

# the NIH Record

U. S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE

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NATIONAL INSTITUTES OF HEALTH  
PUBLIC HEALTH SERVICE

## Rodent Identified As Carrier of Bolivian Fever

Scientists from the National Institutes of Health have implicated a small South American mammal in the transmission of a serious viral illness which has claimed more than 100 lives in Northeastern Bolivia.

The disease is known as Bolivian hemorrhagic fever. The animal accused of carrying the infectious agent is a wild rodent, similar to a field mouse. The rodent, whose scientific name is *Calomys callosus*, inhabits fields and woodlands and also lives in homes and other buildings in the Province of Beni, center of the epidemic.

Evidence of the important role played by the rodent in the spread of the disease is contained in a report issued recently by the Bolivian Hemorrhagic Fever Commission.

(See *BOLIVIAN FEVER*, Page 8)

## Recording of Medical Data Simplified by Unique Computer System Shown Here

A prototype of a new "interpretative communications" system designed to simplify handling of communications and medical records in hospitals was demonstrated in the Clinical Center auditorium June 15.

The National Institute of General Medical Sciences sponsored the demonstration conducted by Bolt Beranek and Newman, Inc., and the Massachusetts General Hospital, which began development of the system two years ago with support from NIGMS and the American Hospital Association.



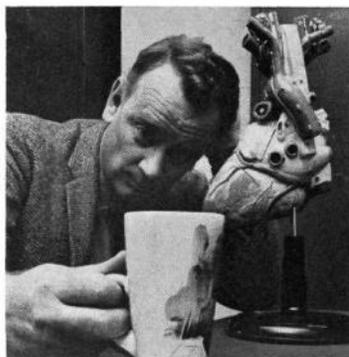
As part of the demonstration of a new "interpretative communications" system for hospital use, presented in the NIH Clinical Center June 15, Dr. David Poskanzer, Associate Neurologist of the Massachusetts General Hospital uses a teletypewriter in a two-way "conversation" with central computer facilities in Cambridge, Mass.—Photo by Bob Pumphrey.

(See *COMPUTER*, Page 7)

## Those Extra Cups of Coffee May Brew Coronary Disease

By Tony Anastasi

To increase the life span of man, medical scientists have suggested a cautious approach to some of modern society's favorite foods. Such items as milk, cheese, salt, ice cream, ground beef, frankfurters, cakes, pies, casseroles, pizza, coconut and olive oil, and others have been cited as contributors to overweight, a factor often associated with heart disease.



Bob Palmer of the National Heart Institute wonders whether he should drink that extra cup of coffee.—Photo by Jerry Hecht.

Cigarettes have been cited as being bad for the heart and lungs. Excessive alcohol can be bad for the liver.

Another recent report indicated that charcoal-broiled foods may be related to forms of cancer. Now, some researchers are saying that too much coffee could be bad for the heart.

### 3,200 Cups Daily

Here at NIH alone, an average of more than 3,200 cups of coffee is consumed per day in three cafeterias—not including coffee made in offices.

Scientific reports as well as leading national publications have recently stirred up the coffee cauldron.

Newsweek magazine quoted Dr. Oglesby Paul, a grantee of the National Heart Institute, who found in his studies that "men who drank more than five cups of coffee a day ran a greater risk of having coro-

(See *COFFEE*, Page 5)

### NIH Contributes \$9,868 to Kennedy Memorial Library

Complete returns from the recent John F. Kennedy Library Day here reveal that NIH employees contributed a total of \$9,868.16 toward the national memorial to the late President.

The NIH Office of Research Information, which organized and coordinated the drive, expresses its thanks and appreciation to all contributing employees and to Division chairmen and keymen.

ORI also thanks the Bank of Bethesda for its cooperation in handling the special campaign account and for its \$100 contribution to the fund.

## Confrey Appoints 6 to Top Posts In Reorganization

Dr. Eugene A. Confrey, Chief of the Division of Research Grants, has announced six professional staff appointments following a reorganization of functions in his office. Three of the appointments are to newly established positions.

Dr. Stephen P. Hatchett, Chief of the Career Development Review



Dr. Hatchett



Mr. Stapp

Branch, has been named Deputy Chief of the Division.

Appointed to the newly created positions were Dr. J. Palmer Saunders, as Associate Chief for Scientific Review and Development; Dr. Arley T. Bever, as Associate Chief for Research Analysis and Evaluation; and Peyton Stapp, as Associate Chief for Analysis and Statistics.

Dr. James F. Haggerty, Chief of the National Cancer Institute's Research Grants Branch, was appointed Chief of the Research Grants Review Branch, succeeding

(See *APPOINTMENTS*, Page 6)

## Army Band to Entertain CC Patients July 9

The second in this season's series of outdoor band concerts for Clinical Center patients will be presented on Thursday, July 9, at 7:30 p.m. by the United States Army Band.

NIH employees, their families and friends are invited to attend. However, patients will have priority in seating. Arrangements for the concert were made by the CC Patient Activities Section through the courtesy of the U. S. Army Band.

# the NIH Record

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The NIH Record reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policy of the paper and the Department of Health, Education, and Welfare.

## NEWS from PERSONNEL

### EMPLOYEE UNION DRIVES

With the two employee union membership drives getting underway among NIH employees, as announced in the last issue of the *Record*, several major stipulations of the governing regulations are summarized below to assure that all concerned receive full and pertinent information.

Space will be made available for organization meetings in accordance with published schedules. Note that these schedules are set around lunch hours to the extent possible.

This arrangement is based on the regulatory provisions that activities concerned with membership drives and similar matters relating to the administration of union groups shall be conducted outside of regular working hours.

### Management's Pledge

Employees are free to join or refrain from joining such organizations, without fear of penalty or reprisal. Management will neither encourage or discourage membership and will not dominate or interfere with the formation of an employee organization or any employee's membership therein.

Employees also are reminded that membership in a union does not affect their right individually to bring matters of personal concern to the attention of supervisors or other appropriate officials.

Employee questions regarding their rights or obligations in joining a union should be referred to the I/D Personnel Officer, and those relating to specific aspects of the union organization should be referred to the union representative.

### R&W to Sponsor Picnic July 19 at Gaithersburg

Barbequed chicken, free refreshments and pony rides, games, door prizes, music and dancing will be features of this year's annual R&W picnic to be held Sunday, July 19 at the Smokey Glenn Farm in Gaithersburg, Maryland.

The gates will open at noon and serving will begin at 3 p.m.

Admission for adults will be \$2 and will entitle them to one-half chicken, baked beans and many other delicacies. Children may order chicken or hot dog luncheons at \$1.10 and 60c each.

