

the



# Record

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

January 7, 1970  
Vol. XXII, No. 1

NATIONAL INSTITUTES OF HEALTH

## Series of TV Programs On Dental Research Starts January 12-16

A series of five half-hour television programs, describing the National Institute of Dental Research's work, will be shown for the first time on WRC-TV, Channel 4, Monday, Jan. 12, through Friday, Jan. 16, at 6:30 a.m.

Five National Broadcasting Company stations will carry the series, entitled "Portal of Life" on its "Education Exchange" program.

The NIDR Information Office developed and produced the series filming Institute scientists at work in their laboratories and the Dental Clinic in the Clinical Center and at various grant-supported sites. Final editing was done by NBC-TV.

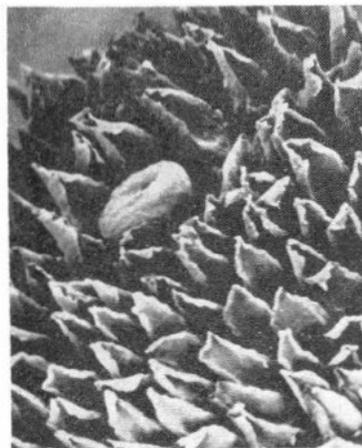
Dr. Seymour J. Kreshover, NIDR Director, introduces each of the five programs and acts as host in the discussions which supplement the films.

The five programs in the series are:

(See DENTAL, Page 6)

## Scientists Foresee Chemical Control of Taste Resulting in More Palatable Food

Spinach may become as popular as steak; soybeans as welcome as apple pie, if new methods of chemically controlling taste can be applied to making such foods more palatable.



A single taste bud on the surface of a rabbit tongue, viewed through the scanning electron microscope, magnified 79 times.

This possibility has been opened through studies by scientists at the National Heart and Lung Institute and elsewhere.

Several years ago, Dr. Robert I. Henkin of the Institute showed that abnormal taste is associated with many endocrine disorders.

This discovery has helped in the diagnosis of these diseases, and also led to a series of studies of the taste sense itself.

### Taste Abnormalities Corrected

These studies now form the basis of a unified theory of the taste process which has made possible the correcting of many taste abnormalities through manipulating the biochemical mechanisms which normally regulate taste sensitivity.

A possible result of this—the control of taste in normal people—might enable us to eat—and enjoy—hitherto unpalatable but nourishing foods.

The theory divides the taste process into two parts: "pre-neural" and "neural."

The pre-neural phase is concerned with the taste bud and the flow of the tasted substance (called a "tastant" by Dr. Henkin) through the pore at the center of the taste bud to the taste nerve endings just inside, where the neural stage begins.

Dr. Henkin has shown that the taste bud actually is not necessary for gross taste sensation in humans.

### Theory Explained

According to his theory, instead of playing an elemental taste-sensing role, the taste bud acts as a chemical sieve which actually keeps much of the tastant away from nerve. This is akin to the way the eye's iris keeps light away from the retina, or as a camera's diaphragm controls the amount of light falling on the film.

The opening and closing of the taste bud pore and its membrane, located in the center of the structure, are believed to regulate the tastant's contact with the nerve

(See TASTE CONTROL, Page 5)

## Dr. Jesse L. Steinfeld Confirmed by Senate As Surgeon General

On Dec. 18 the U. S. Senate confirmed the appointment of Dr. Jesse L. Steinfeld as Surgeon General of the Public Health Service.

Dr. Steinfeld succeeds Dr. William H. Stewart who retired last summer.

The responsibilities of Surgeon General will be assumed by Dr. Steinfeld in addition to the duties he is currently performing as Deputy Assistant Secretary for Health and Scientific Affairs.

In this position he has been assisting Dr. Roger O. Egeberg, DHEW Assistant Secretary for Health and Scientific Affairs.

### Served With NCI

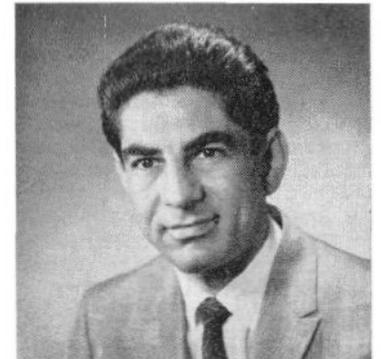
For several months, prior to leaving NIH in July 1969, Dr. Steinfeld served in the newly-created post of Deputy Director of the National Cancer Institute.

Prior to that he was the Institute's associate director for program.

Dr. Steinfeld first came to NIH in 1952 to conduct research in NCI's Laboratory of Experimental Oncology.

In 1954, he became a senior staff physician of the Institute's General Medicine Branch in the Clinical Center, where he remained for 4 years. During that time, he was head of the Radioisotope Unit, and (1956-1958) also associate editor

(See DR. STEINFELD, Page 4)



Dr. Steinfeld's confirmation as Surgeon General of the Public Health Service comes on the 20th anniversary of his receiving his medical degree from Western Reserve Medical School.

## Properties of 'Polywater' May Provide Scientific Clues to Puzzling Questions

By Hilah Thomas

The benefits of serendipity are not rare in science. Less well known, however, is the bonus to the taxpayer from the use of elaborate equipment, provided by grant for a specific purpose, to pursue additional lines of scientific inquiry.

Such is the case of the recent study of a new form of water with surprising properties at the University of Maryland's Center of Materials Research.

### Possible Uses Noted

This "polywater," once it can be made in quantity, may be used for steam-driven automobiles and chemical and industrial purposes, according to a scientist studying hydrogen bonding in biological mineral systems under a grant from the National Institute of Dental Research.

Turning his microspectrophotometric equipment upon water, in addition to his grant-supported study of the various salts and crystals in bone and enamel, Dr. Ellis R. Lippincott and co-workers, showed that despite years of re-

search with ice, steam, heavy water, and the water in thousands of compounds, there is much to be learned about this abundant substance, usually considered to be a very simple mineral about which everything was known.

(See POLYWATER, Page 7)

### Dr. Huebner Among Winners Of Natl. Medal of Science

Dr. Robert J. Huebner, chief of the National Cancer Institute's Viral Carcinogenesis Branch, was one of six scientists named by President Nixon on Dec. 31 to receive a 1969 National Medal of Science.

Dr. Huebner was honored for his research on possible links between cancer and viruses in humans and animals.

# the NIH Record

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## Federal After-Hours Study Program Offers Over 100 Subjects

Through the Federal After-Hours Education Program more than 100 college level courses will be offered to Federal employees, military personnel, and members of industry.

The Spring semester courses, given after working hours in D.C. Federal buildings, will be on graduate and undergraduate levels leading to Bachelor of Science or Master of Science degrees.

