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# Record

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## Huebner to Give The NIH Lecture Tomorrow Night

Dr. Robert J. Huebner, Chief of the Laboratory of Infectious Diseases, NIAID, will deliver the next in the series of NIH lectures tomorrow (Wednesday) at 8:15 p.m. in the Clinical Center auditorium.

Dr. Huebner's subject will be "Viruses, Common Colds and Cancer." He will discuss the thesis that the viral causation of colds and of certain cancers makes them simply infectious diseases, definable biologic entities subject to methods of inquiry as straightforward as those of conventional microbiology and as promising as those of modern virology.



Dr. Huebner

A Commissioned Officer in the Public Health Service, Dr. Huebner has spent virtually his entire professional career at NIH. He has been on the staff of the Laboratory of Infectious Diseases since 1944. He became Laboratory Chief in 1956.

Dr. Huebner's original research (See DR. HUEBNER, Page 8)

## Dr. Fredrickson Named NHI Clinical Director, To Continue Research

Dr. Donald S. Fredrickson of the NHI Laboratory of Cellular Physiology and Metabolism has been appointed Clinical Director of the National Heart Institute. His appointment to the newly established post was effective March 1.

Dr. Fredrickson plans also to continue his research studies on lipid metabolism and transport, and the genetically determined hyperlipidoses.

Dr. Fredrickson came to the Heart Institute as a clinical associate in 1953, and joined the Laboratory of Cellular Physiology and Metabolism in December 1956 as a senior research staff member. He has been Special Lecturer in Internal Medicine at George Washington University School of Medicine since 1959.

After receiving a B.S. degree (with distinction) in 1946 and an M.D. (magna cum laude) in 1949 from the University of Michigan, he did postgraduate work at Peter Bent Brigham Hospital, Harvard Medical School, and Massachusetts General Hospital. He was certified by the American Board of Internal Medicine in 1957.

Dr. Fredrickson was born in Canon City, Colo., in 1924.

## Cummings and Grant Are Selected To Head New International Office

Dr. Shannon has announced his selections for appointment to the two top positions in the Office of International Research Activities, now being established here by authorization of the Surgeon General.

### Economy Priming Aided By DRG Building Funds

The Health Research Facilities Branch, DRG, will participate in President Kennedy's plan to stimulate the national economy through building construction, according to a recent announcement by Dr. Francis L. Schmehl, Branch Chief.

Institutions which have received Health Research Facilities grants but are unable to begin construction before July 1, will be asked to turn back their funds temporarily so that the money can be used to finance grants which have been approved but not paid because of lack of further FY 1961 funds.

All FY 1961 funds were committed as of December 1960. Funds to reimburse these institutions next fall will be committed from the FY 1962 budget.

The action will result in groundbreaking for several new research buildings this spring, according to the announcement.

Dr. Martin M. Cummings, Chairman of the Department of Microbiology of the University of Oklahoma School of Medicine and NIH Consultant on International Activities, has been selected to head the new organization, and Robert H. Grant, formerly Executive Officer of the National Heart Institute and



Dr. Cummings

Mr. Grant

Director of the Special Staff on Aging, has been chosen Assistant Chief.

Dr. Cummings is scheduled to assume direction of the OIRA July 1. Meanwhile, the new organization, which will coordinate all international activities of NIH, is rapidly taking shape with offices on the first floor of Building 1.

### Branch Posts Filled

The men chosen to head two of the three branches which will comprise the office have been named and are now on the job. They are Dr. Ronald E. Scantlebury, to continue as Chief of the Foreign Grants and Awards Branch which has been transferred to the new office from the Division of General Medical Sciences, and Francis L. Mills, formerly of the Management Analysis Section of the Management Policy Branch, OAM, who has been designated Chief of the Foreign Currency and Program Services Branch.

Announcement of appointment of the Chief of the Program Analysis and Special Studies Branch is expected shortly.