Directions to the Smokey Glenn Farm will be forthcoming in desk-to-desk flyers.

Tickets are available from R&W representatives.

The Employee Relations and Services Section, PMB, is management's representative focal point and spokesman for all union discussions. Therefore, personnel officers and operating officials should refer any inquiries or questions accordingly.

### QUALIFICATIONS RECORDS

All personnel are reminded of the importance of furnishing their personnel officers up-to-date qualifications information so that their official personnel folder will reflect current information. The folders serve as the basic record of employee qualifications and assignments, and frequently are reviewed in the process of making selections for promotions or other assignments.

Records in the folders also provide the basis for statistical data on the NIH work force and are used within the Department as well as for Federal-wide statistical purposes.

Therefore, any recently acquired

## Blood Donor Program Exceeds '64 Goal; Over 2,000 Pints Given in 8 Months

In only eight months since its inauguration last November, the Clinical Center's blood donor program has exceeded its goal for Fiscal 1964, according to Dr. Paul J. Schmidt, Clinical Center Blood Bank Director, who announced that NIH employees had given a total of 2,033 pints of blood by June 16.

Thus the goal of 2,000 pints of blood per year—the amount required in the initial agreement between NIH and the American Red Cross—has been reached well ahead of schedule. This enables NIH employees and their dependents to receive blood free of charge in any U. S. hospital that accepts Red Cross blood.

This achievement assures continuation of the present "blood insurance" plan for employees, which in turn helps to meet the blood needs of approximately 4,000 re-

search patients admitted to the CC annually.

In the past it was necessary to obtain blood supplies for the heart-lung machine from outside sources, an arrangement which sometimes caused unfortunate delays.

"But now," Dr. Paul Holland, who administers the blood donor program, pointed out, "donations by NIH employees have enabled the Blood Bank to provide enough blood for one or two open-heart operations each week."

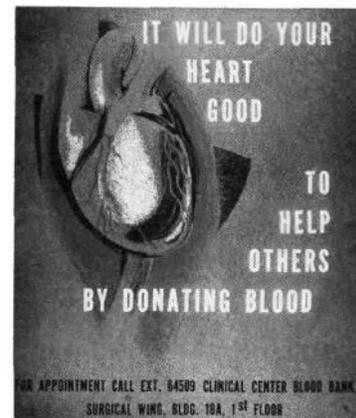
### Staff Appreciative

Dr. Robert M. Farrier, Assistant Director of the CC, said that members of the CC staff who are close to patients on a day-to-day basis are especially appreciative of the contributions NIH employees are making to the blood donor program.

"We are keenly aware of the value of the clinical research studies that would not be possible without the supporting service of life-sustaining blood for research patients," he added.

Dr. Farrier also explained that donors will soon be given tangible evidence of this appreciation and recognition in the form of specially designed "NIH Blood Donor" pins. Gallon donors will receive a distinctive gold pin.

Dr. Holland urged employees to continue their regular visits to the Blood Bank to make donations, pointing out that the program is doing so well "we can't stop now!"



This reproduction of a Blood Donor poster distributed throughout NIH buildings expresses the need for continued support of the program.

degrees, special achievements, or experience attained since the last previous up-dating, which may contribute to broadened skills and abilities, should be recorded on SF 58 "Experience and Qualifications Sheet" and given to the I/D Personnel Officer.

### THE CHANGING FEDERAL SERVICE

Civil Service Commissioner Robert E. Hampton has expertly summarized the changes in the Federal service—the composition of the work force occasioned by advancing technology, increasing population, and changing Government missions—and their significance to Federal managers, in an article "The Changing Federal Service," published in the April-June 1964 edition of the Civil Service Journal.

Extra copies are available in the Program Evaluation and Reports Section, PMB. Anyone desiring to read this article may obtain a copy by calling Ext. 64568.

### New Indoor Tennis Club Open to R&W Members

An institutional membership in a new indoor tennis club now being formed in nearby Rockville will be open to the Recreation and Welfare Association if 24 tennis enthusiasts sign up before July 10.

The group membership will save each individual player a \$10 annual membership fee.

The new air-conditioned clubhouse, now under construction, will house three championship clay courts. When completed, it will be open from 7 a.m. to 12 midnight, Monday through Friday, and from 8 a.m. to 12 midnight, Saturday and Sunday. The winter season runs for 32 weeks, starting October 1, when the club is due to open.

A tennis pro will be available at the club for group or individual instruction.

Additional information concerning membership may be obtained from Bess Grabner, Ext. 63597.

## Scientists Seek Clue to Substance Involved in Calcification Process

Scientists at the University of California will search for a substance which causes human tissues to calcify and form bone or tooth enamel as part of a new long-term study in the biological processes of calcification.

Surgeon General Luther L. Terry said the research will be supported by the Public Health Service through an award from the National Institute of Dental Research.

"If we can find what initiates calcification," Dr. Terry said, "then it may become possible to assure thorough calcification of the teeth and skeleton, and prevent calcification from occurring where it would be undesirable, in arteries, muscles, and other sites."

### Urist Is Director

Marshall R. Urist, M.D., Associate Clinical Professor of Orthopedic Surgery in the Center for Health Sciences, University of California at Los Angeles, is director of the new project, which has received \$134,129 for the first year of a projected 4-year study.

Dr. Urist and his associates will attempt to isolate and characterize a substance responsible for creation of the first formative fragments of hard tissue. Such a calcifying substance is still hypothetical, but some type of "trigger" seems to be probable.

Tissue becomes mineralized when crystals containing calcium and other minerals are deposited in an organic matrix. Many scientists believe that a substance nucleates the mineral crystals under physiological conditions of temperature and body fluids.

Scientists have not discovered much about the nature of these formative fragments which produce the first stable phase of bone.

### Questions Posed

Chemical regulators may determine the time when calcification occurs and which tissues calcify.

The researchers will try to answer such questions as: Does nucleation occur in different systems with different degrees of efficiency, or is it an all-or-none process? Is the calcium ion a part of the chemical composition of the nucleation center?

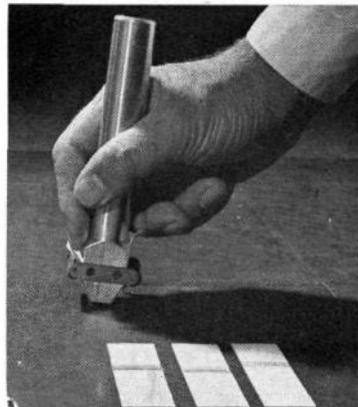
Certain substances are thought possibly to nucleate crystals to form bone fragments and the basis for calcification. Gelatin and collagen, amino acids, complexes of these particles, and matrices of bone, cartilage, enamel, kidney stones, and other chemicals and tissues have been tested.