Those wishing to take courses without receiving credit may enroll as non-degree students.

The study program, sponsored by the Civil Service Commission Bureau of Training in cooperation with George Washington University's College of General Studies includes courses in accounting, history, speech and drama, and public administration.

Registration will be held on Jan. 27 and 28 from 10 a.m. to 3 p.m. in Conference Rooms A and B—just off the lobby—Department of Commerce Bldg., 14th St. and Constitution Ave. Classes begin the week of Feb. 2.

The Government Employees Training Act of 1958 gives Federal agencies broad authority to pay tuition costs and other fees if courses are related to present or anticipated job requirements.

For further information contact Robert W. Stewart, Jr., field representative, College of General Studies, George Washington University, at 676-7018, 7028, 7065, or 7069.

## NIH Television, Radio Program Schedule

### Television

#### NIH REPORTS

New series to be announced

### Radio

#### DISCUSSION: NIH

WGMS, AM-570—FM Stereo 103.5—Friday evenings—About 9:15 p.m.

January 9

Dr. Howell O. Archard, chief, Diagnostic Pathology Section, NIDR  
Subject: Oral Pathology

January 16

Dr. Genrose D. Copley, chief, Professional Activities, DPM, and Dr. Joseph Kadish, acting chief, Education Program Development Branch, BEMT  
Subject: Physician's Assistant

Interview takes place during intermission, Library of Congress Chamber Music Series.

## Dr. Curreri to Serve On Council of NIGMS

Dr. Anthony R. Curreri has been appointed to the National Advisory General Medical Sciences Council.

He is chairman of the Department of Surgery, University of Wisconsin Medical School.

The author of a number of papers on surgery and cancer, Dr. Curreri received a bronze medal from the American Cancer Society in 1950.

## 'Operation Cleanup' to Sweep Through Buildings Weeks of January 19 and 26

The fourth annual "Operation Cleanup" will soon be conducted at NIH. The objective of "Operation Cleanup" is to effect Government economies and utilize idle equipment from both laboratories and offices.

Last year such equipment, valued at \$535,925, was transferred to Supply Management Branch's Property Utilization Warehouse and reissued to other NIH com-

## Two Courses Offered On Ultracentrifugation

Two courses on ultracentrifugation are scheduled to start here in February.

One course on analytical ultracentrifugation is jointly offered by the Biomedical Engineering and Instrumentation Branch, DRS, and the FAES Graduate Program at NIH.

This Spring semester course, starting Feb. 3, includes 3 weeks of laboratory sessions meeting 2 half-days per week in addition to the regular evening lectures. These lectures will cover basic and intermediate theory, operational techniques and calculations, and the design and interpretation of experimental results.

A 2-week course by the BEIB, emphasizing techniques and associated calculations on a more basic level, will begin Feb. 9.

Daily lectures and laboratory sessions for alternate days are scheduled to permit time for calculations and analysis of data.

Information on this course may be obtained from Mrs. A. Louise Christy, Ext. 64131.

## NIH Graduate Program To Hold Registration For Spring Semester

Registration for the Spring 1970 semester of the Graduate Program at NIH will be held Thursday, Jan. 22, through Thursday, Jan. 29, from 10 a.m. to 4 p.m. On Saturday, Jan. 25, the hours will be from 10 a.m. until noon.

Registration will take place in Bldg. 31, Room 2B25. Textbooks are also available at this location.

Courses will include Behavioral and Social Sciences, Biochemistry and Biophysics, Chemistry and Physics, Genetics, Languages and General Studies, Mathematics, Medicine and Physiology.

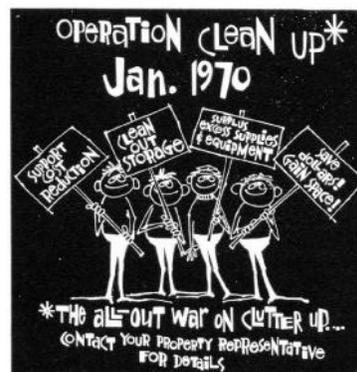
For a catalog, or additional information, call Ext. 66371.

transferred to DDH.

Miss Mains was listed in *Who's Who in American Women* and was a member of the American Medical Writers' Association and the Audubon Naturalist Society.

Her frequent trips to Europe provided unlimited opportunities to practice her hobby of amateur photography.

She is survived by her parents, Louis W. and Mabelle Mains, and a brother, L. William Mains, Allentown, Pa.



ponents or Government agencies.

Richard L. Seggel, Associate Director for Administration, has stated that in order to fulfill the objectives of "Operation Cleanup" each NIH component should initiate a "house-cleaning."

Organized "walk-thru" teams will visit all NIH buildings, both on and off the reservation, to oversee "Operation Cleanup." The teams will be composed of representatives from each Bureau, I/D, and SMB.

Off-the-reservation buildings will be visited the week of Jan. 19. Representatives will go to buildings on the reservation during the week of Jan. 26.

Donald R. Watson, SMB chief, has asked for the cooperation of all NIH personnel.

## Kathryn P. Mains Killed In Automobile Accident

Kathryn Pauline Mains, assistant information officer with the Division of Dental Health, BEMT, until her retirement last January, was killed in an automobile accident near Jonestown, Pa. on Dec. 7.

Miss Mains had been with NIH over 17 years.

She worked as secretary to Dr. Harry Eagle while he was at Johns Hopkins University and continued in the same position when he joined NIH as scientific director of the National Cancer Institute.

In 1952 Miss Mains became secretary to the Director of the National Institute of Allergy and Infectious Diseases, and later information specialist with that Institute's Office of Information.

From 1963 until 1965, she was assistant information officer with the National Institute of General Medical Services, and in 1965

## Correspondence Manual Gives Department Rules To Standardize Practices

New rules, which took effect Jan. 1, have been issued in the HEW *Correspondence Manual*, containing instructions and guidance for secretaries, stenographers, and typists.

This Manual divides correspondence into two principal types: Formal and Informal Letters.

"Formal Letters"—the designation for regular business letters—will be used for all correspondence with members of Congress and the general public, and for formal correspondence with officials of Federal agencies.

### New Letterhead Used

"Informal Letters"—the designation for correspondence heretofore referred to as "memorandums"—will be used for correspondence on a new type of letterhead within and between Federal agencies.

A supplement to the Manual, giving instructions for preparation of both types of letters for NIH officials, will be distributed soon.

NIH staff members concerned with preparing these instructions have stressed the necessity for following the new rules. Uniformity will facilitate filing operations as well as correspondence.

