

# the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH  
PUBLIC HEALTH SERVICE

## Pharmacology Meeting To Be Held Here in '67

Scientific, pharmaceutical and Federal Government experts will participate next January in an international symposium on comparative pharmacology, Dr. Frederick L. Stone, Director of the National Institute of General Medical Sciences, announced recently.

Sponsored by the NIGMS, the National Cancer Institute and the National Heart Institute, the symposium will be held here January 24-27. Three hundred specialists in pharmacology, toxicology, zoology and related scientific fields are expected to attend.

### Purpose Cited

The purpose is to stimulate interest in comparative pharmacology—that science using animals to study drugs and relating this knowledge to man—as a specialized branch of pharmacology. A major symposium objective is to facilitate exchange of information among a multidisciplinary group of scientists.

With Dr. Edward J. Cafruny, Professor of Pharmacology at the University of Minnesota, as program chairman, discussion topics will include comparative aspects of drug absorption, metabolism and excretion that help define effective and safer therapeutic levels.

Further information on the symposium may be obtained from Dr. George J. Cosmides, Program Co-ordinator.  
(See PHARMACOLOGY, Page 5)

## Dr. Englander Reports on Trials of New Method of Topical Fluoride Application

An 80 percent reduction in tooth decay from a new technique, which may revolutionize methods of topical fluoride application, was reported recently by Harold R. Englander, D.D.S.

The National Institute of Dental Research scientist told the American Academy of Pedodontics in Toronto, Canada, that preliminary field trials with school children, following successful studies with laboratory animals, are highly encouraging.

For a 6-minute period each school day, during the 2-year study period, the children wore a specially fitted plastic mouthpiece (similar to athletic mouthguards) filled with a jelly-like material containing 1.1 percent sodium fluoride. One dental hygienist was able to supervise several hundred chil-

## Sec. Gardner Advocates Even Stronger Ties Between Universities and DHEW



Attending the recent meeting of NIH consultants here were (l to r): Dr. Philip R. Lee, Assistant Secretary of Health and Scientific Affairs, DHEW; Dr. John F. Sherman, Associate Director for Extramural Programs, NIH; Dr. Stuart M. Sessoms, Deputy Director, NIH; Dr. William H. Stewart, Surgeon General of the PHS; Dr. James A. Shannon, Director, NIH, and John W. Gardner, Secretary of the DHEW.—Photo by Tom Joy.

A special advisory committee on Government-university relationships will be appointed to further the dialogue between the universities and the DHEW, Secretary John W. Gardner announced in an address to the consultants to NIH grant and award programs on August 23.

Speaking in the auditorium of the Clinical Center at NIH to 175 consultants and some 325 members of the NIH-PHS grants management staff, Secretary Gardner reviewed the "extraordinarily successful partnership" that has developed between the Government and the universities during the past 30 years.

Noting that communication between the Federal government and the scientific community must be "open and effective," Secretary Gardner said that his special committee will work with a DHEW

task force and with other Government bodies.

### Reassurance Given

The Secretary also took the occasion of this first meeting of NIH consultants to reassure the scientific community that "there has been no change in the conviction of this Department concerning the essential role of fundamental science," nor, he said, had there been any policy decision "to diminish the national investment in the fundamental sciences relevant the health and medicine."

"I am quite certain," he said, "that the total amount that the Federal government spends on delivery of health services is going to increase steadily and rapidly over quite a long period of time. But this most certainly will not (and has never in the past) come out of a fixed health dollar, with research losing what health services gain. The whole health area in all its aspects is on the rise in our national thinking and planning."

Secretary Gardner concluded his remarks by observing that "the programs of the National Institutes of Health represent an extraordinary and fruitful partnership between the Federal government and the universities; and they have achieved a high level of

(See DR. ENGLANDER, Page 3)

(See SEC. GARDNER, Page 3)

## Robert P. Grant Memorial Service Set for Sept. 9

A Memorial Service for Dr. Robert P. Grant, Director of the National Heart Institute until his death August 16, will be held at Cedar Lane Unitarian Church, 9601 Cedar Lane, Bethesda, Md. on Friday, Sept. 9, at 4 o'clock in the afternoon.

A Robert P. Grant Memorial Fund has been established in his honor by friends and colleagues. The Fund will be used to provide scholarship aid for education and training of the kind to which Dr. Grant devoted major interest during his entire professional life. Contributions may be sent to the Fund in care of the Office of the Director, National Heart Institute.

Dr. Grant had served as Director of the Institute since March 8, 1966, coming to the post from the position of Chief of the European Branch of the NIH Office of International Research.

"Dr. Grant's untimely death," said Dr. William H. Stewart, Surgeon General.  
(See DR. GRANT, Page 4)



Dr. Grant

### Voter's Guide for Sept. 13 Montgomery Co. Primary Is Available Through R&W

Copies of a 24-page Voter's Guide for the Montgomery County Primary Election on Sept. 13, 1966, may be picked up at the R&W Office, Rm. 1A-18, Bldg. 31.

The R&W Association has also placed copies of the Guide at strategic locations in other NIH buildings on the Bethesda campus and in outlying areas.

In addition, a limited number of Voter's Guides are being distributed by Institute and Division R&W representatives.

The Guide was compiled by the League of Women Voters of Montgomery County, and is for the benefit of the individual voter.

# the NIH Record

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## NEWS from PERSONNEL

### EMPLOYE CONDUCT REMINDER

As the academic year for 1966-67 begins, staff members who are interested in teaching or lecturing are reminded that there are conditions and prior approvals which must be obtained before engaging in this and certain other types of professional activity outside of regular working hours.

### Requirements Published

These requirements are stated in the Department's regulations on Standards of Conduct which were published in the Federal Register dated March 22, 1966. Reprints of this issuance were distributed to all personnel in April of this year.

If any staff member does not have ready access to this information, extra copies of the regulations may be obtained from I/D Personnel Offices.

Those staff members who had outside work approved during the period Sept. 1, 1965 through Aug. 31, 1966, will be required to submit a report as to whether the proposed work was actually performed, and if so, whether it was performed under the conditions originally stated.

Further instructions and the forms on which the reports are to be made will be issued by the respective institutes and divisions.

### ELECTION—LAUNDRY UNIT

Non-supervisory wage board employees of the Clinical Center Laundry will have an opportunity to vote on whether or not they want to be represented exclusively by an employe organization.

The employe organizations involved are the Washington Area Metal Trades Council and its af-

filiated locals (Local 960 LIU) and the American Federation of Government Employees, Lodge 2419.

The election will be held Tuesday, Sept. 20, 1966, in Rm. G-48, Bldg. 13 between the hours of 8:30 a.m. and 1 p.m. Notice of the election has been made available to all employes in the Laundry.

### Employe Health Service Schedules Flu Shots

Polyvalent influenza vaccine will be offered to all NIH employes except those hypersensitive to eggs or egg products as follows:

In the Bldg. 10 Health Unit, Corridor B2A19 between 1:30 and 4:30 p.m. on Sept. 19 the vaccine will be administered to employes with last name initials A through D; Sept. 20, E through H; Sept. 21, I through M; Sept. 22, N through R, and Sept. 23, S through Z.