Dr. Urist proposes to test these substrates by implanting them in

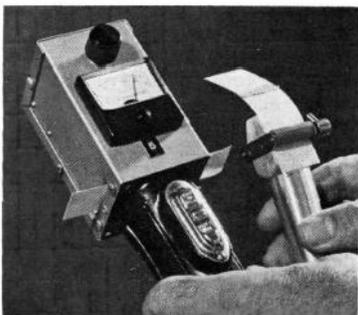
## New DRS Dirt-Measuring Device Aids CC in Maintaining Sanitation Standards

By Judy Raisner  
NIH Information Trainee

The Environmental Services Branch (ESB) of the Division of Research Services has developed a means for measuring the degree of cleanliness of interior surfaces that will be useful in hospitals and other locations requiring high standards of sanitation.



By wiping the floor with this special sampling instrument, dirt is picked up on a strip of pella fabric clamped to it. Three sample strips in the foreground show what the pella looks like after being wiped across floors with different dirt levels.—Photos by Jerry Hecht.



The dirt on a strip of pella is measured photometrically by this portable light meter, called a densitometer. It consists of a flashlight for light source, a standard aperture to define the area of the strip to be observed, and a photocell and microammeter that registers 0-100. The percent of light transmission passing through the dirty pella strip is indicated on the microammeter.

intact biological systems under various conditions of temperature and fluids. In this research perhaps materials may be found that are better than bone itself in producing new bone.

Dental tissues such as enamel, other tooth components, and jaw bone will be investigated in collaboration with researchers in the new school of dentistry, an integral part of the UCLA Center for the Health Sciences.

The proposal considers the possibility that there are small but critical differences in the fluids and composition of the individual tissues.

Heretofore, the only means of determining cleanliness has rested on human vision and judgment. But even the most experienced housekeepers make unreliable judgments because of such variables as intensity of lighting, the color of the surface examined, and the nature of the dirt.

Two ESB men—Robert J. Weatherby, Clinical Center Sanitarian, and Santo Furfari, Chief of the Special Studies Unit, assisted by the Instrument Engineering and Development Branch—developed the new instruments that make possible objective measurement of dirt on any smooth surface.

### Technique Explained

The new technique is a scientific adaptation of the colonel's white-glove method of checking for dirt on his Saturday barracks inspections.

Now a standard-size strip of a fabric known as pella is clamped into a sampling tool and "swiped" across a uniform distance of the floor or surface under study.

The dirt collected on the pella strip is then measured photometrically by a portable light meter, or densitometer. The percent of light transmitted through the strip containing the dirt can be read directly from the dial of this easily operated inexpensive instrument.

By using this dirt-checking method regularly, it is possible to calculate the efficiency of cleaning methods, equipment and materials, and to adjust the frequency of cleaning to meet any desired level of cleanliness.

### Results Are Revealing

Preliminary results through its use by the Department of Environmental Sanitary Control (DESC), the Clinical Center's housekeeping service, have indicated that certain areas were dirtier than had been assumed, necessitating a change in the cleaning method and schedules.

Maintaining high standards of cleanliness in a building such as the Clinical Center is complicated by the heavy foot traffic between the various laboratories and patient-care areas, and the varying sanitation requirements in different parts of the building.

The dirt-measuring instruments have helped the DESC in applying scientific principles to housekeeping as part of its effort to continually increase the efficiency of its service.

## Dr. R. M. Chanock Wins E. Mead Johnson Award For Pediatrics Research

Dr. Robert M. Chanock of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, was one of two recipients of the 1964 E.



Dr. Chanock

Mead Johnson Awards for Research in Pediatrics.

Dr. Abraham M. Rudolph, Professor of Pediatrics and Director of Pediatric Cardiology, Albert Einstein College of Medicine, was the other

winner.

The awards, given by the American Academy of Pediatrics, will be presented to Drs. Chanock and Rudolph during the Academy's annual meeting, October 24-29, in New York.

Each award includes \$3,000, a scroll and a certificate. They are made from funds provided by Mead Johnson Laboratories, Evansville, Ind.

### Reasons for Choice

Dr. Chanock was selected for his identification of the parainfluenza and respiratory syncytial viruses, both of which are common causes of respiratory infection in children.

He also established the etiologic relationship of the Eaton agent to clinical primary atypical pneumonia.

Dr. Rudolph was named for his work in cardio-pulmonary physiology as applied to congenital heart disease and respiratory disease in infancy.

Dr. Chanock has been associated in various capacities with the Laboratory of Infectious Diseases since 1957. He has been Chief of the Respiratory Virus Unit since 1959. He received his M.D. degree from the University of Chicago School of Medicine; took his internship at Alameda County Hospital, Oakland, Calif., and his residency in pediatrics at the University of Chicago Clinics.

### Is Research Fellow

Before joining the Laboratory of Infectious Diseases, he was a Fellow with the National Research Council and the National Foundation of Infantile Paralysis. He also held professorships at the University of Cincinnati College of Medicine and the Johns Hopkins University School of Hygiene and Public Health.

Both physicians will present papers on their research at the AAP annual meeting.

## Dr. Gillespie Leaves NHI To Practice Cardiology And Internal Medicine

Dr. Louis Gillespie, Jr., leaves the National Heart Institute today (June 30) after contributing a number of significant research accomplishments, including an important role in developing a new anti-high blood pressure drug.

An investigator in the Laboratory of Experimental Therapeutics for the past seven years, Dr. Gillespie leaves behind many friends when he opens his private practice of internal medicine and cardiology in Washington this week.

Dr. Gillespie has spent his time at NHI not only in contributing to many research projects, but also



In a symbolic gesture, Dr. Louis Gillespie (left) turns in his sphygmomanometer, a blood pressure measuring instrument, to his Branch Chief, Dr. Albert Sjoerdsma.—Photo by Lou Cook.

in fostering NIH and community programs to encourage student scientists to consider careers in medicine, and to get medical science information across to the general public.

"One of the most versatile individuals I've met, both personally and professionally," said Dr. Albert Sjoerdsma, Chief of the ET Lab, in describing him. "It has been a distinct pleasure working with him, initially while he was a Clinical Associate and then a Senior Investigator.

### Work Termed Vital

"He played a vital role in many of our clinical research projects, including work leading to the general acceptance of the anti-hypertensive drug Alpha-methyl-DOPA (Aldomet)."

