive exhibit devoted to William Harvey and his work will be displayed in the CC Lobby the week prior to lecture day and for the remainder of the month.

The opening session, beginning at 9:00 a.m. in the CC Auditorium, will

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**REGISTRATION OPENS FOR GRADUATE SCHOOL**

Registration for the fall semester of the NIH Graduate School will be held September 23-27 from 11:30 a.m. to 4:30 p.m. in the CC. The Graduate School, co-sponsored by the Department of Agriculture and NIH, is open to all qualified Government employees and to the public as facilities permit.

A total of 32 courses, designed to meet the needs of employees with differing backgrounds and interests, will be offered this semester. Courses will be given in the fields of biological science, physical science, statistics, language, administration, and public communication.

Courses offered for the first time this year are Bacteriophages, Organic Reaction Mechanisms in Biochemistry, Chemical Quantum Mechanics, Advanced German, Improving Professional Communication, and the Theoretical Basis of Organic Chemistry.

Evening Classes will be held on the NIH reservation after work hours, and will begin on September 30. Tuition is \$12 a credit hour and may be paid in two installments. Courses and instructors have been selected by the NIH Advisory Committees.

Graduate School courses are offered on four levels--non-credit, undergraduate, advanced undergraduate, and graduate. Entrance requirements differ with the level of the course for which the student is registering. The School does not grant degrees, but in most cases arrangements can be made to transfer credits to a college or university.

Catalogs and additional information about the program are available in the Clinical and Professional Education Branch, Building 10, Room 13N-228, Extension 2427.

# Sealed Chamber Is Used To Probe Metabolic Mysteries

No. 192 in a Series



Ronald H. Thompson, physiologist in NIAMD, collects data on the energy expenditure of a normal control patient as she exercises on the treadmill in the metabolic chamber.

Metabolism is one of the most basic functions in all life. It is the chemical activity by which the complex living organism perpetuates and maintains itself. The study of metabolism is therefore vital in understanding both health and disease.

Scientific investigators have been exploring the problems of energy metabolism for many years, but most of the research has been confined to studies of subjects in a resting state. There has been relatively little examination of total energy metabolism of subjects during periods of normal and accelerated activity.

To penetrate into the deeper mysteries of metabolism, scientists in NIAMD have begun using a sealed chamber to collect metabolic and physiologic data related to the energy expenditure of research patients. This "metabolic chamber" makes possible the study of the body's utilization of air, food, and water under a variety of controlled living conditions.

The patient under test can comfortably remain in the chamber for several days. He eats and drinks precisely measured amounts of food and liquids. By the use of a plastic hood, the composition of the air breathed is controlled, and the expired air, as well as other body wastes, is captured and analyzed. The temperature and humidity are

controlled to simulate a wide range of conditions.

A light, flexible cable, which includes a two-way communication system, is attached to the helmet and transmits minute-to-minute changes in the patterns of metabolism. This information is recorded by complex instruments in another room.

While in the chamber, the patient has all the comforts of home except for his confinement to a space of 9 by 13 feet. Without removing his helmet, he can move about, work at a desk, read, rest, shave, eat, exercise on a treadmill, sleep on a comfortable bed, and live a comparatively normal life. All this while every breath and heartbeat is being recorded and measured electronically.

The chamber is also equipped with a refrigerator and a commode, and at the end of the room is a window overlooking the Maryland countryside.

The studies made possible by the metabolic chamber have unlimited implications. For example, it is not known why some individuals who are heavy eaters remain slender, while others who are light eaters gain excess weight. There are also many diseases involving serious disturbances in energy metabolism that can now be more thoroughly investigated.

## Publication Preview

The following manuscripts were received by the SRB Editorial Section between June 24 and July 17.

Allen, A. M., et al. Primary cutaneous inoculation tuberculosis in the *Macaca mulatta* monkey.

Andrews, H. L. Thresholds for pain and convulsions in the guinea pig following massive whole-body irradiation.

Armitage, P. Numerical studies in the sequential estimation of a binomial parameter.