## SMB Personnel Engineer 2 Simultaneous Moves, to Facilitate Services, With Ease



Donald R. Watson, chief, Supply Management Branch (standing), consults with his staff on the successful move which placed excess equipment and essential supplies in strategic locations. Involved in the move were (l to r) William Morse, Otis Ducker, Lucy E. Barnes, and Walter Chakwin

The hustle, bustle, headaches and horror involved in moving is an unknown experience to the wise heads at Supply Management Branch who engineered two simultaneous moves quietly, smoothly, and without a trace of trauma.

And not only that—the "business as usual" shingle was out during the entire move.

The Property Utilization Program, under the Property Management Section of SMB, moved back to the NIH reservation, Bldg. 13—at the same time the Central Stores, under the Supply Operations Section, SMB—always a part of the campus—moved to the Da-

## EHS Film Offers Tips On Winter Driving

With the arrival of winter and snow, hazardous driving conditions may be expected. Tips on how to avoid these hazards are given in a film, "What About Winter Driving?"

The 13-minute film is presented by the Employee Health Service in cooperation with the NIH Safety Officer.

It includes tips on how to check and service a car for readiness, how to get a car started and keep going in snow, and how to stop safely to prevent skidding.

The movie will be shown:

On Wednesday, Jan. 14, at 11:30 a.m. and 12:15 p.m., in the Jack Masur Auditorium.

On Thursday, Jan. 15, at 1:15 and 2 p.m., in Westwood Building, Conference Room D.

## Ava Dilworth Named RGB Head

Ava S. Dilworth has been appointed chief of the Research Grants Branch, Division of Nursing, BEMT. She has been serving as acting Branch chief. Mrs. Dilworth is also acting chief of the Intramural Research Branch of DN.

## Dr. Bourgeois Advocates Anthropological Studies to Better Understand All People

NIH has its own Lady with a Lamp—she was born in the history-filled area of Harper's Ferry, W. Va., and most of her adult life has been spent in the field of nursing, with time out for collecting three degrees—B.N., M.S.N., and Ph.D., all from Catholic University.

She is Dr. Marie Bourgeois in the Extramural Research Grants Branch, Division of Nursing, BEMT.



Dr. Bourgeois does not allow the splendid view from her window in Bldg. 31 to interfere with her work. The nurse-anthropologist-administrator reviews each application for both Fellowship support and training grants.

Recently, Dr. B. (an affectionate name diminutive used by her staff), who collects "firsts," was elected president of the D. C. Nurses' Association. She is the first person graduating from a Washington school of nursing to be elected to that post. She is also the first Negro to hold the post—that fact she minimizes.

### Attended Storer College

Before coming to Washington Dr. B. attended Storer College in Harper's Ferry. From there she went to Freedmen's Hospital School of Nursing, graduated, and worked in that hospital as a nurse.

On scholarship, she attended Catholic University for her first degree. Her thesis, started and finished while working as a full-time registered nurse and teaching, was on a subject which had long puzzled her and the rest of the faculty at Freedmen's Hospital.

Nurse B. wanted to know why Negroes coming from schools in the south with A's and B's in chemistry and biology failed when taking exams in those subjects.

It did not take too much Sherlock Holmes digging to find the answer.

Her thesis presented statistics, and "it opened the eyes of faculty members of the nursing school." The students from the South learned by rote—they had no laboratories to work out their problems and solutions. Their practical knowledge was almost nil.

Soon after receiving her Masters, Dr. B. was named Director of the Freedmen's Hospital School of Nursing.

But that is not all she did. She became a Peace Corps coordinator

and set up a program for nurses going to Togo, West Africa. She also wrote a brochure on health problems Peace Corps volunteers would come up against working in an emerging African nation.

While still teaching she studied for her Ph.D. in Anthropology. She chose this subject because "I wanted to know about people, because of my great love for people.

"Not white, not black, but all kinds," the anthropologist explained.

An NIH Research Fellowship permitted her to work full time for her degree. She is now in the Program which granted her the Fellowship.

"I was interested in studying a non-western culture. I chose the Indians—American Indians, one of the Iroquois speaking tribes in upstate New York near the Canadian border.

"I had to sell myself to the Indians. I had to establish a trust and prove that I was really interested in their culture."

Her open sesame to Indian society was her approach. She attended their church, went to wakes and funerals, and took lessons in the Iroquois dialect from one of the chiefs.

For an interim she took leave of absence from her Fellowship and went with the Agency for International Development. AID sent her to Sierra Leone as a consultant to the African country's Ministry of Health.

### Helped Set Up Nursing School

There, she visited health facilities and advised on setting up a school of nursing.

After receiving her Ph. D. she went to Pennsylvania State University as an associate professor and assistant to the Dean of the School of Nursing.

She was there for almost 2 years, and then came to NIH in 1968, as executive secretary of the Nurse Scientist Graduate Training Program, and nurse consultant.

Dr. B. reviews research applications of nurses applying for Fellowship support and also reviews training grants for the Nurse Scientist Research Training Program. She finds her work here eminently interesting and rewarding.

She explained its intricacies and also dwelt briefly on the subject of race as it relates to working at NIH.

"Here at NIH I feel that nothing in my experience indicates that I have been treated differently because I am a Negro.

(See DR. BOURGEOIS, Page 5)

(See MOVES, Page 8)

## Patricia Hitt to Speak At NIH Credit Union's 30th Annual Meeting

In celebration of the 30th anniversary of the NIH Federal Credit Union, Patricia Reilly Hitt, HEW Assistant Secretary for Community and Field Services, will be guest speaker at the annual meeting to be held Thursday, Jan. 28, at 12 noon in the Jack Masur Auditorium, Clinical Center.

Dr. Robert Q. Marston, NIH Director, has also accepted an invitation to attend.

The nominating committee has submitted the following slate to fill three vacancies on the Board of Directors: Dr. Jeanne L. Brand, NLM; Herbert C. Christoferson, NIDR; Joel R. Hedetniemi, BEMT; George P. Morse, ODA; Dr. Harley G. Sheffield, NIAID, and George W. Warner, BEMT.

The nominating committee also submitted four nominees to fill two vacancies on the Credit Committee: Catherine M. Dougherty, ODA; Ruth J. Metka, CC; John G. Miers, BEMT, and Grant C. Riggle, DRS.

Since the by-laws prohibit further nominations to be made from the floor, nominations may be made by having a petition signed by at least 20 members of the Credit Union.

These petitions should be filed with the Secretary of the Credit Union, Dr. Norman E. Sharpless, NIAMD, at least 15 days prior to the annual meeting, and the Secretary shall post such names in the Credit Union office at least 10 days prior to the annual meeting.

## Carmelia M. Joy Dies; Joined NIAMD in 1947

Carmelia M. Joy of the Laboratory of Physical Biology, National Institute of Arthritis and Metabolic Diseases, died Dec. 13 after a brief illness.