Another research project of importance was his work implicating the peptide bradykinin in carcinoid syndrome. In this study, Dr. Gillespie, and Drs. John Oates, Kenneth Melmon and Dean Mason suggested that bradykinin may be responsible for the episodic changes in skin coloration or flushes so characteristic of the malignant carcinoid syndrome.

Dr. Gillespie will be active in several fields after his departure

## Assemblies of Scientists Form Council, Executive Committee of Top Officers

The formation of an Inter-Assembly Council of the Assemblies of Scientists at the NIH and of an Executive Committee representing that Council has just been announced by Dr. William B. Jakoby, President of the NIAMD Assembly and Chairman of the newly formed Executive Committee.

According to the constitution, recently ratified by a majority of members in each of the Assemblies of Scientists, the Inter-Assembly Council will consist of the elected officers and councillors of the individual Assemblies, and the Executive Committee will be made up of the Presidents and Presidents-Elect of the Assemblies.

The Council planned to hold its initial meeting yesterday (June 29). It will meet every fall thereafter and as may be necessary.

### Committee's Aim Explained

The Executive Committee will serve as the operating group for the Council. It will meet regularly during the year and at such other times as its members desire.

Members expressed the hope that the existence of this committee will considerably simplify the process of reaching decisions on matters of NIH-wide interest.

In addition, it is expected to establish a more effective liaison among the various Assemblies of Scientists and to facilitate communication between the NIH Admin-

istration and the Assemblies. Each participating Institute will have one vote on the actions of the Council or of the Executive Committee. A unanimous vote is required before any decision is adopted.

from NIH. Aside from his private practice, he will return here from time to time as a research and clinical care consultant.

He will also participate in the hypertensive clinic at Washington Hospital Center where he will work in drug evaluation, the evaluation of diagnostic tests, and other projects.

Dr. Gillespie is accustomed to an active life. He has been a board member of the Montgomery County Tuberculosis and Heart Association, which recently co-sponsored a series of medical seminars for local high school students. He delivered lectures to the students and personally helped them in understanding medical problems.

**Memberships Listed**  
He also is a member of the District of Columbia Medical Society, American Medical Association, American Federation for Clinical Research, American Heart Association, American College of Physicians, and a Diplomate of the American Board of Internal Medicine.

Born in New York City in 1929, Dr. Gillespie received his B.S. degree in chemistry in 1951 from Western Reserve University in Cleveland, and his M.D. there in 1955.

istration and the Assemblies.

Each participating Institute will have one vote on the actions of the Council or of the Executive Committee. A unanimous vote is required before any decision is adopted.

### Members of Committee

In addition to Dr. Jakoby, the Executive Committee is composed of the Vice Chairman, Dr. Samuel W. Greenhouse, President of the NIMH-NINDB Assembly; the Presidents-Elect of the NIAMD and NIMH-NINDB Assemblies, Dr. Peter G. Condliffe and Dr. John M. Van Buren, and the following:

Dr. Elwood O. Titus and Dr. Herbert Weissbach, President and President-Elect of the NHI Assembly; Dr. Roger M. Cole and Dr. Norman B. McCullough, President and President-Elect of the NIAID Assembly; and Dr. Richard A. Malmgren and Dr. Elbert A. Peterson, President and President-Elect of the NCI Assembly.

To make clear the functions of the Assemblies, Dr. Jakoby explained briefly the types of problems to be considered by the groups just formed. These problems filter up through the Assemblies and are common to the general membership of bench scientists.

The Assemblies are also concerned with clarifying and broadening NIH's educational function, and with the problems of communication among scientists everywhere.

### Established in 1959

The first Assembly formed was organized by NIMH and NINDB scientists at a meeting held October 15, 1959 (See *NIH Record*, Nov. 10, 1959). The first President was Dr. G. Enger Rosvold, Laboratory of Psychology, NIMH.

Purpose of the Assembly stated at that time was "to help develop and promote the professional excellence and scientific achievements of the Institutes" and to "serve as a general forum for communication, as a means to formulate and express opinion, and as an instrument to render advice and to take action pursuant to the general objectives of the scientists."

With the encouragement of the Institute Directors, other Assemblies were formed in the intervening five years.

Some people don't believe they are having a good time unless they're doing something they can't afford.—*The Washington Post*.

## Dr. Stone, DRFR Chief, Names Helen Neal as Information Officer

Dr. Frederick L. Stone, Chief of the Division of Research Facilities and Resources, has announced the appointment of Helen Neal as Information Officer for the Division.



Miss Neal

She has been a public information specialist with the Division since it was established in 1962.

Miss Neal began her public information career in 1941 when she joined the staff of the American National Red Cross as Assistant Editor of Safety Services publications. When the Red Cross established a regional office in New York City after the outbreak of World War II, she transferred to that office and was Assistant to the Director of Public Information until 1945.

In that year she entered the advertising field as copywriter and promotion specialist for Denhard, Stewart Company in New York, and in 1948 was appointed National Chief of Advertising for the American Red Cross.

### Aids ARC Fund Chairmen

She was detailed as special assistant to E. Roland Harriman and to Gen. David Sarnoff during their terms as National Red Cross Fund Chairmen.

In 1953 Miss Neal was named Assistant National Director of the Office of Volunteers of the National Red Cross with major responsibility for promoting volunteer services in the United States and at U. S. military establishments overseas.

Before joining the staff of NIH in 1962, she was in charge of public information for the National Health Council in New York.

A native of Boston, Mass., she graduated from Girls' Latin School and later attended Miss Sacker's School and the University of Southern California.

Miss Neal is a member of the American Medical Writers' Association and the National Association of Science Writers. She is the editor of the book "Better Communications for Better Health."

## Dr. Burnet Davis Named Chief of PHS Division

Dr. Burnet M. Davis has been appointed Chief of the Division of Community Health Services in the Public Health Service. Dr. Davis had been Acting Chief since April 1, when Dr. Andrew P. Sackett was assigned as Deputy Chief of the Bureau of Medical Services.

## Indian Biochemist Leaves For Home to Supervise Cancer Research Lab

Kumudini N. Gadekar, a biochemist from Bombay, India, will depart for home next Friday, July 3, after a year and a half as a Visiting Scientist in the National



Cancer Institute. In Bombay, she will supervise the chemotherapy screening laboratory of the Indian Cancer Research Centre which is currently being established.

Miss Gadekar came to NIH in September 1962 to study the techniques of chemotherapeutic evaluation and screening under the auspices of the Cancer Chemotherapy National Service Center. Her activities brought her into intimate contact with the internal and contract operations of NCI in chemotherapy. Of particular interest has been her research with Dr. Margaret G. Kelly in the Laboratory of Chemical Pharmacology.