### Other Dates Listed

In the Bldg. 31 Health Unit, Rm. B2B34 between 1:30 and 4 p.m. on Sept. 26 and 27.

In the Westwood Bldg. Health Unit, Rm. 30 between 9:30 a.m. and 4 p.m. on Sept. 28.

In the Bldg. 13 Health Unit, Rm. 2910 between 1:30 and 4 p.m. on Sept. 29 and 30.

In the Wiscon Bldg., basement level near B1A10 between 1:30 and 4:30 p.m. on Oct. 3.

In the NBOC #1 between 1:30 and 4 p.m. on Oct. 4.

Individuals in outlying areas previously immunized under this program may receive immunizations at any of the above locations at the times specified.

Individuals immunized since July 1965 will need only one inoculation; others will need two. Dates for the second inoculation will be published later.



Eight members of the DBS Laboratory of Viral Immunology received cash awards in recognition of their superior efforts which culminated in the successful clinical trial of an experimental rubella virus vaccine. Recipients pictured in lab coats (from left) are: John E. Crawford, Barbara B. Jackson, Raymond L. Vaughn, Melvin L. Seard, Rudyard S. Wallace and Judith P. Hamilton. Ethel D. Rosenblatt and Bruce H. Mann were not present for the ceremony. The awards were presented by (center left) Dr. Harry Meyer Jr., Chief LVI, and Dr. Paul D. Parkman, Chief of LVI's General Virology Section. —Photo by Tom Joy.

## Robert E. Freise Back At NIH From Pakistan

Robert E. Freise is back at NIH following a two and a half year assignment as Executive Officer of the Office of International Research's Pakistan-SEATO Cholera Research Laboratory in Dacca, East Pakistan.

Established primarily for cholera research, the Laboratory also treats area residents suffering from the disease. Knowledge gained in treating these patients is of inestimable value to scientists investigating the control and eventual eradication of cholera.

In Pakistan Mr. Freise worked closely with the Director of the Laboratory, Dr. Robert A. Phillips, and with officials of the Pakistani government in setting up the budget for the laboratory and supervising the use of PL 480 funds.

While Mr. Freise was in Pakistan the India-Pakistan conflict erupted. Once during this period when mail was held up, communications halted and business activities of the Laboratory brought to a standstill, Mr. Freise and his family were evacuated to Manila until tensions eased.

### Background Given

Mr. Freise first came to NIH in 1948 at which time he was assigned to the Endocrinology Section of the National Cancer Institute. He also worked in the office of Oveta Culp Hobby when she was Secretary of the DHEW, and in the Office of Space Management at NIH.

Before going to Pakistan, Mr. Freise spent 7 years as an Administrative Assistant at hospitals located on the Hopi, Apache and Papago Indian Reservations in

## Notice Sent All Members Of NIH Fed. Credit Union

As a part of the audit of the NIH Federal Credit Union, the Supervisory Committee, in accordance with the regulations of the Federal Credit Union Act, has prepared and distributed verification forms to all members with open accounts on August 17, 1966.

Some forms require an answer; others do not require an answer unless the amounts of shares and loans are incorrect.

Any Credit Union member who has not received a verification form is asked to communicate directly with the Auditor for the Supervisory Committee, James J. Sanders, C.P.A., 8007 Norfolk Ave., Bethesda, Md. OL 6-1116.

## Alaskan Earthquake Film Showing Is Next Week

The Employe Health Service, in collaboration with the NIH Office of Civil Defense, will present for September the film (titled "Though the Earth be Moved")

The 45-minute presentation tells the dramatic story of the Alaskan earthquake of 1964.

The film will be shown at the Westwood Bldg., Conf. Rm. A, Mon., Sept. 12, at 1:30 and 2:30 p.m., and at the Clinical Center auditorium Wed., Sept. 14, at 11:30 a.m. and 1 p.m.

### Colorado.

Mr. Freise did undergraduate work at Mankato State Teachers College, Minn., and at George Washington University in Washington, D.C.

Mr. Freise will leave NIH shortly for the PHS Communicable Disease Center in Atlanta, Ga., where he will undergo a short training period before reassignment overseas.



Mr. Freise

## NIAMD Sets Up 3 New Sections; Names Heads

Dr. G. Donald Whedon, Director of the National Institute of Arthritis and Metabolic Diseases, has announced the establishment of three new sections, one in the Laboratory of Molecular Biology and two in the Laboratory of Chemical Biology.

In the Laboratory of Molecular Biology, Dr. H. T. Miles has been appointed Chief of a new Section on Organic Chemistry. This Section will be responsible for the investigation of certain aspects of the chemistry, structure and function of biologically important molecules, in particular the nucleic acids and their monomeric components.

### Methods Cited

Methods of chemical synthesis, spectroscopy, and enzymology will be employed by this Section to investigate the relationship of structure to chemical reactivity as well as to biochemical function.

In the Laboratory of Chemical Biology, a Section on Biosynthesis and Control has been established with Dr. Robert F. Goldberger as Chief, and a Section on Genetics and Development with Dr. Charles J. Epstein as Chief.

The Section on Biosynthesis and Control will be responsible for the investigation of problems of cellular regulation at the molecular level, including the mechanisms of enzyme repression and depression. Using the histidine operon and the enzymes associated with it in *Salmonella typhimurium*, this Section will study the stages of protein biosynthesis.

The Section on Genetics and Development will be responsible for the investigation of the broad problems of gene expression from the control of protein structure to the development of tissues in higher organisms. Problems related to the effects of genetic aberrations in man and mammals will also be under study.

## SEC. GARDNER

(Continued from Page 1)

excellence. We are proud of the partnership and proud of the excellence, and I'd like to think that during my term as Secretary both would be enhanced."

Also on the program with the Secretary were Dr. William H. Stewart, Surgeon General, PHS; Dr. James A. Shannon, Director, NIH; Dr. John F. Sherman, Associate Director for Extramural Programs, NIH and Dr. Eugene Confrey, Chief, DRG.

Following the morning session, representatives of review groups attached to the various Institutes and Divisions met in closed session to conclude the one-day meeting.

## NIAID Lab Asks Volunteers To Participate in Its Study

The number of common colds each year in the United States has been estimated as high as 500 million.

To combat the "common cold" NIAID's Laboratory of Infectious Diseases is conducting a long-range research project for which it continues to need volunteers.

Employees with colds are requested to contribute samplings of nasal secretions plus 2 blood samples. Participants receive \$2 for each blood sample.

Appointments may be made by calling Sara Kelly or Harvey James, Ext. 65811, preferably within the first 3 days of infection.

If possible, employees are urged to schedule appointments in the morning to give investigators ample time for processing.