A native of Uniontown, Pa., Miss Joy entered Government service in 1946. She joined NIH the following year and remained with NIAMD for the duration of her career.

In December 1966, Miss Joy, a stenographer, was honored in recognition of her superior performance.

Two years ago Dr. G. Donald Whedon, NIAMD Director, presented her with a pin and certificate honoring her 20 years of Government service.

Burial services were held in Uniontown.

## DR. STEINFELD

(Continued from Page 1)

of the *Journal of the National Cancer Institute*.

After leaving NIH, Dr. Steinfeld spent a year on the staff of the City of Hope, Duarte, Calif. He then became professor of Medicine and head of the Cancer Chemotherapy Program at the University of Southern California School of Medicine, where he remained until his return to NIH 9 years later.

While at U.S.C., he was chairman of nine committees concerned with that institution's cancer research.

## Drs. Appel and Larsen, Executive Secretaries At DRG, to Retire

Through retirement the Division of Research Grants will lose two of its senior executive secretaries this month. They are Dr. Frederick



Dr. Appel



Dr. Larsen

W. Appel, Allergy and Immunology A study section, and Dr. C. Donald Larsen, Physiological Chemistry study section.

Dr. Appel came to the NIH in 1950 as executive secretary of what was then DRG's Pharmacology and Experimental Therapeutics study section, and has since served successively with the Cancer Chemotherapy and Allergy and Immunology study sections.

He received his Ph.D. degree from the University of Chicago in 1927, and was professor of biology at St. John's College (Annapolis, Md.), for 10 years.

### Background Given

From 1936 until 1939 Dr. Appel was a Fellow at the Johns Hopkins School of Hygiene and Public Health, and from 1939 until 1943 was a statistician on the Military Climatology Project at the University of Chicago.

After a year with the Indiana State Board of Health as a statistician, he joined the PHS in the same capacity, first with the Division of Nursing (1944-48) and later with the Division of Tuberculosis (1948-50).

Dr. Larsen came to the NIH in 1939 as a research Fellow with the National Cancer Institute. He joined DRG in 1955 as executive secretary of the Biochemistry study section.

In 1959, he organized the Physiological Chemistry study section and served as its executive secretary until his retirement.

Dr. Larsen was a research chemist with the Upjohn Company from 1931 until 1936. He received his Ph.D. degree in 1938 from the University of Rochester.

He traveled extensively for NIH. Dr. Larsen was honored during the FASEB meetings last May when the American Society of Biological Chemists presented him with a citation.

At a testimonial dinner 30 of his current and former study section members presented him with a framed plaque of the molecular structure of a sterol.

## Norma Golumbic Named Information Officer for Division of Nursing

Norma Golumbic has been named Information Officer for the Division of Nursing, Bureau of Health Professions Education and Manpower Training.

She has been in the public information office of the National Cancer Institute since 1955.

For the past 4 years, she served as assistant chief of the Research Information Branch and as head of its Research and Program Reports Section.

### Edited Prize-Winning Report

Mrs. Golumbic was the editor of the NCI publication, *Progress Against Cancer*, which won second place in the Blue Pencil Award of the Federal Editors Association 1969 Publications Contest.

Before joining NCI, Mrs. Golumbic was a chemist for 7 years with the U.S. Bureau of Mines, Pittsburgh, Pa. While there, she wrote a number of technical papers and information circulars.

She is also one of the authors of a book, *The Fischer-Tropsch and Related Syntheses*.

Mrs. Golumbic graduated from Brooklyn College, and received her M.S. degree in Organic Chemistry from the University of Iowa.



Mrs. Golumbic was editor of the NCI publication, "Progress Against Cancer," which won a Federal Editors Association award.

## NIH Toastmasters Club Presented With Charter

Harold P. Simpson, BEMT, president of the NIH Toastmasters Club No. 3421, was recently presented with a charter from the headquarters of Toastmasters International.

The NIH chapter, with 26 members, has been in operation for over 6 months.

Other members taking part in the proceedings were Donald Parks and John Belin, BEMT.

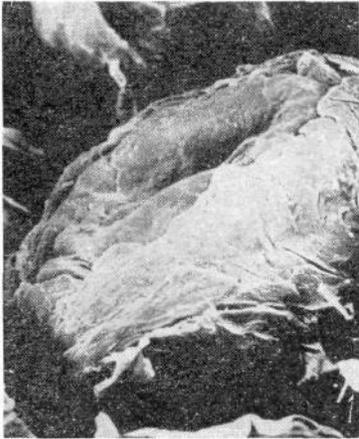
The club meets on Thursdays at noon in the reserved dining room of the cafeteria in Bldg. 10. Guests are welcome.



During the holiday season an exhibit of dolls—35 of them—dressed in their native costumes were shown on the 14th floor lobby of the Clinical Center. They were loaned by Dora DePaoli, BEMT (c), who collected them on her travels. The display was designed and built by Charlotte Bloom (l), and Margaret Ten Eyck (r), also with BEMT.

## TASTE CONTROL

(Continued from Page 1)



The same taste bud as on Page 1, magnified 4,444 times

ending.

These movements, in turn, are thought to be regulated by changes in the shape of a "gatekeeper" protein lining the taste bud membrane and its surrounding pore.

The unfolding and refolding of the gatekeeper protein is controlled, again in turn, by a dynamic balance between trace metals such as copper, zinc, and nickel on the one side, and thiols on the other.

Although such a gatekeeper protein has not yet been identified, its concept has strong factual support.

Thiols are common constituents of drugs and proteins and they normally abound in the body.

### Thiols Induce Change

They induce proteins to uncoil and change their shape. Thus thiols have been said to keep the tastant away from the nerve by closing the taste bud pore and membrane, while metals, which have the opposite effect on proteins, tends to open them.

In fact, in experiments at NIH, taste sensitivity has been deliberately reduced to the vanishing point by the administration of thiol-containing drugs, and then fully restored simply by administration of copper and zinc ions.

These biochemical results have been compared to anatomical observations to demonstrate that taste bud pores appear to be necessary for the taste process to occur normally.

The tastant must penetrate through the pore and its membrane to the taste nerves, register on the nerves by a mechanism that is not yet understood, be coded by a still unspecified procedure and transmitted, and be received and integrated by the brain.

The importance of the taste bud pore in this process has never before been emphasized.

However, it is obvious that taste

## Jehu Hunter Appointed Assistant Director of NICHD Program Planning

Jehu Hunter, National Institute of Child Health and Human Development, has been appointed assistant director, Biological Sciences, Office of Program Planning and Evaluation. Dr. Gerald D. LaVeck, NICHD Director, announced the appointment.