### Work Evaluated

Her work here was chiefly concerned with the field of chemically induced tumors, an important phase of chemotherapeutic evaluation, since most chemical agents effective against tumors, can under certain circumstances also cause them or in other ways act unfavorably on normal tissue.

The results of Miss Gadekar's experiments in this field on neonatal rats and primates, especially those concerning the induction of tumors by the nitrosamines, a class of carcinogenic organic solvents, will soon be published.

Prior to her work at NIH, Miss Gadekar conducted research on liver enzymes and their effect on the growth of transplanted tumors.

### Khanolkar Prize Winner

Previous to this, a study which indicated a chemical means of increasing the sensitivity of the cancer cells of a tumor mass to radiotherapy was judged the best piece of research work for the year 1960-61 by the Indian Association of Pathologists and was awarded the coveted Khanolkar Prize for the year 1961. This paper was published in the British Journal of Cancer, Vol. 15, 1961.

Miss Gadekar received the B.Sc. degree from Delhi University in 1955 and the M.Sc. in 1962 from Bombay University. She has completed work for her doctorate and will receive the Ph.D. when she returns to Bombay.



Arlene Diehl of the National Institute of Arthritis and Metabolic Diseases takes an early morning coffee break in the Building 31 cafeteria as other coffee drinkers look on approvingly.—Photo by Jerry Hecht.

## COFFEE

(Continued from Page 1)

naries."

In the same article a spokesman for the Coffee Brewing Institute said "More evidence is needed to prove any association between coffee drinking and heart disease, if any association does, in fact, exist."

U. S. News & World Report said, "On the basis of recent research some scientists believe that excessive coffee drinking—10 cups a day—may have a bad effect on the heart by overstimulating it. But authorities do not find any direct connection between coffee drinking and high blood pressure or coronaries."

The Wall Street Journal reported on a study made by the Western Electric Company which showed "a significant correlation between the use of coffee and later development of coronary disease."

### Cause Termed Uncertain

But the article pointed out that "The studies don't show, however, whether heavy coffee drinking (200 cups or more monthly) plays a causative role in heart disease, or whether some basic factor, like tension, helps produce the disease and also encourages coffee consumption."

Dr. Paul's report was first published in Circulation. He showed that for the men studied, between the ages of 40 and 55, 22 percent of those with coronary disease drank 150 to 199 cups of coffee a month.

Only 15 percent of the non-coronary cases studied consumed that quantity of coffee each month. The study also revealed that 19 percent of those with heart trouble drank more than 200 cups of coffee a month.

Only seven percent of the non-heart cases consumed an equal amount. The researchers concluded

that for this group "a significant correlation between the use of coffee and the later development of coronary disease is seen." Altogether the study covered about 2,000 men over a period of more than four years.

In another study, researchers at the University of Utah and Columbia University found that caffeine, a powerful central nervous system stimulant, produces a more rapid and clearer flow of thought and allays drowsiness and fatigue.

After taking caffeine, they said, "one is capable of a more sustained intellectual effort and a more perfect association of ideas. . . Typists work faster and with fewer errors."

### Brighter Side Cited

"The aforementioned effects of caffeine are obtained after the administration of about 150 to 250 mgm for an adult—or the amount of caffeine ordinarily contained in a cup or two of coffee or tea."

On the brighter side, these scientists concluded that "the morning cup of coffee is so much a part of the American dietary that one seldom looks upon its consumption as a drug habit and there is no evidence that the practice is in any way harmful."

Coffee may be in more trouble now than since its emergence in Arabia around 900 A. D. Perhaps, what the whole controversy simmers down to is that excessive ingestion of coffee (like excessive eating, working, drinking, and smoking) can be bad for the hearts of some individuals. But the average few cups per day should do no damage to the heart.

Simplicity is not an end in art, but one arrives at simplicity in spite of oneself, in approaching the real sense of things.—*Brancusi from Conversations With Artists.*

## International Research Names Brookman, Akers To Professional Posts

Two professional staff appointments have been announced by the Office of International Research.

Effective tomorrow, July 1, Dr. Bernard Brookman will join OIR as Assistant Head of the Foreign Grants and Awards Section. Dr. Brookman has been serving as Assistant Chief of the Career Development Review Branch, Division of Research Grants.

In the second appointment, Dr. Robert P. Akers, Chief of the Research Grants Branch, National Heart Institute, has been named Assistant Chief of OIR's Latin American Office in Rio de Janeiro.

An officer in the Public Health Service Commissioned Corps since 1943, Dr. Brookman has served in this country and abroad. He joined NIH in 1957 as an Executive Secretary in the Research Fellowships Branch, DRG. In 1959 he was



Dr. Brookman



Dr. Akers

named Assistant Chief (Fellowships) of the Career Development Review Branch, DRG, a position he held until this appointment.

Dr. Brookman received his A.B. (Bacteriology) in 1938 from the University of California at Berkeley, and the Ph.D. (Parasitology) from the same university in 1950.

A noted parasitologist, Dr. Brookman is the author or co-author of numerous papers and publications in his field.

### Leaves Soon for Rio

Dr. Akers, who will depart for Rio next month, came to NIH in 1951 as a research physiologist with the National Heart Institute. From 1956 to 1958 he served with the Institute's Center for Aging Research. In 1961 he was named Chief of the Research Grants Section, which became the Research Grants Branch in 1962.

A native of Andover, Me., Dr. Akers earned his B.S. degree in 1939 from Bates College, Lewiston, Me. He received the M.A. and Ph.D. degrees from Boston University in 1942 and 1951, respectively.

Dr. Akers also has co-authored 18 scientific papers dealing with his research interests, the physiology of the peripheral vascular circulation.

## APPOINTMENTS

(Continued from Page 1)

Dr. Saunders, and Dr. Willis R. Boss, Chief of NCI's Training Branch, was named Chief of the Career Development Review Branch, replacing Dr. Hatchett.

As Deputy Chief, Dr. Hatchett will collaborate in the overall administration of the Division. He will provide administrative direction and guidance, and participate in the formulation of plans, policies, and procedures governing the extramural research and training



Dr. Saunders



Dr. Bever

grants programs.

Dr. Hatchett joined DRG in July 1955 as Assistant Chief of Research Fellowships Review Branch. In September 1958 he was named Acting Chief of the Branch, and in January 1959 became its Chief. In July 1961 he was appointed Chief of the Career Development Review Branch, into which Fellowships, Training Grants, and the new Research Career Awards Programs



Dr. Boss



Dr. Haggerty

were centralized.