Baldwin, M. Electrical stimulation of the human temporal region.

Braunwald, E., et al. Estimation of the volume of a circulatory model by the Hamilton and Bradley methods at varying flow volume ratios.

Braunwald, E., et al. Hemodynamic determinants of coronary flow: Effect of changes in aortic pressure and cardiac output on the relationship between myocardial oxygen consumption and coronary flow.

Braunwald, E., et al. The hemodynamic effects of quantitatively varied experimental mitral regurgitation.

Burstone, M. S. Histochemical methods for protein detection.

Calnan, D., et al. Biological studies on the Rous sarcoma virus. VI. Variability of recoverable virus from tumors propagated by cell transplantation.

Cotten, M. deV., et al. Effects of pressor amines and ouabain on the heart and blood pressure during hypothermia.

Dekaban, A. Arhinencephaly in an infant born to a diabetic mother.

Dissanaike, G. A., et al. Radioactive tagging of hookworm larvae (*Necator americanus*) with  $p^{32}$ .

Dorn, H. F. A classification of terms used in morbidity statistics.

Eddy, N. B. Structures related to morphine. IX. Extension of the Grewe morphinan synthesis in the benzomorphan series and pharmacology of some benzomorphans.

Evans, V. J., et al. Studies on culture lines derived from mouse liver parenchymatous cells grown in long term culture.

Hendler, R. W. Passage of radioactivity between protein fractions of a hen oviduct homogenate.

Herbsman, H., et al. Experimental transplantation of free grafts of intestinal mucous membrane.

Hertz, R. Accidental ingestion of estrogens by children.

Hunt, G. H. Geriatric research.

Komins, D. R., et al. Chemical characteristics of annelid, mollusc, and arthropod troponin.

Kroll, B. H. The census of mental patients.

Law, L. W. Resistance of neoplasms to chemotherapeutic agents.

Lubs, H. A., et al. Familial male pseudohermaphroditism with labial testes and feminization: Endocrine studies and genetic aspects.

MacKenzie, M. Addendum to a collagen-like compound isolated from bovine spinal cord-I.

Masters, R., et al. Studies on the mechanism of action of alpha-phenylbutyrate.

McKee, M. T., et al. The culture of *Clostridium botulinum* type C with controlled pH.

Merwin, R. M., et al. Repopulation of hematopoietic tissues and blood in lethally X-irradiated mice by homologous bone marrow cells.

Thus the metabolic chamber is expected to contribute valuable basic research information on environmental, hormonal, and nutritional influences on the metabolism of man in both normal and diseased states.

The chamber was developed in NIAMD by Drs. G. Donald Whedon and Russell M. Wilder, assisted by Ernest E. Huber, Jr., a physicist, and Ronald H. Thompson, a physiologist.

## TWO NIAID EMPLOYEES CITED FOR SUGGESTIONS

Zeb F. Smith of the NIAID Rocky Mountain Laboratory and Harold A. Hudson, Laboratory of Tropical Diseases, NIAID, received cash awards at recent ceremonies.

Mr. Smith, a medical biology technician, received \$100 for designing apparatus to clean fritted glass filters. The device, which reverse flushes the filters, has doubled the time they can be used.

Harold A. Hudson, medical biology technician, was presented with a \$50 award at a ceremony August 29. He suggested a device for counting small organisms immersed in liquid.

Morrow, A. G., et al. The nitrous oxide test: An improved method for the detection of left-to-right shunts.

Patchett, A. A., et al. On the mechanism of oxidation of  $\alpha$ -quinone by hydrogen peroxide.

Ray, H. E., et al. The optical density of serum from cancerous and noncancerous patients.

Redl, F. Intergroup tensions in the school and classroom.

Rooney, H. L. Special considerations in offering consultation to schools.

Ross, J., et al. Clinical and hemodynamic observations in pure mitral insufficiency.

Sato, Y. Some reactions of solasodine.

Sarnoff, S. J., et al. Hemodynamic determinants of the oxygen consumption of the heart with special reference to the tension-time index.