## Dr. Ella Haith Weaver Named to 4-Yr. Term on Dental Research Council

Dr. Ella Haith Weaver, a member of the faculty of Brooklyn College of the City University of New York, has been appointed by Surg. Gen. William H. Stewart to a 4-year term on the National Advisory Dental Research Council of the Public Health Service.

### Role Defined

As a member of the Council, Dr. Weaver will advise and make recommendations to the Surgeon General on research and training grants and fellowships to be awarded by the PHS from funds appropriated to the National Institute of Dental Research.

Dr. Weaver received her B.A. degree from Carnegie Institute of Technology, the M.A. degree from the University of Michigan, and the Ph.D. degree in speech correction and audiology from Northwestern University. She has also studied speech therapy techniques used with the handicapped in Europe.

### Wife of Sec. Gardner

She is married to Dr. Robert C. Weaver, Secretary of the Department of Housing and Urban Development. She has taught at Howard University in Washington, D.C., and at Roosevelt University in Chicago, and is now on extended leave from Brooklyn College.

She is consultant in speech to the Women's Job Corps, and has served as consultant to the Ford Foundation and the Changing Dialects Research Project, a study conducted in the Detroit public schools.

## Instrument Miniaturization May Become A 'Big Thing' in Biomedical Research

By Toni Anastasi

Time has passed since the public considered it a "big thing" to produce a miniature transistorized radio smaller than a cigarette pack, to carry a tape recorder in a coat pocket, to snap a picture with a camera the size of a wrist watch, or to mount a TV set in an automobile dashboard.

Even the skills of the aerospace program in miniaturizing complex electrochemical systems that can function in the far reaches of space are not especially surprising today.

However, here at NIH, a small group of engineering technicians in

mentation in a program which may well have significant implications in the field of biomedical research.

These skilled technicians of the Optical Unit of the Instrument Fabrication Section, together with co-workers of the engineering staff of the Biomedical Engineering and Instrumentation Branch, consider it routine to design and fabricate ultra-miniature instruments whose construction can be discerned only under a microscope.

### Devices Are Unique

Yet these instruments must function reliably in the depths of the body and the human brain. BEIB instrument makers speak in microns in the same way that most people speak in thousandths. The unit, headed by Ken Bolen, creates unique miniature devices that are not commercially available.

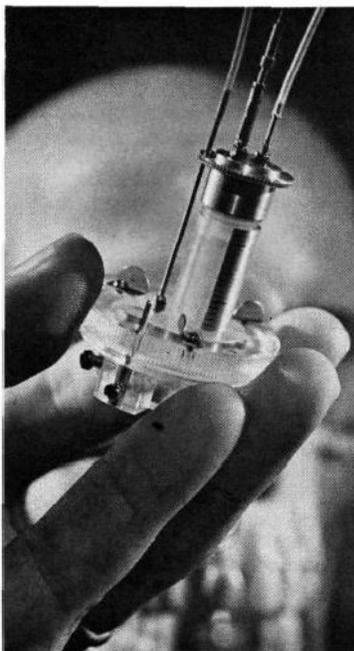
One example is a very small ultra-sensitive strain gauge transducer.

### Transducer Described

"The device is used for sensing minute variations in displacement, force, or pressure and is being applied in research on the artificial heart. Its sensitive elements consist of a number of very fine wires specially bonded to a minute diaphragm," said Mr. Bolen.

The arrangement can be observed only with the aid of a powerful magnifying glass. The system is used to control the operation of a power source driving a heart assist device as a function of blood pressure variations. He pointed out that a similar system

(See MINIATURIZATION, Page 6)



The hydraulic micro-drive shown here drives a microelectrode into a predetermined region of the brain or spinal column. It is used with a "stereotaxic device" for treatment of Parkinson's disease.

the Division of Research Services is fabricating miniature instru-

## Manpower Being Trained to Attack Killer Diseases

The National Institute of General Medical Sciences has awarded 38 new research training grants totaling \$2.26 million to 30 colleges, universities and hospitals.

These grants will support special research training efforts to increase the skilled manpower to help conquer heart disease, cancer and stroke.

The funds are earmarked to permit the Institute to fund training grants in surgery, diagnostic radiology, anesthesiology and biomedical engineering.

The Senate Appropriations Committee noted that "an adequate supply of these critically important supporting skills is essential if the best in medical capability is to be made available."

It added that "training efforts in these fields are complementary to the proposal for further research efforts in the same area" (heart disease-cancer-stroke).

Eighteen of the grants totaling \$1.13 million will be for research training in surgery, and 11 grants totaling \$783,000 for research training in diagnostic radiology. Five grants totaling \$194,500 are for anesthesiology and four totaling \$148,500 for biomedical engineering.

NIGMS has a budget of \$127.2 million of which about \$40 million support more than 700 research training programs in more than 20 disciplines at 175 institutions. More than 3,000 predoctoral and 1,000 postdoctoral students are receiving training.

## Dr. Hassler Is Appointed Branch Chief at NIMH

Dr. Ferdinand R. Hassler, 36, has been appointed Chief, Mental Health Career Development Programs Branch, according to an announcement from Dr. Stanley F. Yolles, Director, National Institute of Mental Health.

Dr. Hassler succeeds Dr. Harold Janney who retired June 30 after 30 years with the PHS Commissioned Corps.

Dr. Hassler has been with the NIMH in various capacities since 1959 except for a year when he attended Harvard University to obtain a masters degree in Community Mental Health.



Dr. Hassler

### Background Cited

He comes to his present position after two years as consultant in psychiatry in the New York Regional Office of the DHEW.

Dr. Hassler is a native of Oklahoma. He received his B.S. degree from Oklahoma State University at Stillwater and his M.D. from the University of Oklahoma School of Medicine in 1955.

He interned at the PHS Hospital in San Francisco and was a resident in psychiatry at the PHS Hospital in Lexington, Ky., and Langley Porter Neuropsychiatric Institute in San Francisco before coming to NIMH.

He is a member of the World Psychiatric Association, the American Psychiatric Association, the American Orthopsychiatric Association, the American Medical Association and the American Sociological Association. He is a Fellow of the American Public Health Association and the American School Health Association. He belongs to the Washington Psychiatric Society and the District of Columbia Public Health Association.

Dr. Hassler is married and has two children. The family lives at 9614 Kensington Parkway, Kensington, Md.

### Dr. Louis S. Goodman Named to Council on Research Facilities

Dr. Louis S. Goodman, Professor of Pharmacology and Chairman of the Department of Pharmacology at the University of Utah College of Medicine, Salt Lake City, has been appointed to the National Advisory Council on Health Research Facilities for a term ending June 30, 1970, it was announced recently by the Public Health Service.

The 12-member council is composed of scientists, scientific administrators, and civic leaders.

## DR. GRANT'S CAREER JUST REACHING PEAK

(Continued from Page 1)

General of the Public Health Service, "is a tragic loss to all who knew him and to the Department and the Public Health Service. His brilliant career was just reaching its peak—and he was pouring his wholehearted energies into the task of strengthening and speeding up the attack on heart disease. His contributions to medical science and health improvement were many, and we shall miss him tremendously."