In his new position as Associate Chief for Scientific Review and Development, Dr. Saunders will be responsible for planning and developing the review mission of the Public Health Service.

Dr. Saunders has been a member of DRG since 1956, serving in various capacities from Executive Secretary to Chief of the Research Grants Review Branch, a position he held since 1961. He also served briefly in 1957 as Assistant Chief of Extramural Programs, National Institutes of Allergy and Infectious Diseases.

Dr. Bever, who came to NIH in 1963 as Special Assistant to the NIH Associate Director for Research Grants, will be responsible for developing a scientific program designed to analyze and evaluate the research grant program.

Dr. Bever is a former Vice

## Dr. Davis Is Appointed NIGMS Section Head

Appointment of Dr. J. Sherman Davis as Head of the Research Career Section, Research Fellowships Branch, National Institute of General Medical Sciences, was announced recently by Dr. Clinton C. Powell, NIGMS Director.

The Research Career Program provides career awards and development awards to public and private non-profit institutions, enabling them to increase the number of stable, full-time career opportunities for scientists.

Dr. Davis joined NIGMS after 12 years on the faculty of the University of Tennessee Medical Units, Memphis. Beginning as an instructor in the Department of Anatomy there in 1951, he was promoted to Assistant Professor in 1955, Associate Professor in 1959, and Professor in 1963.

A native of Troy, Ala., Dr. Davis received M.A. and Ph.D. degrees from the University of Wisconsin, Madison.

Chairman and Assistant Professor of the Department of Biology of the University of Oklahoma School of Medicine. He also has served on the faculties of Harvard and Cornell Universities.

As Associate Chief for Analysis and Statistics, Mr. Stapp will administer the Division's statistical program and collaborate with other PHS Bureaus in developing and administering programs for providing integrated Service-wide grant and award statistics.

Mr. Stapp had been Chief of the Program and Statistics Branch, Office of Program Planning, OD, since August 1962. Beginning in June 1963 he served simultaneously as an Assistant Chief in DRG.

### Joins NIH in 1960

Dr. Haggerty came to NIH in 1960 as a scientist administrator in the Research Grants Branch, NCI, and became its Chief in 1961.

He entered Federal service in 1948 as a biochemist with the Food and Drug Administration. After three years with FDA, Dr. Haggerty transferred to the Atomic Energy Commission and served there until he joined NIH.

Before coming to NIH Dr. Boss was a Professor of Zoology at Syracuse University from 1947 to 1961 and Assistant to the Dean of the College of Liberal Arts from 1957 to 1959.

Dr. Boss was on leave from these appointments while serving as Assistant Chief of the Biology Branch, Division of Biology and Medicine, Atomic Energy Commission (1953-56), and as Senior Scientific Attache to the U.S. Embassy in Tokyo (1959-61).

## Moss, Langley Named Branch Chiefs in NHI Extramural Programs

Appointments to two Branch Chief positions have been announced by Dr. J. Franklin Yeager, Associate Director for Extramural Programs of the National Heart Institute.

Dr. W. Glen Moss has been named Chief of the NHI Research Grants Branch, succeeding Dr. Robert P. Akers, who has taken an assignment with the Office of Inter-



Dr. W. Glen Moss (seated) and Dr. Leroy L. Langley confer on matters relating to their respective Branches. —Photo by Lou Cook.

national Research.

Appointed as Chief of NHI's Training Grants and Awards Branch is Dr. Leroy L. Langley. This position was formerly held by Dr. Moss.

Prior to becoming a Branch Chief at NHI, Dr. Moss was Executive Secretary of the Cardiovascular Study Section, Division of Research Grants. Earlier he taught in the medical schools of the University of Miami, the University of Illinois, and Temple University.

### Backgrounds Cited

Dr. Moss received the Ph.D. degree from the University of Illinois and M.A. from the University of Chicago. He earned his A.B. at the University of Wichita, Wichita, Kans. Dr. Moss is a member of Sigma Xi, the American Physiological Society, the American Association for the Advancement of Science, and the Society for Experimental Biology and Medicine.

Dr. Langley was Professor of Physiology at the University of Alabama School of Dentistry and Medical College of Alabama before his appointment as an NHI Branch Chief.

He has been a Research Fellow at the Instituto de Biofísica, Rio de Janeiro, and Honorary Research Fellow and Assistant at Yale Uni-

## Lighting Expert to Give DRS Lecture July 14

"New Approaches for Lighting Medical Research Facilities" will be the topic of the third DRS Engineering Lecture, to be given in Wilson Hall, Building 1, at 2 p.m. Tuesday, July 14. Dr. H. Richard Blackwell, Director of the Institute for Research in Vision at Ohio State University, will be the guest lecturer.

A recognized expert in the field of lighting and vision, Dr. Blackwell has been honored many times for his work. In 1960 the Illuminating Engineering Research Institute awarded him its Certificate of Distinguished Service for his outstanding research in the field. He has also received the Adolph Lomb Medal of the Optical Society of America and an Army-Navy Certificate of Appreciation.

### Series Stimulates Ideas

The DRS Engineering Lecture Series presents top-level engineers and scientists who are closely associated with certain specialty aspects of biomedical research facilities.

The purpose of these lectures is to stimulate thinking and generate new ideas in connection with the many components that make up the total design of such facilities. Although these presentations are primarily for engineers, others who are interested are invited to attend.

Dr. Langley also worked in Turkey for a year under the auspices of the International Atomic Energy Commission.

Dr. Langley received the LL.B. degree from the Birmingham School of Law, Birmingham, Ala., and the Ph.D. from Yale University. He received the M.A. from Stanford University and A.B. from the University of California at Los Angeles.

He is a member of the American Physiological Society, Alabama Academy of Sciences, American Association for the Advancement of Science, New York Academy of Science, Sigma Xi, the Endocrine Society, and the American Association of College Professors.

Two additional appointments were also announced by Dr. Yeager.

Dr. Robert J. Schuellein has joined the Training Grants and Awards Branch, coming to NHI from the University of Dayton, where he was Associate Professor of Genetics.

Dr. Keith T. Maddy has taken a staff position in the Program Projects Branch. He formerly was in Extramural Programs, NIAID, and in the PHS Division of Air Pollution.

### NIH Translating Unit Moves To New Quarters in CC

The NIH Library's Translating Unit has moved to new quarters on the 11th floor of the Clinical Center which will provide improved accommodations for all types of translating.

All correspondence relating to translating services should now be addressed to Rm. 11N116 in the Clinical Center. The Unit's extension, 62257, will remain the same.