The OIRA, as recommended by (See INTERNATIONAL, Page 7)

## Campaign of Health Agencies, Joint Crusade Opens Here

The annual combined campaign of the Federal Service Joint Crusade and the National Health Agencies will be launched here tomorrow.

This is the second of the two official fund campaigns sponsored each year by the Government.

Concentrated during the last two weeks of March, the NIH drive aims at 100 percent participation by employees, with no dollar quota. Individual contribution envelopes will be distributed this week.

Dr. Justin M. Andrews, Director of NIAID, is NIH Campaign Chairman and Dr. Francis A. Arnold, Director of NIDR, is Co-Chairman.

Directed nationally by Sumner G. Whittier, U. S. Administrator of Veterans Affairs, the Federal Serv-

ice Joint Crusade includes the American Korean Foundation, CARE, and Radio Free Europe.

DHEW Secretary Abraham Ribicoff heads the National Health Agencies drive, which benefits the National Multiple Sclerosis Society, National Society for Crippled Children and Adults, United Cerebral Palsy Associations, American Cancer Society, American Heart Association, and the Muscular Dystrophy Associations of America.

"These organizations are all eminently worthy of our support," Dr. Andrews said. "They offer medical help to millions of Americans and desperately needed assistance to others throughout the world. I sincerely hope that every employee will contribute to this drive."



These Korean children can be helped by the American-Korean Foundation, which in turn needs help from Americans through contributions to the Joint Crusade.

# the Record

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## PERSONNEL TO PERSON

IN THE near future, the Civil Service Commission will begin a continuing evaluation of the Health Benefits Program.

The objectives of this evaluation will be to insure effective administration of the program and to decide what improvements may be made. The evaluation will include visits to field establishments.

During these visits, CSC representatives will seek information from employees concerning the service received from the carriers relative to the settlement of claims, and their opinion on the adequacy of the health benefits coverage.

They will also look into agency record keeping, enrollment procedures, orientation of employees, and the operation of the health benefits regulations.

The Commission hopes to identify problems in the program before they assume major proportions and to obtain data useful for the renegotiation of the contracts with the carriers.

### LEAVE INFORMATION

The Employee Relations and Services Section announces that copies of a recent booklet (HEW-319) entitled "Your Leave" are available in Bldg. 1, Rm. 21.

The booklet provides complete information on all categories of leave: annual, sick, leave without pay, maternity, voting and registration, court, and military.

### NIDR Post for Callahan

Bob Callahan transferred to NIDR as Assistant Chief, Information Office, from NCI's Office of Information and Publications, effective February 27. Mr. Callahan was formerly Head of the Information and Education Section and Assistant Information Officer at NCI.

## Udenfriend Is in Israel To Aid Research Setup

Dr. Sidney Udenfriend, Chief of the National Heart Institute's Laboratory of Clinical Biochemistry, left last Tuesday for two weeks in Israel where he will collaborate with Dr. David Samuel of the Weizman Institute in setting up a joint NHI-Weizman Institute research program.

The proposed research is aimed at increasing the usefulness of heavy oxygen ( $O_{18}$ ) as a tool in metabolic studies.

They hope to find more sensitive methods of measuring  $O_{18}$ , the most useful isotope of oxygen for tracer studies of oxygen metabolism, and to develop procedures for the production and study of  $O_{18}$ -labelled compounds.

Israel is the world's foremost producer of heavy oxygen and has scientists well-qualified for this research project.

Funds for this and other NIH collaborative research programs in several foreign countries were recently allocated by the State Department under Public Law 480. This law stipulates that funds obtained by the United States from the sale of surplus goods will be spent in the countries which purchased these goods.

During his stay in Israel, Dr. Udenfriend will also visit the Hadassah Medical School in Jerusalem.

### NIMH Information Office Moves to New Location

The NIMH Information Office moved from Building T-18 to the National Bank Building, Arlington Rd. and Bradley Blvd., Bethesda, on February 28.

Harold P. Halpert, Chief, and Lucile N. Furman are in Rm. 317, Ext. 4795. The Visual Aids Unit is in Rm. 320, Ext. 3354.