### At NHI 1950-58

From 1950, when he entered the Public Health Service, until 1958, Dr. Grant headed the Cardiodynamics Section of the NHI Laboratory of General Medicine and Experimental Therapeutics. His major research interest was electrocardiography, and his research and writings earned him international recognition as an authority on the subject.

He also conducted research relating cardiac pathology revealed at autopsy to ECG abnormalities recorded during life. His contributions helped to broaden the clinical scope of electrocardiography and to increase its sensitivity and accuracy as a diagnostic procedure.

### Ability Lauded

Dr. Grant was one of the pioneers in the use of vectorcardiography, and his work helped to establish theoretical and clinical bases for its application in cardiovascular diagnosis. It is finding increased application today as a diagnostic aid, especially for clarifying "borderline" electrocardiograms.

Of his research, a former associate says: "Bob always had a knack for solidifying and simplifying difficult or esoteric concepts to make them understandable and useful to the clinician. His writings display his talent for drawing together seemingly unrelated or only distantly related observations from his own research and from the work of others and fitting them into a logical, unified framework."

### Inspired Others

Another of Dr. Grant's major interests was the training of promising young men for careers in clinical research. A born teacher, he offered his trainees constant encouragement and helpful advice when they asked for it, but his goal was always to stimulate the trainee's imagination and to encourage independent approaches to research problems.

In 1959, he was tapped for the post of Assistant Chief of the NHI Grants and Training Branch. During the next two years, he administered the Institute's program of training grants and fellowships, contributing to the continued development and expansion of this

major activity. In 1961, as a fellow of the Commonwealth Fund, he lectured and carried on cardiovascular research in three European universities.

In 1962, he joined the NIH Office of International Research. As Assistant Chief, then Chief of its European Office in Paris, he handled NIH's interests in overseas research in Europe and the Middle East. Having a deep interest in international research, he also contributed several studies on the comparative aspects of governmental support of bio-medical research and medical education abroad. He served in Europe from 1962 until his appointment as Director, NHI, on March 8, 1966.

Born September 17, 1915, in Orillia, Ontario, Canada, Dr. Grant received his A.B. degree from Cornell University in 1937, and his M.D. from Cornell University Medical College.

### Affiliations Listed

Dr. Grant's affiliations included the American Heart Association, American College of Cardiology, American College of Physicians, American Federation for Clinical Research, and American Society for Clinical Investigation. He was certified in cardiology by the American Board of Internal Medicine, and is a diplomate of the American Board of Internal Medicine. He was a member of the editorial board of *Circulation*, *Excerpta Medica*, and *Malattie Cardiovascolari*.

### Other Achievements

He was the author and co-author of two books, *Clinical Electrocardiography* and *Spatial Vector Electrocardiography*, and numerous scientific papers and textbook contributions on a wide range of basic and clinical research subjects in

## Noted Medical Scientists Begin 4-Year Terms on NINDB Advisory Council

Three noted medical scientists have been appointed to serve 4-year terms on the National Advisory Neurological Diseases and Blindness Council beginning Oct. 1.

They are Dr. Adolph Sahs, neurologist from Iowa City, Dr. Kenneth Swan, ophthalmologist from Portland, Ore., and Dr. Harry Patton, a Seattle neurophysiologist.

The Council, composed of 12 persons who are prominent in science, education, and public affairs, makes recommendations to the Surgeon General of the PHS concerning research on neurological and sensory disorders.

Dr. Sahs has been a Professor and Head of the Department of Neurology at the State University of Iowa since 1947, and is President-Elect of the American Neurological Association.

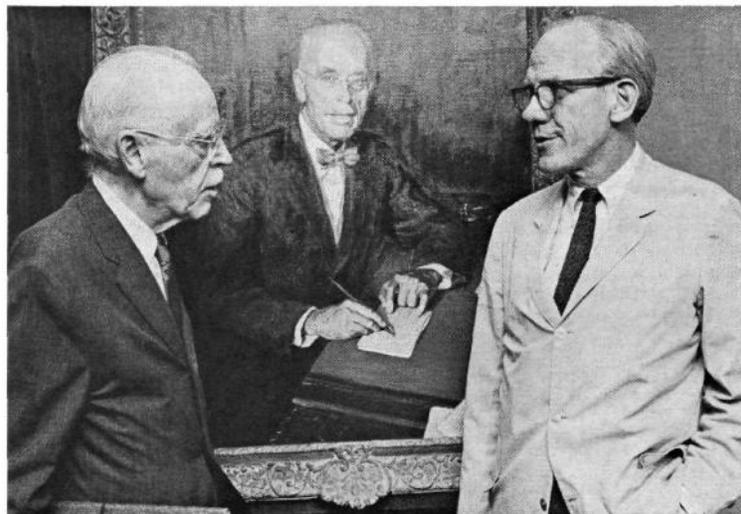
Dr. Swan has been a professor and head of the Department of Ophthalmology of the University of Oregon Medical School since 1944.

Dr. Patton is a Professor and Chairman of the Department of Physiology and Biophysics at the University of Washington School of Medicine in Seattle.

the cardiovascular field.

Surviving are his mother, Mrs. G. P. Grant, of Lakeland, Florida, a sister, Mrs. C. Theodore Smith, of Morristown, N.J.; and two brothers, Garnet P. Grant Jr., of Warner, N.H. and Alan S. Grant, of Anchorage, Ky.

Dr. Robert W. Berliner, Scientific Director of the Institute, is serving as Acting Heart Institute Director.



Dr. Robert P. Grant (right), late director of the National Heart Institute, talks here with Dr. Paul Dudley White at the June 24, 1966 unveiling of a portrait of Dr. White at the NLM.—Photo by Jerry Hecht.

## Dr. Spicer Retires After A Long Career at NIH; Has New Research Post

Dr. Samuel S. Spicer, Chief of the Section on Biophysical Histology, Laboratory of Experimental Pathology, National Institute of Arthritis and Metabolic Diseases, retired August 1 after 26 years as a Public Health Service research scientist.

With the exception of two brief PHS assignments in Lexington, Ky., and Atlanta, Ga., Dr. Spicer spent his entire career at NIH, where his research interests were broadly based in biochemistry, histochemistry and cytochemistry.

### Work Described

His work as a histochemist has contributed considerable knowledge of cell function at the molecular level. In recent years, Dr. Spicer's research interests focused along two main lines: detailed investigations of various mucopolysaccharides and their respective distribution and localizations in tissues,



Pictured at a retirement party in his honor are Dr. and Mrs. Samuel S. Spicer and Dr. Gert L. Laqueur, Chief of the Laboratory of Experimental Pathology, NIAMD (left). Friends and associates presented Dr. Spicer with a selection of classical records.—Photo by Bob Campbell.

and a multi-faceted approach to the study of cytochemical problems, including the use of electron microscopy and of labeling with radioactive substances.