## COMPUTER

(Continued from Page 1)

verse" with and through the computer from the different stations located throughout the hospital.

When a member of the hospital staff wishes to make an entry in the patient's record, or order medication, he calls up the necessary program on the computer, which then produces a series of relevant questions. The hospital personnel type in the answers.

### Computer Interprets

The computer "interprets" each message and checks for discrepancies against previously "memorized" criteria. After checking, it stores data in its memory as a permanent part of patients' records.

The system detects technical misspellings and facilitates their correction. It can check discrepancies between patients' stated ages and birth dates, and may provide reminders if a patient's record indicates that a prescribed drug may produce side effects.

By providing a comprehensive record of patient-care that is readily accessible this system is designed to aid studies of patterns of diseases and patient-care.

The system also includes the possibility of providing service to a number of hospitals utilizing only the one central computer unit.

### Cost Depends on Use

As a result, the cost to each hospital can be made proportionate to the hospital's use of the system. In addition, this arrangement may enable hospitals in a given region to share information.

In addition to regulating the prescription of drugs and recording patient-care information in a permanent medical record, other applications for this system may include the ordering of laboratory tests, X-ray examinations, diets, entry of technicians' information, and assignment of bed space.

Developed as a small scale pilot study for test purposes, the system which was demonstrated is a prototype. During the next year it is planned to introduce an expanded version of the system into Massachusetts General Hospital.

## NLM Honors Herbert M. Smith, Retiring Mail Room Head; Began Career in 1919

For 45 years Herbert Milton Smith has played his loyal part—from messenger to head of the mail room at the National Library of Medicine—in expediting the flow of scientific information to all quarters of the world.

The day after tomorrow he retires. "And then," he says, "I'll have plenty of time to go fishing."

As head of the mail room—a job he has held for nearly 30 years—"Promptness is the watchword," he says. "I was always particularly interested in seeing to it that people received their requested medical information promptly. Many times I worked overtime to send books to a hospital because I knew it meant some doctor might be able to save a life."

### Son of Schoolmaster

Son of the village schoolmaster in Kuttawa, Ky., Mr. Smith was just mustered out of the infantry at the end of World War I when he came to work for the NLM at its former location, Seventh St. and Independence Ave., S.W.

The staff at that time was so small that many odd jobs fell to him. One of these, he recalls, was lighting the fires in the reading room grates every winter morning.

For many years the Library was under Army jurisdiction, and in 1925 Mr. Smith was asked to carry plans, prepared by a first lieutenant,



Herbert Milton Smith on the job in the National Library of Medicine mail room with his cigar, a constant companion. "Smitty" leaves July 2 after 45 years of service with the Library.—Photo by Otis Parham.

ant, to the office of the Army Surgeon General, William C. Gorgas, of Panama Canal fame.

"I knew Gen. Gorgas," Mr. Smith said, "and when I handed him the plans he said it wouldn't be too long until we had a new library building. That was my first inkling that such a building was planned."

From inking to reality took 37 years, but the young man held onto the dream until it came true. The NLM moved into its modern \$6.7 million building in the Southeast corner of the NIH reservation in April of 1962.

Observing the Library's growth with pride, Mr. Smith has seen it expand from 595,447 volumes to more than 1.2 million items published in 40 languages. Last year the Library complied with more than 140,000 requests for photoduplicating of material and dispatched 20,000 volumes on inter-library loan. And the mail room was busier than ever.

### Surprise Party Planned

As this was being written, Mr. Smith's fellow workers, who hate to see him go, were planning a surprise farewell party for him, to be held Friday, June 26, in the Library cafeteria. Most of NLM's 254 employees were planning to attend, to say goodby to "Smitty"—the name he inherited from the early messenger days.

They are chipping in to give him a good present, and it is reported that there will be a letter, to be read aloud, from the Surgeon General of the Public Health Service, commending Mr. Smith for devotion to his job and extending congratulations for one of the longest

## 28 Grants Awarded for Research Construction, Equipment by DRFR

The new Salk Institute for Biological Studies in La Jolla, Calif., has been awarded a grant for \$1,010,400 for research construction and equipment, it was announced recently by Dr. Luther L. Terry, Surgeon General of the Public Health Service.

The grant was one of 28 totaling \$10,204,207 awarded to 27 institutions in 22 States and to provide matching Federal funds for health research facility construction and equipment.

### Largest Award

Largest of the 28 awards is \$1,321,969 for construction of a basic science building in the new medical school of the University of New Mexico. The building will be the first of several research units planned for the medical school which is expected to admit its first class of medical students this fall.

The award for the Salk Institute will pay costs of completing the North Wing of the building and for laboratory equipment specially designed for adaptability to different types of research projects and to the scientists themselves, as, for example, adjustable, suspended cabinets and counters. Much of the equipment uses fabrication techniques developed in missile construction.

### \$1 Million to Illinois

A grant of \$1 million to the University of Illinois and to the Illinois State Department of Mental Health will provide facilities for housing a research program on the rehabilitation of emotionally disturbed and mentally retarded children. The program is conducted by the University and the State Department of Mental Health.

Including these 28 awards, the health research facilities program, administered by the Division of Research Facilities and Resources, has made 1,170 awards totalling \$279,997,693 since 1956.

The Surgeon General makes the awards only on the recommendation of the National Advisory Council on Health Research Facilities comprised of leading nongovernmental scientists, research administrators, and others experienced in assessing health research facility needs of institutions throughout the Nation.



Paul Dorsey, an engineer equipment operator with the Plant Engineering Branch, DRS, contemplates what might have been, had he not worn safety glasses while operating a power mower recently at the Poolesville Animal Center. The mower picked up several stones, one of which broke the right lens of his snap-on sunglasses but was stopped by the lens of his safety glasses. The NIH Safety Office credits use of the safety glasses with preventing serious injury or the possible loss of his right eye and urges all NIH personnel engaged in eye-hazard work to avail themselves of its safety eyeglass program, details of which may be obtained by calling Ext. 65323.—Photo by Ralph Fernandez.

service records in the PHS.

At 69, Mr. Smith says he has never had to spend any time in a hospital. He plans to begin his retirement with a visit to the town of his birth—and then go fishing, a form of recreation that may keep him out of hospitals indefinitely.

## BOLIVIAN FEVER

(Continued from Page 1)

The commission, composed of several U. S. and Bolivian agencies working in cooperation with the Pan American Sanitary Bureau, is coordinating the fight against the disease as part of the Alliance for Progress program.

Headquarters for the disease investigation is the Middle America Research Unit (MARU) in the Canal Zone. A field station of the National Institute of Allergy and Infectious Diseases, MARU is operated by the Public Health Service in collaboration with the Walter Reed Army Institute of Research.