## Sudsy Skill of NIH Laundry Adds to Patients' Welfare

By Dorothy Jeanne Davis  
NIH Information Trainee

Their most important task is the welfare of the CC patient, and the NIH Laundry and Dry Cleaning Section does the job with soap, skill, and hot water.

Even the most skillful medical care would be severely handicapped in unsanitary surroundings. For this reason, the hospital laundry plays a most important role in protecting the health of the patient while he is in the hospital.

A constant flow of soiled linens comes in to the loading platforms of the laundry area in Building 13 throughout the day. Power trucks bring several carts at a time through the tunnel from the Clinical Center, piled six to eight feet high with gaily colored laundry bags. Others pour in by truck from outlying buildings, and periodically, smaller lots are brought in by hand.

### Color Indicates Contents

The color of the laundry bags indicates their handling. White bags contain ordinary laundry. Yellow bags contain linens contaminated with infectious material, and special sanitary precautions are taken to prevent other linens from coming in contact with them. Blue bags are from the cafeterias and nutrition department; misty green bags are from human operating rooms; and forest green bags come from animal operating rooms. All require separate handling to remove the different types of stains.

As fast as soiled laundry arrives at one end of the laundry process, clean linens and laundry leave the other end to be returned to units throughout NIH. Truckloads of brown paper-wrapped uniforms, lab coats, pinafores, and dresses are distributed all over the reservation and as far away as the

NIMH unit at Saint Elizabeths Hospital.

Each day, 40 carts stacked with clean sheets, towels, mattress covers and "johnnie" gowns are delivered to patient care areas in the Clinical Center. Patients' pajamas are also laundered, but are returned separately.

### Launderers Many Items

The NIH Laundry must turn out 10,749 lab coats a month, just to keep up with the demand. It also launders or dry cleans shirts, blouses, nurses' uniforms, housekeepers' dresses, pink pinafores for pharmacy employees and yellow ones for the nutrition department; uniforms for hospital attendants, guards, firemen, chauffeurs, and maintenance personnel, and slipcovers, window draperies, and all other government-owned clothing and linens used on the reservation.

Operating-room and surgical linens, although washed and processed by the laundry, are sent to the Central Sterile Supply Service for sterilization and packaging into proper-sized bundles.

Every time a patient is transferred from a room at the Clinical Center, everything in the room must be cleaned or laundered. As an added service, the laundry also washes, irons, and dry cleans patients' clothing without charge.

In addition to the laundry and dry cleaning units, the New Linen and Supply Unit stocks more than 376 different items, including small-sized tee shirts and blue jeans for child patients. Occasionally, the

(See LAUNDRY, Page 8)



More than 10,000 pieces of flat work are fed into these roller presses in the NIH Laundry each day. Here, damp kitchen towels are ironed, while a cart of sheets fresh from a separating machine waits its turn. All laundry processed by this unit has a germicide added in the last rinse which prevents growth of bacteria for 24 to 48 hours.—Photo by Lee Bragg.

# Science Section

This four-page section, devoted chiefly to summaries of research findings that have been reported by scientists of the National Institutes of Health, is prepared with the cooperation of the Information Offices of the Institutes and Divisions of the National Institutes of Health.

## Response to Treatment By Drug Observed in Adrenocortical Cancer

Scientists of the National Cancer Institute's Endocrinology Branch have reported the latest results obtained in a continuing clinical study of the chemotherapy of advanced adrenocortical carcinoma.

The study is of particular interest scientifically because 1) the drug (o,p'-DDD) used acts specifically upon one type of tissue and also upon a neoplasm arising from that tissue; 2) the tumor produces an excessive amount of hormone in the urine; hence, the quantity of hormone provides a means of measuring the progress of treatment; 3) spontaneous remissions in this disease are unknown, so that any remissions observed may be attributed to the drug treatment.