Mr. Hunter had previously served as scientist administrator of the Institute's extramural programs.

He will conduct analytical studies and develop programs.

Mr. Hunter came to NICHD in 1965 from the Cytochemistry Section, Laboratory of Biochemistry, National Cancer Institute.

There, he carried out studies in carbohydrate metabolism related to the control of neoplastic disease in animal model systems.

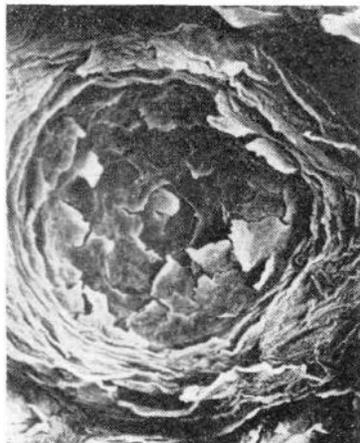
Mr. Hunter graduated cum laude from Howard University, with a B. S. degree in zoology, and also did one year of postgraduate study in zoology and education at that university. He is the author of a number of scientific papers.

does not occur through intact skin and that the key factor that enables the tasting abilities of the tongue, palate, pharynx, and larynx is the normal presence of pores and membranes specially designed to admit tastants to the nerves within the taste buds.

The neural events of taste, according to Dr. Henkin's work, are governed by hormones produced on the outer layer (cortex) of the adrenal glands, a pair of complex organs, each adjacent to each kidney.

These hormones, including cortisone and dexamethasone, influence the neural events of taste somewhat as thiols and metals seem to regulate the pre-neural phase.

Called "glucocorticoids," these hormones, which influence sugar metabolism, also normally act as inhibitors, and their effects can be



A taste bud pore on the tongue of a rat, magnified 578 times.—Photos courtesy Dr. L. Beidler.

## NIDR Film Wins Second Award for Excellence

The Council on International Nontheatrical Events (CINE) has awarded its Golden Eagle to the National Institute of Dental Research film, "Laboratory of the Body."

This is its second award. Recently, the Atlanta International Film Festival awarded their Gold Medal to the NIDR motion picture.

The film, which describes the scope of dental research, was produced by NIDR to attract senior high school and college science students to careers in this field.

It was chosen by CINE as an outstanding American motion picture suitable to represent the United States in international film competition.

## DR. BOURGEOIS

(Continued from Page 3)

"Besides in my job and orientation as a nurse, and my discipline of anthropology, I and my associates do not think in terms of ethnic groups.

"I don't have time to think in those terms. I am concerned with putting a program over. Here is a girl trying to get an application through. I have to think in terms of how best I can help her.

"I don't have time to think of her color, because in the long run her performance is the pay-off. Her contribution will be for all people, not to any one person.

Dr. B., as many scientists do, finds a great deal of pleasure in music—she is a violinist. And her husband, Dr. Louis Bourgeois, a microbiologist who teaches at Washington Technological Institute, paints, and is also interested in music.

They are a happy duo of scientists meeting up with the arts.

observed in the nerve cells and axons of the central and peripheral nervous systems.

The studies of Dr. Henkin and co-workers show that they control the velocity of impulse conduction along the axons, as well as the timing of impulse transmission across synaptic junctions between neurons.

The discovery of this role of the glucocorticoids in the nervous system may have important ramifications, for it seems to hold for the entire mammalian nervous system and sensory end organs generally—not just for the organs of taste, and not just in man.

The new concept of the molecular basis of taste and its disorders is described in the *Annals of Internal Medicine*, October 1969.

Dr. P. P. C. Graziadei of Florida State University and Dr. D. F. Bradley of the Polytechnic Institute of Brooklyn are co-authors, with Dr. Henkin, of this report.

## Dr. Ernest Singer From 'Down Under' Commences Stay as Fogarty Scholar

Professor Ernest Singer, an expert in medical bacteriology, has started a 6-month stay at NIH as a Fogarty scholar. He arrived here on Jan. 2.

Dr. Singer, formerly Director of Microbiology, Queensland Institute of Medical Research in Brisbane, Australia will allot his time to writing and also working in the Clinical Center's Clinical Pathology Department.

### Study Plans Noted

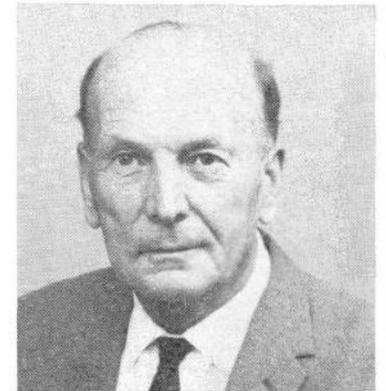
He will study the nuclear processes in bacteria and fungi as they change from avirulent forms in artificial media into virulent forms in animal bodies.

Prof. Singer received his M.D. and D.P.H. degrees at the German University, Prague, Czechoslovakia. Later, he taught in the Department of Hygiene, becoming full professor and departmental chairman of the university in 1936.

In 1939, Dr. Singer was appointed research bacteriologist at the Baker Institute for Medical Research in Melbourne.

In 1945 during his stay in that city, he received a D.Sc. from the University of Melbourne.

Dr. Singer also spent 4 years as a bacteriologist with the World Health Organization, China Mission.



Dr. Singer, an expert in medical bacteriology and the pathology of infections, will do research in the CC Clinical Pathology Department.

### Random Sampling of Questions To Be Asked on Discount Book

Donald Watson, Discount Chairman for the NIH Recreation and Welfare Association, is contacting members via a "random sampling" questionnaire on its Discount Book.

The questionnaire includes requests for opinions on size and readability of the book and suggestions for supplier sources.

R&W members not receiving an inquiry but desiring to comment should call Ext. 65521 and request a questionnaire.

## Parents' Magazine Cites Drs. Meyer, Parkman

Drs. Harry M. Meyer, Jr., and Paul D. Parkman, pediatricians in the Division of Biologics Standards, have been awarded the 1969 *Parents' Magazine* Medals for "outstanding service to children."

The scientists were cited for their contribution to rubella research. They developed the first attenuated virus strain, HPV-77 for rubella vaccines, which is presently being used in nationwide immunization programs.

The medals were recently given to Drs. Meyer and Parkman at a reception at the Princeton Club in New York.

In making the presentation, George J. Hecht, publisher of *Parents' Magazine*, commented, "The combined research efforts of these men resulted in a major medical achievement—the development of an effective rubella vaccine. To countless thousands of unborn babies, the importance of the vaccine is beyond measure."

The major hazard of rubella virus lies in the risk of its transmission to the fetus during pregnancy, resulting in fetal deaths or congenital defects.