### Disease Ravages Beni Province

The first reported case of Bolivian hemorrhagic fever, known locally in Bolivia as "la tifa negra" or "the black typhus," was recorded in 1959. Since then, the disease has ravaged the fertile valleys and uplands of Beni Province. One village, Orobayaya, was completely abandoned. During severe outbreaks of the disease in San Joaquin, present hub of the research operations, large numbers of persons fled to other areas.

Some 20 percent of the disease victims have died. Fatalities were occurred chiefly among young children and older persons. The commission's report disclosed that San Joaquin has suffered 169 cases with 23 deaths so far this year.

The campaign against Bolivian hemorrhagic fever began in May 1962 when the Bolivian government established the commission and requested MARU's assistance.

Last year, MARU's investigators recovered from patients with the disease an organism, designated Machupo virus, suspected of being the causative agent.

Intensive laboratory studies demonstrated that the virus was responsible for the infection and that it was related to two other organisms: Junin virus, obtained from patients with Argentinian hemorrhagic fever, and Tacaribe virus, taken from a non-human source in Trinidad.

### Similar Agent Isolated

From two specimens of the rodent, *Calomys*, the investigators have now isolated an agent similar to other strains of Machupo virus. Further studies have shown that many animals of the same species have virus-specific antibodies to the rodent-borne organism.

Acting on these latest findings, the project authorities have launched a rodent-control program designed to exterminate the animals from the infested areas in the hope of thus halting the epidemic. The results of this program should be known early next month.

Clinically, Bolivian hemorrhagic



Teenage students pause to view a National Heart Institute exhibit, one of several from NIH Institutes on permanent display at the Medical Museum of the Armed Forces Institute of Pathology, Seventh St. and Independence Ave., S. W. Established in 1862 by the Army Surgeon General to facilitate the study of Civil War disease and battle wounds, the museum was formerly the Army Medical Museum.—Photo by Lou Cook.

fever resembles in some ways other varieties of hemorrhagic fever found in different parts of the world, notably Manchuria, Korea, and Russia. It is characterized by a slow onset, fever, chills, muscular pain and headache, sometimes followed by nose and intestinal bleeding, tremors of the tongue and hands, shock, and coma.

The high fatality rate of the infection, plus the fact that five members of the research team have contracted the disease, underlines the significance of the work and the attending personal hazards.

### Seeks Vaccine Protection

Since there is presently no available means of protection against the disease, priority has been given to the development of a vaccine. The high degree of risk entailed in working with the virus and the need for specialized laboratories are handicaps to efforts to produce an immunizing agent.

In addition to the PHS, other U. S. agencies participating in or providing support for the disease investigation include the Southern Command of the U. S. Army, the Caribbean Air Command of the U. S. Air Force, the U. S. AID Mission to Bolivia, the American Embassy in La Paz, Bolivia, and the Peace Corps.

In its report, the Bolivian Hemorrhagic Fever Commission termed the disease investigation an important contribution to the Alliance for Progress program. The commission also noted that the project offers an example of the many problems that may be confronted in the development of virgin areas in Latin America.

When you buy something for a song, look out for the accompaniment.—*The Washington Post*.

## TB-Heart Ass'n Names Area Seminar Winners, 6 Earn NHI Lab Jobs

The 12 local student research fellowship winners who attended the Fourth Annual Heart Research Seminars and competed with more than 400 area high school students for summer stipends have been announced by the Montgomery County Tuberculosis and Heart Association.

The winners participated in a series of seminars at NIH and the National Naval Medical Center and competed in a final examination to decide who would get opportunities to work in laboratories with scientists here and at the NNMC.

### Winners Listed

The 12 recipients of \$150 stipends are Robert Fox (Bethesda-Chevy Chase), Howard Slavin (Walter Johnson), Jeffery Marcus (Bethesda-Chevy Chase), Edward Wolin (Walter Johnson), Tom Ligon (Springbrook), and Carl Katsu (Albert Einstein).

Also Susan Sklar (Montgomery Blair), Jeff Lobel (Albert Einstein), Cathryn Samples (Bethesda-Chevy Chase), Joel Weiss (Wheaton), Peggy Gussman (Montgomery Blair), and Sylvia Tregida (Northwood).

Of this group Robert Fox, Jeffery Marcus, Susan Sklar, Edward Wolin, Joel Weiss, and Sylvia Tregida will work in NHI labs this summer.

neuroendocrine regulation.

In the present study, it was found that the effect of light on the pineal gland is blocked by removal of the sympathetic nerves to the pineal.

Exposure to light also produces many changes in the gonads of the rat; some of these are compatible with a decreased secretion of melatonin by the pineal.

Since the effect of light on the pineal is blocked following the removal of its sympathetic nerves, it might be expected that this operation would also interfere with some of the effects of light on the gonads.

### Regulates Gonads

This was found to be the case, suggesting that the pineal gland and the sympathetic nervous system both play a role in neuroendocrine regulation of the gonads.

These observations provide a model system to study how information transmitted by nerves may control enzyme activity.

These findings, by Drs. Richard J. Wurtman and Julius Axelrod, of the Laboratory of Clinical Science, NIMH, were reported at the recent meeting of the Federation of American Societies for Experimental Biology in Chicago.

## Scientists Demonstrate Effects of Light on Mammalian Pineal Gland

National Institute of Mental Health experiments have demonstrated that the effects of light on the mammalian pineal gland involve the sympathetic nerves.

By measuring changes in the activity of a pineal enzyme, investigators have traced the neuroanatomic pathway by which the amount of light to which animals are exposed controls pineal gland weight and melatonin synthesis.

The ability of the rat pineal gland to synthesize the hormone, melatonin, is regulated by daylight, and information about lighting is carried to the pineal by sympathetic nerves.

### Synthesized in Gland

Melatonin (5-methoxy N-acetyltryptamine) is synthesized in the mammalian pineal gland by an enzyme — hydroxyindole-O-methyl transferase (HIOMT)—unique to this gland.

Very small doses of melatonin decrease the rate of growth of the rat ovary, and subsequently inhibit the estrous phase of the estrous cycle.

Earlier studies demonstrated that the activity of the melatonin-synthesizing enzyme was markedly influenced by daylight: When rats were put in constant darkness for only a few days, their pineals had three to 10 times as much enzyme activity as those of littermates kept in continuous light.

Since melatonin is made only in the pineal, it was suggested that the inhibition of the synthesizing enzyme (HIOMT) by light could thus constitute a mechanism of