### Previous Studies Used

The study originated in an observation by Nelson and Woodward in 1949 that feeding dogs DDD, an insecticide, resulted in damage to the adrenal cortex. Nichols in 1957 and Cueto in 1958 found that the agent responsible for the adrenocortical effect was the ortho, para prime isomer (o,p'-DDD), which occurs as a contaminant in commercial DDD.

The first study of treatment of adrenocortical cancer patients with o,p'-DDD was made by the NCI Endocrinology group, and their initial observations were reported in 1959.

The present report summarizes the response of 18 patients treated at the Clinical Center over a two-year period. The average course of treatment was eight to ten grams of o,p'-DDD daily, given orally for four to eight weeks. The drug was obtained from the Edcar Chemical Company, Norwalk, Connecticut, through the Cancer Chemotherapy National Service Center.

### Response Measured

Response to treatment was measured by regression of metastases (i. e., decrease in size of pulmonary or abdominal metastases) and by sustained decrease, to less than 70 percent of initial levels, in steroid excretion.

Objective regression of metastases was observed in seven patients; significant steroid suppression only, in seven additional patients; and no apparent effect in four.

(See ADRENAL CANCER, Page 5)

## Causative Organism of Q Fever Is Produced

Excellent growth of *Coxiella burnetii*, causative organism of Q fever, had been obtained in studies reported in the *American Journal of Tropical Medicine and Hygiene*, by E. G. Pickens and J. A. Gaon, working at the Rocky Mountain Laboratory, Hamilton, Montana, field station of the National Institute of Allergy and Infectious Diseases.

### Organism Grown

In minced chick-embryo tissue and using a lactalbumin growth medium planted on a modified Zinsser's agar medium, the investigators achieved growth of the organism comparable to that in yolk sac of embryonated chicken eggs. Although the infectious titer of tissue cultures was considerably lower than in the older method, smears of the former always contained more rickettsiae than smears of the latter.

The yield of purified rickettsiae isolated from four different lots of infected chick-embryo tissue culture varied from 0.7 to 1.2 mg. per g. of original tissue, a yield comparable to that obtained from yolk sacs of infected embryonated chicken eggs, and antigenic activity was also comparable. These observations indicate that although the percentage of viable rickettsiae is lower, total growth in both methods compares favorably.

(See Q FEVER, Page 5)

## Heart Muscle Contractility Enhanced by Cardioglobulins

Plasma assays of patients with various types of cardiovascular disease provide evidence that the cardioglobulins, a group of protein substances found in the blood plasma of man and other mammals, are essential for maintaining normal contractility of heart muscle. These findings were presented in part at the 1960 annual session of the American College of Physicians in San Francisco, by Drs. Stephen Hajdu and Edward Leonard of the National Heart Institute's Laboratory of Kidney and Electrolyte Metabolism.

The cardioglobulin system was discovered several years ago when the NHI scientists found that the contractile response of artificially stimulated frog hearts could be increased by adding small amounts of mammalian plasma. This action is similar to (but chemically unlike) that of digitalis, a plant extract used in the treatment of heart failure.

Subsequent studies showed that: 1) the cardioglobulin system is made up of three proteins, cardioglobulins A, B, and C; 2) all three substances are needed to cause activity; and 3) higher than normal activity in patients with severe hypertension is due to increased amounts of cardioglobulin C.

In the currently reported studies, Drs. Hajdu and Leonard used bioassay techniques (based on the action of the cardioglobulin system on the isolated frog heart) to measure cardioglobulin C concentrations in patients suffering from hypertension, aortic stenosis, aortic insufficiency, or congestive heart failure.

They found elevated cardioglobulin C levels in diseases characterized by increased left ventricular blood pressure, i. e., in hypertension and aortic stenosis. Essentially normal cardioglobulin levels were found in normal volunteers and in patients with aortic insufficiency, a disease associated with increased stroke volume but not increased left ventricular pressure. Thus, increased cardioglobulin activity appeared to be an adaptive response which, by increasing heart muscle contractility, enabled the heart to maintain its normal output under conditions of increased left ventricular pressure.