Dr. Spicer recently assumed a new and challenging position at the University of South Carolina Medical School at Charleston, where he will establish a histochemical and cytochemical research program in the pathology department.

Dr. Gert L. Laqueur, Chief of the Laboratory of Experimental Pathology, described him as "a superb scientist in his areas of interest, one whose outstanding qualities and dedication will make him extremely difficult to replace."

Another colleague, recalling Dr. Spicer's total concentration during an experiment, told of how this trait often led to amusing situa-

## NINDB Develops Another Specialized Info. Center

A specialized information center covering the areas of vision, blindness and diseases of the eye has been established at Harvard University's Francis A. Countway Library of Medicine under a contract between the National Institute of Neurological Diseases and Blindness and Harvard.

Objectives of the Vision Information Center are to define, identify, store, retrieve and disseminate the literature of vision so that the information may be communicated more quickly and completely; to review and analyze the literature so as to increase current awareness of research among scientists, teachers and clinicians in ophthalmology and related fields throughout the country, and to integrate the activities of a Vision Information Center within the national network of specialized information centers being developed by the NINDB.

The program also involves the Lucien B. Howe Library of Ophthalmology, a unit of the Harvard University Library System at the Massachusetts Eye and Ear Infirmary, and the Harvard University Computing Center in Cambridge.

tions. He would become so immersed in his work, his staff would have to remind him to have lunch. One time, following a particularly involved experiment, a co-worker who happened to open Dr. Spicer's desk found in neat array 10 carefully wrapped and unopened lunch bags.

A native of Denver, Colo., he earned his B.S. degree in 1936 at the University of Colorado, and received his M.D. from its School of Medicine in 1939. He also received special training as a pathology resident at the George Washington University Hospital and the Armed Forces Institute of Pathology, and in the technique and application of electron microscopy at Cornell University.

### Joined PHS in '40

Following his internship at the University of Wisconsin General Hospital, Dr. Spicer joined the PHS Commissioned Corps in 1940.

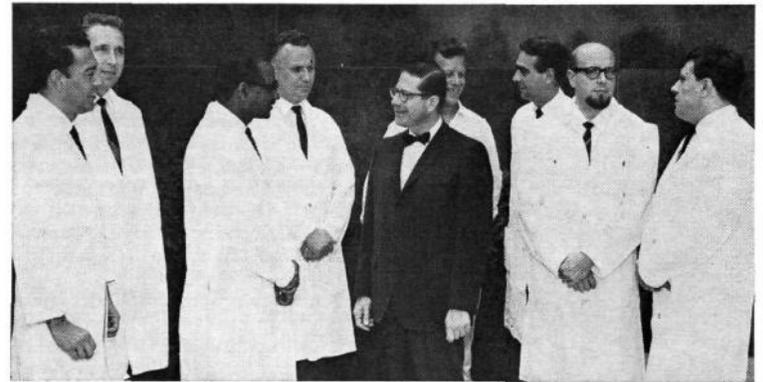
Author and co-author of many research papers, Dr. Spicer also is a member of numerous professional societies, and is certified by the National Board of Medical Examiners and the American Board of Pathology in Pathologic Anatomy.

## PHARMACOLOGY

(Continued from Page 1)

ordinator, Pharmacology-Toxicology Programs, National Institute of General Medical Sciences, National Institutes of Health, Bethesda, Md. 20014.

## OIR's International Fellowship Program Helps Widen Horizon of Health Sciences



Pictured with Dr. Samuel Abramson, OIR, are 8 of the 13 International Postdoctoral Fellows currently working at NIH (l to r): Dr. Rafael Cedillos, El Salvador; Dr. Jozef Krawczak, Poland; Dr. Ram Parshad, India; Dr. Franc Erjavec, Yugoslavia; Dr. Abramson; Dr. Hans Junek, Austria; Dr. Elias Zisman, Venezuela; Dr. Umberto Torelli, Italy, and Dr. John Morgan-Hughes, England.—Photo by Tom Joy.

By Frances Davis

Two recent surveys, made by the Office of International Research to assess its International Postdoctoral Research Fellowship Program, reveal the effectiveness of the program and its value to American research in the health sciences.

The first survey reflects the views of the preceptors in this country who provided training for the International Fellows. The second survey examines the post-fellowship activities and solicits the views of former International Fellows.

The International Postdoctoral Research Fellowship Program was initiated to assist promising foreign students in acquiring specialized training in the United States for careers in health-related research in their own countries.

### Dr. Abramson Is Head

Headed by Dr. Samuel Abramson, the Foreign Grants and Awards Section, OIR is responsible for administration of the program. According to Dr. Abramson one of the prime purposes of the program is "to stimulate the development of international scientific bridges and thus to enrich the health sciences in the United States and throughout the world."

Since its inception in 1958 with 16 awards to Fellows from a few European countries, the program has expanded so that currently it includes 43 countries from all over the world. Thus far 720 Fellows have been trained in the United States under this program, of whom 13 are now here at NIH.

When queried about the International Fellows, the preceptors agreed that their participation in research efforts underway in American laboratories is quite valuable. They further concluded that the foreign scientists stimulated their co-workers by introducing fresh concepts and techniques and setting excellent examples of dedication to science and industriousness for our scientists in training.

The survey of the former Fellows also indicates that they, too, believe the program promotes better international understanding. Virtually all have continued their research to some degree and have maintained their professional contacts with colleagues in this country. Most of them are enthusiastic about the knowledge and training acquired.

Awards under this program are available to non-immigrant aliens who have earned a doctorate or its equivalent in a health science field. Each International Fellow receives training in the U.S. institution of his choice, which in turn receives a research fellowship award on his behalf.

### Awards Competitive

Fellowships are awarded after a truly international competition. Participating countries receive an annual invitation to submit candidates. Each of these countries has a nominating committee, usually a national research council or similar body, that is responsible for assurance that the applicants' U.S. training will be utilized in a position on their return.

The applications are carefully reviewed three times a year by the PHS International Fellowship Committee. The committee considers the mutuality of research interest for both the United States and the applicant's country as well as the merit and potential of the individual applicant.

Upon his return to his home country, each former Fellow is eligible to apply for a research project grant to enable him to inaugurate independent research and later

(Continued on Page 7)

## MINIATURIZATION

(Continued from Page 3)

has been used in a dental research project to sense and transmit stresses on a single tooth, without interfering with normal jaw motion.

The hydraulic micro-drive is an-



Calvin Dennison (seated) of the BEIB Optical Unit examines the miniature strain gauge transducer. He helped fabricate it with BEIB mechanical engineer John Fogel.

other impressive unit developed by BEIB engineers and technicians. Its purpose is to drive a microelectrode into a predetermined region of the brain or spinal column. In one particular application it is used with a stereotaxic instrument, with one micron resolution, for neurological studies of single cell function.