Salvin, S. B. Occurrence of delayed hypersensitivity during the development of Arthus-type hypersensitivity.

Schmid, R. The identification of "direct-reacting" bilirubin as bilirubin glucuronide.

Shock, N. W. The world of aging.

Shohl, J., et al. Insulin binding *in vitro* by leucocytes from normal and diabetic subjects.

Smith, R. R., et al. Cancer cell contamination of operative wounds.

Vaughan, M., et al. Liquid scintillation counting of C14 and H3-labeled amino acids and proteins.

Walker, G. N. 1-keto-3-methyl-2-tetralylacetic acid from cyclization of  $\beta$ -carboxy- $\gamma$ -methyl- $\delta$ -phenylvaleric acid.

Walker, G. N. Piperidine-catalyzed condensation of 1, 3-dicarbonyl compounds with ethyl  $\beta$ -ketoglutarate.

Walker, G. N. Reduction of phenols, new synthesis of oxyhexahydro-3-ketophenanthrenes by cyclodehydration of 4-( $\beta$ -arylethyl)-1, 3-cyclohexanones.

Welch, G. H., Jr., et al. The hemodynamic effects of quantitatively varied experimental aortic regurgitation.

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## NJH Summer Spotlights



Stephen E. Blomgren

Alan N. Marks

Lawrence R. Burwell

In this issue the Spotlight illuminates three student employees who were with us this summer. These typical students, now back at school, were employed in the Heart Institute.

Stephen E. Blomgren of Silver Spring worked as a chemist in the Laboratory of Electrolyte Metabolism, after graduating last June from Wesleyan University in Middletown, Conn.

This summer he has been assisting in a study of myocardial protein changes occurring in congestive heart failure, under the direction of Dr. James O. Davis. This training will be of great assistance when Steve begins his studies at the University of Rochester Medical School this fall.

Alan N. Marks, a native of Rhode Island, was recently graduated from George Washington University. His pre-medical background and interest in research equipped Alan to work in the Laboratory of Cardiovascular Physiology.

Under the direction of Dr. Eugene Renkin, Alan took part in a study of perfusion in frog legs to determine edema formation. He has now begun his studies at the Tulane University Medical School.

Lawrence R. Burwell, a junior at Amherst College, observed and assisted in animal surgery techniques performed by Alfred Casper in the Laboratory of General Medicine and Experimental Therapeutics. Lawrence developed an interest in medicine at an early age, by spending summers with his grandfather who ran a hospital at Bluefield, W. Va.

A Washingtonian, Lawrence feels that he has learned a great deal about anatomy, and this summer's work may direct him toward a career in surgery.

The members of the Summer Spotlight cast all felt their experiences at NIH would aid them in their academic work. Some said their contacts with NIH investigators this summer had influenced them toward careers in medical research.

## Dr. C. W. Rees Retires After 30 Years' Service

Dr. Charles W. Rees, for nine years Head of the Section on Protozoal Diseases, NIAID, will retire on September 10 after 30 years of Government service. For the past 18 years he has been a protozoologist with the Laboratory of Tropical Diseases.

Dr. Rees is an internationally recognized authority on an intestinal disease known as amoebiasis, and is the author of a recent book, "Problems in Amoebiasis," as well as many scientific articles.

He began his Government career with the U. S. Department of Agriculture where he studied anaplasmosis, a protozoan disease of cattle.

There Dr. Rees demonstrated for the first time that this disease can be transmitted by three species of ticks. He designed a covering for keeping ticks on cows while testing for the disease.

Born in Coalville, Utah, Dr. Rees received his B.S. degree from Utah College and his Ph.D. from the University of California in 1921. He went to Yale for his post-doctorate studies, and was later awarded a two-year scholarship at Johns Hopkins University.

Dr. Rees plans to continue his work at the Northwestern University School of Medicine, where he will be associated with a research project on amoebiasis.



## HARVEY WILL BE HONORED SEPT. 17



Wm. Harvey, M.D.