### Postulate Tested

The scientists reasoned further that, if the cardioglobulin system were necessary for normal heart muscle contractility, cardioglobulin deficiency could perhaps lead to decreased contractility and congestive heart failure.

They tested this postulate by measuring cardioglobulin levels in patients with congestive heart failure secondary to known valvular disease and in other patients whose congestive heart failure was of unknown cause but believed due to a primary defect in heart muscle contractility. They found that more than half of the patients in the latter group had extremely low cardioglobulin concentrations, whereas values for all other congestive heart failure patients fell within the normal range.

### Findings Consistent

The scientists conclude that these findings "... are consistent with the idea that among patients with idiopathic cardiac muscle disease there are some who have a primary deficiency of cardioglobulin which perhaps leads to the development of cardiac failure."

Future studies of the cardioglobulin system will be extended to include other types of cardiovascular disease and to determine the effects of therapeutic drugs and remedial surgery on cardioglobulin activity.

## SCIENCE AWARD WINNER VISITS NIDR



Mary Sue Wilson, 17, of Cedar Falls, Iowa, an aspiring biochemist and two-time winner of the American Dental Association award in the Westinghouse Science Talent Search, explains her prize-winning science project to Dr. Seymour J. Kreshover (left), Associate Director in Charge of Research, and Dr. Francis A. Arnold, Jr., Director of NIDR. Miss Wilson's project adds additional evidence to the mutational origin of bacterial resistance to antibiotics and represents a continuation of her interest in this field.

## Fixed Negative Charge Is Found in Membrane Of Squid Giant Axon

By observing the movement of "tagged" substances across the membrane of the giant axon of the squid, National Institute of Neurological Diseases and Blindness investigators have obtained the first biological evidence that a nerve membrane at rest has a fixed, negative electrical charge. In general, this conclusion is based on the finding that the outflow of negatively-charged ions is much slower than the outward movement of positive ions.

### Permeability Studied

The permeability of the squid axon membrane to radioactive tracers was investigated under various experimental conditions by Drs. I. Tasaki and C. S. Spyropoulos of the Laboratory of Neurophysiology, NINDB, and Dr. T. Teorell, Special Consultant (Professor of Physiology, Uppsala University, Uppsala, Sweden).

Tracer substances, which were injected intracellularly, included radioactive potassium, sodium, and calcium (positive ions), chloride, sulfate, and phosphate (negative ions), and water. These elements constitute the major inorganic components moving normally across the membrane and are thought to play important roles in the normal functioning of the axon.

When the nerve axon was at rest, the average outflow time of the negative ions was found to be greater than 50 hours. In contrast, intracellular water was lost from the axon in less than two minutes, calcium in 30 minutes, sodium in less than three hours, and potassium in under eight hours. This fact suggests strongly that the nerve membrane contains an electrical charge which holds negatively-charged substances practically immobile. The values for sodium and water were similar to those reported by other investigators previously.

### Evidence Seen

As was previously known, when the axon was repetitively stimulated, the movement of the positively-charged tracers was accelerated. However, the negative tracers remained unaffected by these conditions, suggesting that the membrane remains negatively charged during activity.

The authors caution that the electrochemical force which drives the radioactive tracers across the nerve membrane is different than that which drives the corresponding non-radioactive substances. It is interesting to note that the hypothesis that biological membranes

## Studies Find New MAO Inhibitor Effective Against Hypertension

A new monoamine oxidase inhibitor, MO-911 (Abbott), has performed effectively as a therapeutic agent for hypertension in clinical trials conducted by National Heart Institute scientists.

The new drug has been found highly effective in lowering standing blood pressure in hypertensive patients and is a potent inhibitor of monoamine oxidase (MAO), but appears to be free from toxic effects that had blighted the promise shown by several MAO inhibitors tested previously.

The clinical trials were conducted by Drs. David Horwitz and Albert Sjoerdsma, of the NHI Experimental Therapeutics Branch. Their findings, reporting results of clinical trials in nine patients, have been reported in *Proceedings of the Society for Experimental*

### Vector Analysis Is Used In Nucleic Acid Analysis

Drs. James C. Reid and Arnold W. Pratt, of the National Cancer Institute's Laboratory of Physiology, have reported a new technique for the quantitative analysis of the components of nucleic acid and mixtures of its metabolites.