Past medal winners include Dr. Jonas Salk, President Lyndon B. Johnson, Danny Kaye, Dr. James Conant, and Katherine B. Oettinger.

## DENTAL

(Continued from Page 1)

"Mirror of Health," offering a non-technical look at the mouth as a readily accessible biological system serving as a laboratory of the body;

"Agent of Decay," describing dental plaque as an agent in cause and progression of tooth decay and periodontal disease—action of bacteria is shown through excellent time lapse photography;

"Cleft and Cancer," showing NIDR's contribution to rehabilitation of cleft lip and cleft palate victims and discussing oral cancer;

"Spare Parts," showing procedures in replacement of missing teeth and repair of surgical defects resulting from oral cancer;

"Protect Tomorrow," telling of research which will affect future health, such as efforts to improve restorative materials, progress in anesthesiology, and test of a new fluoride gel technique to reduce tooth decay.

Following its run on the five NBC owned and operated stations—in Washington, New York, Los Angeles, Chicago, and Cleveland—the series will be made available to the network's affiliate stations.

The Dental Institute plans to have program prints available for other stations, for seminars, and for use by scientists.



In recognition of their "outstanding spirit of cooperation and conscientious service," the Inquiry and Registered Mail unit employees in the Bldg. 31 Mail Room receive Special Achievement Awards from Donald R. Cushing, chief, Plant and Office Services Branch. The group (l to r)—Ruby Payne, Lorraine Powell, Jean Graves, Mary Magruder, and Lina McGregor—perform a vital operation; they "move" with minimum delay mail improperly addressed or not clearly identified.

## William Briner Appointed Acting Chief of CC Pharmacy Department

William H. Briner, a PHS Commissioned Officer with the rank of pharmacist director, has been named acting chief of the Clinical Center Pharmacy Department. Dr. Robert M. Farrier, CC Acting Director, announced his appointment.

Mr. Briner, who joined NIH in 1955 as a staff pharmacist, was assistant chief of the Pharmacy Department. Concurrently, he was also chief of the CC Radiopharmaceutical Service which was established in 1959.

Mr. Briner was graduated from Temple University's School of



In 1969 Mr. Briner received the APHA Military Section Literary Award for the best original article on pharmaceutical literature submitted by a member of that section.

Pharmacy in 1954. He served his residency at the U. S. PHS Hospital in Baltimore, Md.

Mr. Briner did postgraduate work in radiological sciences at The Oak Ridge Institute of Nuclear Studies, and the Robert A. Taft

## Revolving Fund Develops Services to Conserve Scientific Man Hours

The distribution of research supplies at NIH is a 15 million dollar a year business officially known as the NIH Service and Supply Fund—but better known as the Revolving Fund.

The Fund takes care of distributing laboratory animals, glassware, and linens, and provides for services which include biomedical engineering and instrumentation, and plant engineering inventory.

The Fund is administered by a manager and an advisory board of directors composed of 3 scientists, 3 administrative officers, and one member from the Office of Financial Management. Income and expense statements are published and records of accounts maintained.

### Established by Congress

In 1953 an act of Congress established the Fund at NIH. The act provided NIH with a \$200,000 fund and inventory valued at \$750,000.

The inventory was "sold" to purchasers at a price that would not only recover the cost of the item, but would also cover items such as warehousing, distribution, and administrative expenses.

The money received was used to buy additional inventory—and thus,

Sanitary Engineering Center.

He has been a consultant to the World Health Organization and the U. S. Food and Drug Administration.

In 1969, he received the American Public Health Association Military Section Literary Award for the best original contribution to pharmaceutical literature by a member of the section.

## Dr. Goldwater Named To New Post at NIEHS

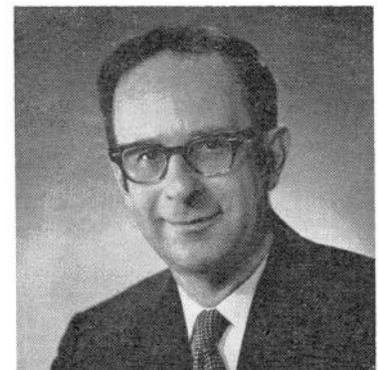
Dr. William H. Goldwater has been appointed associate director for Extramural Research and Training for the National Institute of Environmental Health Sciences in Research Triangle Park, N.C.

Under his direction, the extramural research and training programs will focus on health implications of pesticides, food toxicology, occupational health hazards, air pollutants, water pollutants, mutagenesis, and teratogenesis.

Dr. Goldwater was formerly chief of the Special Research Projects Branch, Extramural Programs, National Heart and Lung Institute.

With NHLI since 1962, he was responsible for the Institute's grant program concerned with multi-institutional cooperative studies—including large-scale clinical trials—scientific communications, and other multidisciplinary projects.

Previously, Dr. Goldwater was executive secretary of the Metabolism Study Section, Division of



When Dr. Goldwater assumes his new duties as NIEHS Associate Director, he will reside in Chapel Hill, N. C.

Research Grants; radiological biochemist, U.S. Naval Radiological Laboratory in San Francisco; professor of Biochemistry and Medicine, Tulane University School of Medicine, and research chemist, Mt. Sinai Hospital, New York.

He received his A.B. and Ph.D. (biochemistry) degrees from Columbia University.

a "revolving fund" was perpetuated.

Among the advantages of using the Fund is the fact that budget finances are simplified. I/D and Bureaus are only charged for the supplies and services that are requisitioned—a more flexible financial arrangement than a direct annual appropriation.

One of the major aims of the Revolving Fund is to develop services which help NIH to conserve its most valuable commodity—scientific man hours.

Inquiries about the Fund may be directed to the executive secretary, Sidney V. Gottlieb, Management Policy Branch, ODA, Ext. 62461.

## POLYWATER

(Continued from Page 1)

Some hints of a water mystery were published in 1944 when a German scientist condensed an unusual kind of water on a polished metal surface by alternately heating and cooling, and in 1946 when an American researcher postulated that the low surface tension of this peculiar water could be explained if the molecules were bound together in six-sided units by special hydrogen bonds.

### Unlike Ordinary Water

Later, other scientists at Johns Hopkins and Harvard found that water in capillary tubes acts in surprising ways, and in 1962 two Russian scientists reported that water which condensed in very small capillary tubes was "anomalous" and did not behave as ordinary water.

It became a solid at  $-40^{\circ}\text{C}$ , and required over  $500^{\circ}\text{C}$  to become a gas. It had a lower vapor pressure than ordinary water, was heavier and more viscous, and crept up the sides of a tube far more readily.

These interesting reports led Dr. Lippincott and Gerald L. Cessac of the University of Maryland, and Robert S. Stromberg and Warren H. Grant of the National Bureau of Standards to investigate further.