### COMMEMORATION Contd.

feature the historical aspects of man's knowledge of blood circulation. Dr. C. D. O'Malley of Stanford University will speak on the "Pre-Harvey Era"; Dr. F. G. Kilgour, Yale Medical Library, will discuss "Harvey's Contributions to Our Understanding of the Circulation"; and Dr. C. D. Leake, Ohio State University, will speak on the "Post-Harvey Era."

In the afternoon, contemporary aspects of circulation will be reviewed. Speakers include Dr. Andre Cournand of Columbia University, who will discuss "Cardiac Catheterization," and Dr. T. F. Hilbish, Chief of the CC Diagnostic X-ray Department, who will lecture on "Cardiovascular Radiology."

Dr. J. H. Gibbon, Jr., Jefferson Medical College, will speak on "Heart-Lung Apparatuses," and Dr. C. W. Lillehei, University of Minnesota, will deliver a talk on "Cardiovascular Surgery."

### MEETING Contd.

epidemiology of Asian influenza was discussed by Dr. M. R. Hilleman, of the Walter Reed Institute of Research, who was instrumental in isolating the virus.

In the afternoon Dr. Roderick Murray, Director of DBS, spoke on production and testing of the vaccine, and Dr. Justin Andrews, Director, NIAID, described NIH intramural research on influenza and plans for new grant-supported influenza studies. The group then divided into committees to discuss various aspects of the influenza program.

## DR. KELMAN RECEIVES FOUNDATION AWARD

Dr. Herbert C. Kelman, research psychologist in the Laboratory of Psychology, NIMH, has been selected by the Ford Foundation to receive an award of \$4,250.

The Ford Foundation, under its grants-in-aid program, selects outstanding scientists in the field of behavioral science to receive the award. The money is deposited with the institution where the recipient will conduct research, to be spent under his direction.

Dr. Kelman will join the faculty of Harvard University, where he will teach and do research in social psychology and personality.

In December 1956, he received the \$1,000 Socio-Psychological Prize of the American Association for the Advancement of Science for an outstanding essay in socio-psychological inquiry.

## Sgt. Bates Chosen Guard of the Month

Sgt. Clarence W. Bates, guard supervisor, has been selected September Guard of the Month. He received this recognition for performing his duties with careful attention and for being consistently pleasant and cooperative.

Recently when a gas cylinder turned over in Building 3, he exhibited his customary alertness by emptying the building of people before the fire department arrived.

Before Sgt. Bates came to NIH in 1952, he worked at the Columbia Country Club as a tennis court attendant. From 1941 to 1945, he served as a private in the U. S. Army. He was born at Kents Store, Va., where he attended school.

## Can You Speak A Foreign Language?

Since NIH is one of the leaders in the field of medical research, many medical scientists and health officials are attracted here from all over the world. During the fiscal year of 1957, for example, 937 foreign scientists visited NIH.

Most of the visitors who do not speak English are accompanied by an interpreter, but the scientific nature of the discussion or a special native dialect sometimes exceeds the interpreter's abilities.

It is therefore occasionally necessary for the Special Events Section, SRB, to call on certain members of the NIH professional staff to act as interpreters. In order to improve this service to foreign visitors, the Special Events Section is seeking out members of the staff who are proficient in foreign languages. From the information supplied, a reference file will be maintained for the Director of NIH.

It is unlikely that any individual would be asked to participate more than once or twice a year. For further information, call Ext. 3475.

## Hamsters Plan For 7th "Life at NIH"

The NIH Hamsters have elected Dr. Richard Williams as Director of the Nov. 21-23 edition of Life at NIH, entitled "Taken for Granted."

Tryouts for the play will be held Oct. 2 and 3. Production manager Phil Joram reports a need for people interested in constructing sets, doing stage work, and assisting with properties and costumes. There is also an urgent need for rehearsal pianists. Those able to help, please contact Dr. Williams.

"Why don't you take them germ costumes of yours back where they belong!"



Ben Goofin may not be spreading germs, but he is spreading ill-will!