The objective of their research is to find out whether the urine of leukemia patients contains detectable excretion of nucleic acid precursors, nucleotides and nucleosides, and to develop an analytical method of identifying and quantifying such compounds.

A new approach was sought to the quantitative determination of individual components of the mixtures obtained by chromatography of urine specimens, when the chromatographic technique was found to be unwieldy and lacking in precision. Drs. Reid and Pratt applied the mathematical technique of vector analysis, with the aid of an electronic computer, and obtained highly accurate results in the analysis of the ultraviolet spectra of synthetic mixtures of nucleotides. Similarly precise results were observed for a mixture of nucleotides obtained by chemical treatment of commercial RNA.

The investigators, whose paper was published in a recent issue of *Biochemical and Biophysical Research Communications*, conclude that the "computational technique" will be useful in studies of disturbances of nucleic acid metabolism in patients with leukemia.

have fixed charges was proposed many years ago by Dr. L. Michaelis and by Dr. Teorell.

The study was reported in the *American Journal of Physiology*.

### Biology and Medicine.

Monoamine oxidase is an enzyme which inactivates norepinephrine, tryptamine, and certain other amines which appear to be intimately involved in bodily mechanisms for the control of blood pressure. A number of compounds which block the action of this enzyme had been found to be powerful agents for lowering blood pressure; however, they also produced severe side effects that prohibited their use in the treatment of hypertension.

### Structure Differs

MO-911 is similar in its effects on monoamine oxidase and on blood pressure, but differs markedly in chemical structure from these earlier MAO inhibitors (all of which were hydrazine derivatives) and also in its apparent freedom from adverse side effects.

Both the differences and the similarities are important. They indicate that MAO inhibition is indeed the key to the hypotensive action of all of these compounds, but that inhibition of this enzyme *per se* probably is not responsible for the toxicity of any of them.

The mechanism by which MAO inhibitors lower blood pressure is still incompletely understood. However, one line of evidence is accumulating which suggests that, by preventing the inactivation of norepinephrine by MAO at the sympathetic ganglia, these drugs might cause the accumulation of increased levels of this amine.

### Impulse Blocked

Animal experiments have shown that such increases can block nerve impulse transmission, perhaps by preventing the repolarization of nerve tissue.

The present study indicates that MO-911 is a potent hypotensive agent very well suited to the treatment of the ambulatory hypertensive. Its hypotensive effects develop gradually, after which a single daily dose of 75-125 mg. of the drug is usually sufficient to maintain standing blood pressure at satisfactory levels.

However, though MO-911 appears to hold great promise as a therapeutic agent, extended clinical trials will be necessary to determine whether the new drug retains its freedom from toxic effects when used over long periods of time.

The discovery of MO-911 was announced in 1960 by J. D. Taylor

## Serum Protein Changes Studied in Malignancies

Scientists of the National Cancer Institute's General Medicine Branch have published the second in a series of reports on serum-protein changes in patients with malignant disease. A previous report described characteristic protein patterns for two types of acute leukemia. The outstanding features were, in the myeloblastic form, an elevated level of gamma globulin, and, in the lymphoblastic form, elevated alpha-2 globulin.

In the study now reported, the levels of five protein components in the serum were measured by electrophoretic analysis of 185 samples from 32 patients with chronic lymphocytic leukemia (CLL), 65 from 15 patients with chronic myelocytic leukemia (CML), another 65 from 15 patients with Hodgkin's disease, and 76 from 19 patients with malignant melanoma.

The study confirmed previous reports of other investigators of the most marked changes in each disease; in CLL, a decreased level of gamma globulin; in CML, elevated gamma globulin; in Hodgkin's disease, elevated alpha-2 globulin and decreased albumin; and in melanoma, decreased albumin. A protein pattern characteristic of each disease was observed.