They were able to prepare the new material in dry tubes of fused-quartz or pyrex glass, 5 to 100 micrometers in diameter, by suspending them for 18 hours over distilled water in a partial vacuum, or over water which is a few degrees warmer than the tubes.

The substance which condenses in the tubes looks like water and is composed of two parts of hydrogen to one of oxygen, but is not regular water.

The scientists call it polywater because the small water molecules have been linked together or polymerized into giant chain- or sheet-like molecules.

### Not Among Known Substances

Through infrared spectroscopic comparisons, the investigators proved that polywater is not among 100,000 known substances.

Laser probe analysis showed that polywater contains practically no contaminants such as carbon, sodium, silica or even OH radicals.

It also indicated that the atoms are in a linear O-H-O arrangement with the hydrogen in the center about 1.15 angstroms apart from each flanking oxygen atom, while the distance between the two oxygen atoms totals about 2.3 angstroms.

The hydrogen bonds that hold the water units are therefore extremely strong—approximately 20 times as strong as those between ordinary water molecules. The

## Westwood Print Shop Meets Information Demands



Harry Hawkins, supervisor of the Westwood Print Shop, discusses a job with James Farra, pressman. Other members of the staff are (l to r) James Carter, Clarence Dashiell, James Redd, William Jones, James Creek, William Padgett, and Hugh Crittenden.

## Dr. Edwards Appointed To Assist Dr. Egeberg

Dr. Charles C. Edwards was appointed Assistant to Dr. Roger O. Egeberg, Assistant Secretary for Health and Scientific Affairs by HEW Secretary Robert H. Finch.

Dr. Edwards was vice-president and managing officer of the Health and Medical Division, Booz, Allen, and Hamilton, Inc.

density of polywater is about 1.4, and it is soluble in water.

Scientists are excited about polywater because it may explain many puzzling things. For example, plant physiologists have been unable to explain completely how a tree can lift water from its roots to the topmost leaves.

Trees have no pumping mechanism, and neither capillary nor osmotic forces can lift tons of water 300 feet up into the air. Now it appears that polywater could be a part of the transport mechanism in the capillary-sized water conduits of plants.

Another puzzle is that solutions moving across cell membranes follow a formula for a solid-liquid type of interaction rather than the liquid-liquid osmotic type. Very recent nuclear magnetic resonance studies suggest that nearly all of the water in muscle cells is more highly organized than the usual liquid form.

The concept of a cell as a semi-solid composed of polywater molecules of various sizes in which protein molecules are embedded would explain many puzzling observations of uptake and loss of chemicals by cells.

Numerous other possibilities for this new polymer were suggested for study by dental, biological, and physical scientists.

Dr. Lippincott's work has been published in *Science and Chemistry and Industry*.

Ninety percent of all scientists who ever lived are alive today and are developing knowledge at a rate that will double the world's scientific information every 10 years.

This need for more knowledge has made great demands on printers, and the printers in the Westwood Print Shop have not been immune from these pressures.

Westwood "Satellite" (the NIH vernacular) is a component of the Printing and Reproduction Section, Plant and Office Services Branch, Office of Administrative Services.

### Wins Award

The shop is supervised by Harry Hawkins, a mild-mannered man who is a contrast to his working environment of clattering presses.

Recognition of a job well done came last May when a Superior Performance Award was presented to Mr. Hawkins and his staff for a group performance that exceeded normal job requirements through "outstanding spirit of cooperation and conscientious service."

As a "working supervisor," Mr. Hawkins is on his feet most of the time making on-the-spot decisions affecting planning and production.

His job description reads like a script for a televised exercise program: one who "is required to lift moderate weights, bend, stretch, and crouch while pursuing his duties" And then there is the noise—as constant as production.

### Work Force Totals 11

Mr. Hawkins and his assistant, Clarence Dashiell, supervise nine men who are trained to operate and make minor repairs to any piece of shop machinery—platemaker, bindery equipment, collators, and presses.

The overall training process, requiring about 12 months for new employees, makes for a versatile group which maintains production when any of the staff is on leave.

Production reaches peak level 6

## Dr. Bobbitt Appointed To Behavioral Sciences Post in NICHD Office

Dr. Joseph M. Bobbitt has been appointed assistant director for Behavioral Sciences in the Office of Planning and Evaluation, National Institute of Child Health and Human Development.

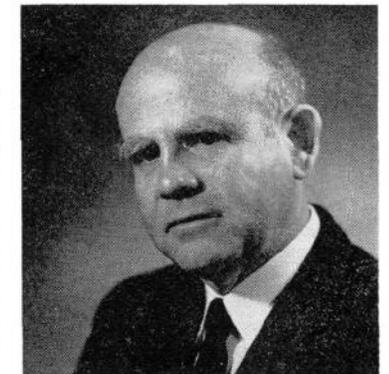
Dr. Bobbitt serves as staff advisor to Dr. Gerald D. LaVeck, NICHD Director, on developing both research and training programs in the behavioral sciences.

Prior to his appointment he was executive director, Joint Commission on Mental Health of Children. Before that Dr. Bobbitt was acting associate director for Planning, and assistant director for Manpower Development.

Before joining the NICHD staff he was with the National Institute of Mental Health.

In the 1940's Dr. Bobbitt was academy psychologist at the U. S. Coast Guard Academy, and prior to that he taught Psychology at Michigan State College.

He received both his A.B. and



In 1967 Dr Bobbitt was honored by the American Psychological Association—he received the Harold M. Hildreth Memorial Award for Distinguished Public Service.

M.A. degrees from the University of Southern California and his Ph. D. degree from Northwestern University.

In 1967 he received the Harold M. Hildreth Memorial Award for Distinguished Public Service awarded by The Division of Psychologists in Public Service, American Psychological Association.

Dr. Bobbitt is a Diplomate in Clinical Psychology, American Board of Examiners in Professional Psychology.

months of the year at deadline time for grant applications when the staff works overtime in order to turn out multiple copies of applications for study section and council meetings.

For an average 8-hour day print shop production amounts to 950 plates that spin off 52,000 impressions.

## MOVES

(Continued from Page 3)

agement Section, and Walter Chakwin, head, Materiel Storage Unit, Supply Operations Section.

What should be moved where was the first consideration, and Mrs. Barnes and Mr. Chakwin thought out this strategy with the same careful planning that Hannibal just might have used in moving elephants over the Alps.

### Factors Cited

Two important factors stand out among the several excellent reasons for the move: moving Central Stores to Danac alleviated a manpower shortage, and moving Property Utilization back to the Reservation saved NIH scientists from traveling to Danac for excess equipment—now this is located within walking distance.