### Electrode Valuable Tool

A "multiple contact depth electrode" is used to stimulate and record reactions from a multiplicity of stations in the brain. It is capable of sensing the electrical activity of single cells and transmitting up to six individual EEG signals simultaneously. Used with a "stereotaxic device," capable of precise placement to within any one given cubic millimeter of the brain, it has proved to be a very valuable tool for treatment of Parkinson's disease.

These are but a few examples of the fascinating instruments being developed in Mr. Bolen's unit. Others include such things as "infant size" tracheotomy tubes, a wide variety of heart valve replacements, infant transeptal catheters,

## NIAMD Study Tests Hypothesis That Childbearing Increases Risk of Diabetes

The effects of child bearing do not account for the higher prevalence of diabetes among women, according to a report given by scientists of the National Institute of Arthritis and Metabolic Diseases at a recent meeting of the American Diabetes Association in Chicago.

These findings were presented in a paper entitled "Sex, Parity, and Diabetes Among the Pima Indians" by Dr. Peter H. Bennett and Dr. Thomas A. Burch of the NIAMD, in conjunction with Dr. Max Miller and Dr. Arthur G. Steinberg of Western Reserve University, Cleveland, Ohio.

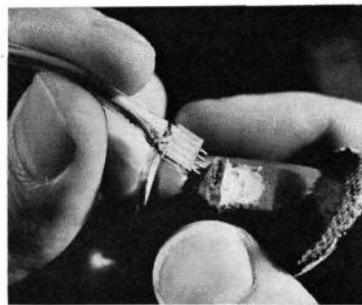
Since the Pima Indians have large families in addition to an extraordinarily high prevalence of diabetes, the data were analyzed to test the hypothesis that increasing parity is associated with an increased risk of diabetes.

### High Rate Revealed

This epidemiological study among a total community of more than 1,100 Pima Indians in which the diagnosis of diabetes was based on glucose tolerance tests, revealed a high prevalence of diabetes with a significant excess in each decade in females aged 45 years or over. Of approximately 700 females studied, over half had borne 4 or more children and one-fifth had borne 7 or more children.

and multiple cortical EEG arrays.

These activities give some indication of why Surgeon General William H. Stewart referred recently to biomedical engineering as "one of the most promising developments in medical and biological research and practice."



The tiny, ultra-sensitive strain gauge transducer is shown here. This miniature instrument is used for sensing minute variations in artificial heart research work and in dental research, to transmit stresses on a single tooth. —Photos by Jerry Hecht.

In spite of a high prevalence of diabetes and the frequent occurrence of large families, no evidence of any relation between increasing parity and the age specific prevalence of diabetes was found. Nor, was the prevalence of diabetes in women aged 45 years and over who had borne 7 or more children greater than in nulliparous women.

Contrary to expectations the prevalence of diabetes, especially in the younger age groups, is somewhat higher in those Indian females who have borne no children than in those who have borne 7 or more children.

These findings are at variance with previous diabetes clinic studies by other investigators (primarily in England) which lent support to a hypothesis that pregnancy precipitates diabetes.

A factor which might be responsible for discrepant results is that the previous studies were based on hospital patients and control groups, but a study of the Pima diabetic outpatients before the epidemiological study was undertaken suggests that this selection factor is not primarily responsible for the differences.

### Obesity Is Factor

The discrepancies may be explained, however, by a true association of diabetes with other factors such as obesity. In some populations obesity is related to the number of children borne and consequently an indirect association, which is etiologically misleading, might be demonstrated.

"Whether or not obesity is the determining factor," the NIAMD scientists concluded, "there is no doubt that the effects of child bearing alone cannot be invoked to explain the significant excess of female diabetics found in the study population."

## NIH Orchestra to Begin Rehearsals on Sept. 13

The NIH Orchestra, sponsored by the NIH Recreation and Welfare Association, will begin its eighth season on Tuesday, Sept. 13, at 8 p.m. in the Clinical Center auditorium.

Thereafter rehearsals will be held every Tuesday evening at the same time and place.

Mark Ellsworth, who is the concertmaster of the National Gallery Orchestra, will continue as conductor of the NIH Orchestra as he has since its inception.

Membership in the orchestra is open to any employe or member of

## Dr. Domanski Appointed Scientist Administrator

Appointment of Dr. Thaddeus J. Domanski as Scientist Administrator, Research Grants Branch, National Institute of General Medical Sciences, was announced recently by Dr. Frederick L. Stone, Institute Director.



Dr. Domanski

With a Fiscal 1966 Budget of \$127.2 million, the Institute supports biomedical research and training in some 50 biomedical disciplines. Carried out at medical schools, universities and other non-federal organizations throughout the United States and to some extent abroad, the research studies include basic biomedical sciences, general clinical sciences and behavioral and physical sciences related to health.

### Responsibilities Noted

Dr. Domanski will be responsible for administration of research project grants in pharmacology and toxicology.

Since 1964 Dr. Domanski was principal laboratory consultant to the Surgeon General, U.S. Air Force, for Clinical and Bioresearch Laboratory Sciences. Since 1961 he was also Chief of the Toxicology Branch, Armed Forces Institute of Pathology.

Previously, he was Commander, Epidemiological Laboratory, Lackland Air Force Base, Texas; representative, Office of the Air Force Surgeon General to the U.S. Army Chemical Corps, Fort Detrick, Md., and staff member, U.S. Air Force School of Aviation Medicine, Randolph Air Force Base, Texas.

### Education Described

Dr. Domanski received a B.S. degree from New York University in 1932 and an M.S. from the same institution in 1935. In 1949 he received the Ph.D. from N.Y.U.

He is a Fellow of the American Academy of Forensic Sciences, a former member of the Inter-Agency Committee on Laboratory Medicine, a member of the Committee on Alcohol and Drugs, National Safety Council, an associate member of the American Society of Clinical Pathologists and a member of Phi Beta Kappa.

his family who plays an orchestral instrument and enjoys classical music. No auditions are held since regular attendance at rehearsals and practice of the music are considered more important than virtuosity.

For further information, call Dr. John B. Wolff, ext. 67070, or come to the rehearsal with your instrument and a music stand.

## Dr. Wedgewood Joins DRFR Advisory Committee

Dr. Ralph J. Wedgewood, Chairman of the Department of Pediatrics of the University of Washington School of Medicine, Seattle, has been appointed a member of the National Advisory Research Resources Committee of the Division of Research Facilities and Resources.

The appointment, for a term ending Sept. 30, 1970, was an-

nounced recently by Surg. Gen. William H. Stewart of the Public Health Service.

Before joining the University of Washington in 1962, Dr. Wedgewood served on the faculty of several medical schools, including Harvard University and Western Reserve University, where he was Assistant Professor of Pediatrics and Preventive Medicine.

## 5 Major Medical Groups Join Regional Programs

Five major regional medical groups have joined the Nation's burgeoning Regional Medical Programs against heart disease, cancer and stroke since July 1, the PHS announced recently.

The regional groups, awarded a total of approximately \$2.7 million in planning grants, are centered in New York, North Carolina, Tennessee, Texas and Utah.