William Morse, chief, Property Management Section, SMB, explained that within 8 days of the move 385 potential "customers" visited Property Utilization as compared to three visitors within the same period of time, while that facility was at Danac.

"Customers" received cost free supplies amounting to \$39,000—a saving to NIH budgets of \$39,000, thus corroborating to the hilt a Property Utilization adage, "excess is the first source of supply."

Property utilization carries laboratory supplies, animal cages and office and laboratory equipment.

Central Stores, under SMB's Supply Operations Section, now consolidates most of its functions in the Danac Warehouse. Everything—except Chemical Stores in Bldg. 25 and Animal Food and Bedding in Bldg. 14—is housed under the same roof.

### Staff Reduced

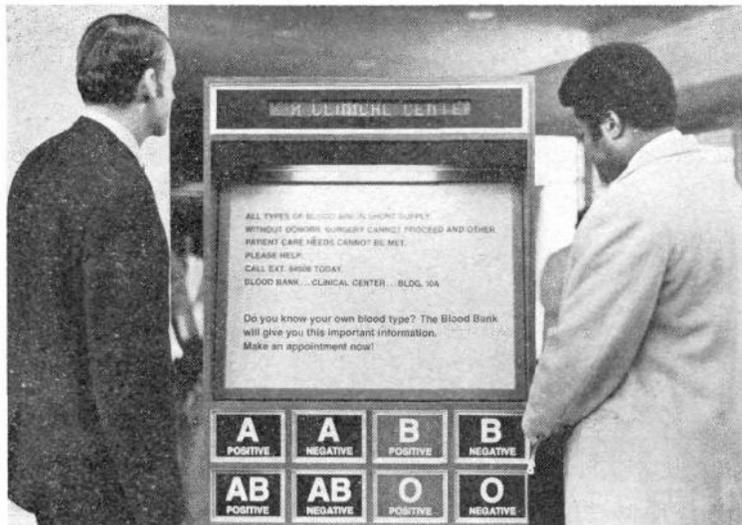
Because of this move it was found that a reduced staff could competently carry an increased work load.

Office, laboratory, and house-keeping supplies and furniture, purchased through requisitions and budgeted to the accounts of I/D and Bureaus, are housed at Danac.

Otis Ducker, chief, Supply Operations Section, has been at NIH for 16½ years—the entire period at SMB. He has held posts as stock control clerk, inventory technician, and head of the Supply Unit, before becoming chief of his section.

Both Mr. Ducker and Mr. Morse want to stress a point—there has been no slackening of service since the move, on the contrary it has facilitated services and made for a more equitable arrangement and exchange of merchandise in both establishments.

Two hundred fifty million pages of new scientific information are published every year—in journals, government reports, patent documents, forms and books.—JAMA.



To show employees the critical need for different types of blood at the NIH Blood Bank, identical exhibits are being displayed in the Bldg. 31 lobby and near the CC cafeteria. As requirements change, the lights at the base indicate at a glance blood types needed. These needs may vary from day to day.

## Careful Planning by Space Management Averts Usual Turmoil of 'Moving Day'

Anyone who has undergone the traumatic experience of moving will not envy the Space Management Section's burden.

As soon as the removal of HSMHA's headquarters staff from Bldg. 31 was decided, Space Management began planning the myriad details involved in the move of NIH components assigned to the vacated areas.

The 162 employees of the Health Services and Mental Health Administration moved from the second, third, and fourth floors of Bldg. 31A wing to the Parklawn Building in Rockville on Jan. 5 and 6. They are being joined there by other HSMHA personnel from the Woodmont, Webb, and Tower Buildings.

With the necessary business of disconnections, arrangements for

communications, transfer of mail, placement of individual units, and all the other details required to smooth the transfer in addition to the actual physical move, it is anticipated that the new occupants will be in the A wing of Bldg. 31 by late January or early February.

The National Institute of Child Health and Human Development will move from Bldg. 12A and from Bldg. 31C to Bldg. 31 A wing.

The National Eye Institute will move from Bldgs. 31C and 36 and the Wiscon and Westwood Buildings to the sixth floor of Bldg. 31A.

The National Heart and Lung Institute will move components located on the sixth floor of Bldg. 31A to space on the fourth floor in the same wing.

### NIAMD Component Moves

The National Institute of Allergy and Infectious Diseases will move components from Bldg. 31B to the sixth floor, Bldg. 31A.

The Division of Computer Research and Technology is assigned space in Bldg. 12A to relocate employees displaced by installation of new computer equipment.

The Division of Dental Health, BEMT, will move from the Woodmont Building to the Wiscon Building.

Future moves include completely vacating Bldg. 6 so that it may be renovated for laboratory space for NICHD, NEI, and NIAMD. Also, employees are continually moving into the Bldg. 35, 36, and 37 com-



James G. Hill, recently appointed first executive officer of the National Eye Institute, will direct and coordinate administrative policies and programs. He was formerly assistant executive officer of NLM.

## Donald Parks Promoted To Assistant Director Of Health Manpower

Donald C. Parks has been named to the new post of assistant director for Administration of the Division of Health Manpower Educational Services, Bureau of Health Professions Education and Manpower Training.

Mr. Parks will assist Dr. Daniel F. Whiteside, DHMES Director, in developing and administering policies and programs. These include administration of grant, student loan and scholarship programs for the education and training of personnel in the health occupations.

Mr. Parks has been executive officer of the Division since its formation in 1967. He began his career with the Public Health Service in 1959 as a management intern with the former Bureau of State Services.

He also served with several other agencies of the Service as management analyst, program planning officer, and executive officer.

## NIH Personnel Invited to Hear Congressman Gude

Gilbert Gude, Maryland Congressman, will be the guest speaker at a luncheon sponsored by the American Society for Advancement of Management (Washington Chapter) and the Society for Public Administration (National Capitol Area Chapter). It will be held at the Washingtonian, on Thursday, Jan. 15.

NIH personnel, many of whom are members of the organizations, are invited to attend.

Reservations can be made by calling John Miers, Ext. 66601 prior to noon Tuesday, Jan. 13. The luncheon will cost \$3 for members and \$3.25 for nonmembers.

## Dr. Francis Schmitt Appointed To Medical Sciences Council

Dr. Francis O. Schmitt, chairman of the Neurosciences Research Program sponsored by the Massachusetts Institute of Technology, has been named a member of the National Advisory General Medical Sciences Council.

plex as well as Bldg. 41.

For the past year, the Space Management Section has been constantly involved in moving NIH components, and James G. Hawkes, section head, believes it will be another year at least before they can resume a slower pace.

Mr. Hawkes and staff need all the tact and diplomacy they can muster—137,000 square feet of space has been requested, with only 27,000 square feet available for assignment.