Participating in the Texas Regional Medical Program are the University of Texas, Baylor University, related biomedical institutions, affiliated hospitals, the State Medical Association, State Health Department, State Hospital Association, voluntary health organizations and other groups.

### Participation Is Broad

Similar broad participation underlies the grant awards to the other regions. In Utah the regional planning group is prepared to help extend heart disease, cancer and stroke activities to medically related areas in nearby Mountain States.

In the past 3 months, the Division of Regional Medical Programs received 38 grant applications. Altogether, the regions covered by approved grants and pending applications include over 125 million persons, about two-thirds of the Nation's population. Proposed programs include all or parts of 40 States.

Proposed regions vary from a single State to multiple States. In no instance has a region been proposed that is defined by fixed State boundaries. Population bases involved range from a few hundred thousand people to more than 15 million.

## Dr. Harold M. Fullmer Is Appointed Chief of New Section at NIDR

Dr. Harold M. Fullmer has been designated Chief of a new Section in the Laboratory of Histology and Pathology, NIDR.

The study of the development and maturation of normal and diseased oral tissue by histochemical methods has been an important aspect of the program of the Laboratory of Histology and Pathology. Within the last year the program has been expanded in personnel and in scope to include cytochemical, microchemical and tissue culture investigative methods.

### Activity Expanded

In view of this increased activity, a Histochemistry Section has been established as the focus for the work. Emphasis will be placed in the broad study of connective tissue diseases, with particular attention to periodontal disorders.

Dr. Fullmer, an oral pathologist-histochemist, joined the Institute staff in 1953. Previously, he was Head of the Department of General and Oral Pathology, Loyola University. He had also served as visiting dental surgeon, Charity Hospital, New Orleans, and consultant in pathology at several Veteran's Administration hospitals. In 1962, Dr. Fullmer received a Fulbright Award for histochemical research on oral connective tissues at the University of Adelaide, Australia. He received his D.D.S. from Indiana University.

Exercise is good for your heart but not if you overexert, the Heart Association warns. This autumn, try to pace yourself by exercising regularly rather than only on weekends.

## New Theory Maintains Interferon 'Tells' Cells to Produce an Antiviral Substance

New light has been cast on the way interferon helps the body fight off virus infections. Scientists at the National Institute of Allergy and Infectious Diseases, building on earlier findings in England by Dr. Joyce Taylor, have assigned a message-transmitting function to interferon.

The new theory was reported July 30 to the Ninth International Congress for Microbiology, at Moscow, U.S.S.R., by Dr. Samuel Baron of NIAID's Laboratory of Biology of Viruses. Charles E. Buckler and Dr. Hilton B. Levy were co-authors of the report.

### Theory Explained

According to the new theory, interferon does not itself act directly against a virus. Instead, interferon "transmits a message" to cells and "tells" (stimulates) them to produce another material that is the actual antiviral substance.

In their studies, the NIAID team applied extracellular interferon to mouse embryo cells which were subsequently infected with vesicular stomatitis virus.

The result: extracellular interferon was found to stimulate an intracellular antiviral activity that begins within 1 to 4 hours, increases rapidly and reaches a peak at about 7 hours, and then remains relatively constant.

The extracellular concentration of interferon remains essentially constant during the development of antiviral activity because little or no interferon is taken up by cells during development.

These findings and the work of other investigators pointed up the need for a new working hypothesis for the mechanism of action of interferon.

This is how the mechanism works:

Extracellular interferon reacts with cells to induce the formation of a messenger RNA encoded for an antiviral protein (or polypeptide) which is subsequently produced and accumulated.

### Decay Sets In

After this antiviral protein is produced, it begins to decay—although its rate of production probably remains uniform. When the rate of decay has increased to balance the rate of production, a constant level of antiviral substance will be maintained in cells—as long as the concentration of interferon surrounding the cells remains relatively constant.

Dr. Baron and his associates relate their data to this hypothesis by suggesting that the initial rise in antiviral activity (in cells exposed to interferon for 1 to 4 hours) may be due to the first production of the antiviral protein. Increasing activity (up to 7 hours) may be caused by production and accumulation, and the steady state may result from the equilibrium achieved between the rate of decay and the rate of production.

## FELLOWSHIP

(Continued from Page 5)

assist him in obtaining local support.

The contributions of these foreign investigators have frequently been brilliant. One International Fellow, Dr. Jacques Glowinski, who recently returned to France, has been remarkably productive. In a series of studies at NIH, to be



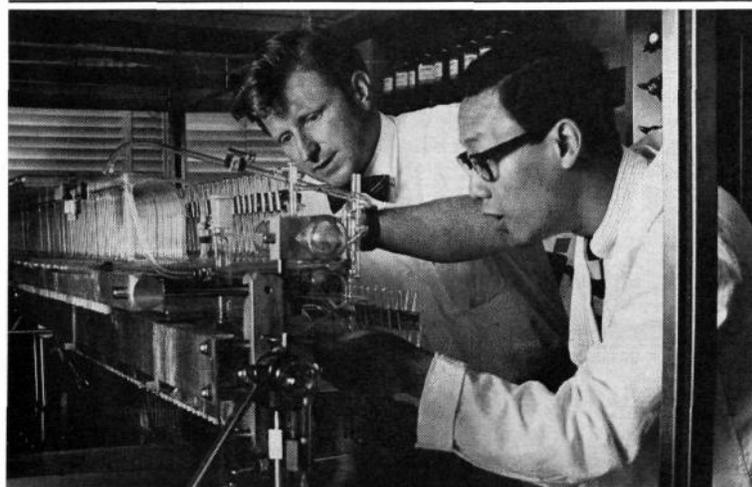
Dr. Helena V. Strandstrom (left), an International Postdoctoral Fellow from Finland, observes Dr. Sarah E. Stewart, Head of the Human Virus Study Section, NCI, holding a healthy weanling hamster. In this type of hamster, symptoms can be induced in the central nervous system with a virus derived from several of the Burkitt tumor cell lines.—Photo by Jerry Hecht.

reported in 16 scientific papers, utilization of his technique for injecting drugs into rat brains resulted in a significant advance in understanding the central functions of the catecholamines.

Further, an NIH scientist, Dr. Seymour S. Kety, Chief of the National Institute of Mental Health's Laboratory of Clinical Science, is planning collaborative research with Dr. Glowinski during sabbatical leave from NIH at the Institut Marey, Centre d'Etudes de Physiologie Nerveuse in Paris.

In numerous instances the work of these Fellows has led to important findings such as the discovery of the mechanism of the imipramine type anti-depressant and isolation of the active metabolite. The work of another International Fellow has provided the basis for much of present thinking about uptake and release of monoamines.

Dr. Abramson says that close contacts with both the American preceptors and Fellows here and abroad will be maintained to assure that the Program continues to enrich and strengthen American research efforts.



As summer wanes, young normal volunteer (healthy) patients end their stay at the Clinical Center and their career assignments with NIH investigators. One of these, Clark Lum (right) of Hong Kong, now a student at Tabor College, Hillsboro, Kansas, is shown purifying the antibiotic nisin by use of a countercurrent distributor. Dr. Erhard Gross, a visiting scientist with NIAID's Laboratory of Chemistry, instructs the young student, who hopes to make a career of medical research.—Photo by Ralph Fernandez.

## NIAID Scientist Reports On Method of Isolating Human Chromosomes

Dr. John Mendelsohn of the Cell Biology Section, Laboratory of Biology of Viruses, NIAID, will present a paper entitled "Isolation and Characterization of Human Metaphase Chromosomes" at the 3rd International Congress of Human Genetics today.

The congress opened Monday in Chicago and continues through Sept. 10.

"It is hoped that with further elaboration of this method of isolating human chromosomes in bulk, studies on the mechanisms of human genetic diseases will become possible," Dr. Mendelsohn said.

Co-authors of the paper were Dorothy E. Moore, also of the Cell Biology section, and Dr. Norman P. Salzman, Section Chief.

## DR. ENGLANDER

(Continued from Page 1)

The naturally occurring fluoride in the water is far below the level recommended for the prevention of tooth decay.

Five hundred children, ranging from 11 to 14 years of age, participated in the study. One group of 151 children using one type of fluoride gel and another group of 154 using a different fluoride gel formulation developed only 0.9 and 1.1 new decayed, missing and filled tooth surfaces, respectively, whereas the 195 children not using the gel had 4.4. All of the children used non-fluoride dentifrices.

### Evidence Grows

Examinations of baby teeth shed during the study period showed a strikingly higher concentration of fluoride in the group using the gel. This finding adds to evidence that fluoride strengthens the teeth and makes them more resistant to decay.

Tests were also conducted to assure the safety of this topical application procedure. Among them, urinalyses showed no important difference in fluoride concentration, indicating that the fluoride was retained in the tooth, where it conferred a protective action.

### New Techniques Useful

Dr. Englander reported that many of the children who had rampant caries when first examined developed no new cavities during the study. He believes that the new techniques will prove especially useful for children with serious caries problems.

Citing the advantages of the mouthguard, Dr. Englander observed that a small quantity of the concentrated gel is in intimate contact with teeth and gingiva for a definite time, is forced into pits and fissures and cannot be diluted by saliva.

## NINDB Is Co-Publisher of Monograph on Minimal Brain Dysfunction in Children

Growing awareness of children with minimal brain dysfunction and their need for accurate diagnosis has spurred publication of a monograph, "Minimal Brain Dysfunction in Children," released recently through the Government Printing Office.

The new monograph was published by the National Institute of Neurological Diseases and Blindness, a research arm of the Public Health Service, in collaboration with the National Society for Crippled Children and Adults, Inc., a voluntary health agency.

### 12 Are on Task Force

This publication represents Phase I of a 3-phase project on minimal brain dysfunction in children and was prepared by a task force of 12 physicians, scientists and educators. Project director of Phase I was Sam D. Clements, Ph.D., of the Departments of Psychiatry and Pediatrics, University of Arkansas Medical Center.

According to the task force, the number of children with limited alterations of behavior or intellectual functioning is increasing, and the concept of minimal brain dysfunction in children has implications for child psychiatry, child psychology, education, legislative action, neurology, pediatrics, rehabilitation and research.

### Early Recognition Important

Early recognition and evaluation of these children is important, since they require special forms of management and education to develop to their fullest potential.

To promote agreement on nomenclature among all persons involved with the problem, the task force offers a definition of minimal dysfunction and contrasts it with the major dysfunctions, such as cerebral palsy and epilepsy.

To clarify diagnosis of children with the disorder, the monograph lists guidelines for diagnostic evaluation, including a medical evaluation and behavioral assessment. It stresses that both are necessary for prevention, treatment and management of the problem.

A more detailed consideration of the means by which the children's

needs are to be met and of the specific management and educational programs which will be required is the subject of a further study, to be carried out by Task Force II of this mission.

### 1st Report Available

The Phase I report, third in a series of NINDB monographs, is available for \$.20 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. It is Public Health Service Publication No. 1415.

The award for the first year of the study is \$530,375. The principal investigator is Dr. Paul Calabresi, Associate Professor of Medicine and Pharmacology, Yale University School of Medicine, New Haven, Conn.

## Josephine Shannon Dies; Former Nurse at NIH

Josephine Gaffney Shannon, 74, a former nurse in the NIH Employee Health Service, died August 15 in Columbus, Ohio, where she was visiting one of her sisters, Sister Monica Clare of Mt. Carmel Hospital.

Mrs. Shannon worked in the CC branch of the Employee Health Service from 1946 to 1956. She had previously served in New York and Baltimore PHS hospitals, with the Coast Guard during World War II, and as an Army nurse during World War I.

Mrs. Shannon lived with her daughter, Mrs. Melvin B. Mitchell, at 13004 Atlantic Avenue, Rockville.

In addition to her sister in Columbus and her daughter, Mrs. Shannon is survived by a son, Gerald P. Shannon of 4538 S. 34th Street, Arlington, Va.; another sister, Sister M. Clotile of Boston, Mass., and a brother, Richard M. Gaffney of 2354 King Place, N.W., Washington, D.C.



Augustus C. Proctor (center) of the Operations Section, Environmental Sanitation Control Department, Clinical Center, receives a certificate and a cash award from Howard W. Spence, Department Chief, for "contributions to the formulation and execution of a departmental training program," as his wife, Margaret, an employee of the same section, jokingly reaches for the cash.—Photo by Tom Joy.

## NIAID Scientists Report On Experimental Vaccine

Early trials with an experimental vaccine against *Mycoplasma pneumoniae*, the microbe which is a major cause of primary atypical pneumonia, have shown that the vaccine gives significant protection against experimentally produced illness.

The trials were reported by scientists of the National Institute of Allergy and Infectious Diseases at the New York Academy of Science Conference on *Mycoplasma* recently.

### Investigators Named

Investigators on the project were Drs. Charles B. Smith, William Friedewald, Robert Alford and Robert M. Chanock.

The vaccine, which consisted of a formalin-inactivated suspension of *M. pneumoniae* organisms, was given to 19 volunteers who lacked prior antibody to the organism. Ten volunteers responded to the vaccine with the development of antibody.

When these 10 men were later experimentally infected with *M. pneumoniae*, only one man became ill. In contrast, illness occurred in 10 of 13 control subjects who had not received the vaccine.

These results indicated that vaccine-induced antibody provided protection against experimentally induced illness.

As a result of the encouraging early trials, the killed vaccine is currently being tested on a larger scale in military populations under the sponsorship of the Institute's collaborative vaccine development program.

The NIAID research group is also doing studies directed toward development of a live vaccine against *M. pneumoniae*.



These youngsters indicated they were ready for anything the NIH Recreation and Welfare Association had to offer at its annual picnic in Rockville.