### Levels Vary

In Hodgkin's disease, a progressive drop in albumin and rise in alpha-1 and alpha-2 globulin levels accompanied an increase in severity of the disease; during remission, the protein pattern returned to normal. In CML, the level of gamma globulin was usually normal during complete remission, and rose as the disease became active. In CLL, the level of gamma globulin was frequently low during remission, and dropped still further with an increase in severity of the disease.

Fever of undetermined etiology, bacterial infection, and liver disease produced additional changes in protein patterns that appeared to reflect the particular complication rather than the type of malignant disease.

These studies are being continued, in an effort to clarify the significance of protein alterations and their implications in management of cancer patients.

The report appears in a recent issue of the *Journal of the National Cancer Institute*. The authors are Drs. Dane R. Boggs (now with the University of Utah, Salt Lake City) and John L. Fahey.

and coworkers of Abbott Laboratories, North Chicago, Illinois, who also supplied the MO-911 used in these studies.

## Infection With Rat Virus Produces Disorder Similar to Mongolism in Suckling Hamsters

Rat virus, a widely spread latent infection of normal rats, has been found to induce a disease of suckling hamsters that resembles mongolism. Dr. Lawrence Kilham, Division of Biologics Standards, has reported this finding in *Virology*.

The original isolation of rat virus from rats bearing spontaneous or transplantable tumors, its multiplication in rat embryo tissue cultures, and its ability to aggluti-

nate guinea pig erythrocytes, were reported by Dr. Kilham several years ago. He has recently found that rat virus is infectious for suckling hamsters. It produces acute illness usually followed by death when the rat virus agent is introduced by intracerebral inoculation.

A second and more chronic disease develops when a minimal dose of rat virus is administered, or when the suckling hamsters are close to the age limit of susceptibility. This disease consists of stunted growth, broadening of the facial bones, protuberance of the eyes, occasional eye infection, poorly formed or missing incisor teeth, swelling of the tongue and lower gums, feebleness, and gentle behavior.

### Experiment Described

In one experiment, six litters of 4-day-old hamsters were inoculated with rat virus tissue culture fluid at a dilution of 10<sup>-1</sup>. Twelve of the 47 sucklings involved survived the acute phase of the disease and became mongoloid dwarfs.

Two other viruses are known to induce dwarfism in animals. An agent isolated from transplantable human tumors, described by Dr. H. W. Toolan, *et al*, Sloan Kettering Institute for Cancer Research, leads to a type of mongolism in hamsters which closely resembles that caused by rat virus. NIH Drs. Sara Stewart, Bernice Eddy, and M. F. Stanton, have found that the SE polyoma virus can lead to stunting of growth in mice.

The rat virus appears to be a close relative of the polyoma agent, as indicated by the type of intranuclear inclusion bodies produced and by various properties relating to stability and hemagglutination.

veins, thereby reducing the capacity of the venous bed and increasing the amount of blood returning to the heart. This substantially increases the heart's filling pressure and acts to increase heart output in accordance with Starling's law. Experimental carotid hypertension resulted in dilation of the venous bed, increasing its capacity, reducing venous return, and thereby acting to reduce heart output.

Effects similar to those produced by carotid hypotension were also produced by infusions of the catechol amines epinephrine and norepinephrine. Thus it appears that changes in venous distensibility are an important means by which the reflex mechanisms of the baroreceptor system and the hormonal mechanisms of the adrenal cortex modify heart performance in accordance with the ever-changing circulatory demands of the body.

## CCNSC Reports on Program At New York City Meeting

The Cancer Chemotherapy National Committee, a top policy advisory group for the national chemotherapy program, met in New York City last month. Members of the staff of the Cancer Chemotherapy National Service Center and its advisory panels presented detailed status reports on all phases of the program from acquisition of materials to evaluation of end results.

Under the chairmanship of Dr. Sidney Farber, the National Committee is composed of representatives of the agencies and groups sponsoring the chemotherapy program, including the National Cancer Institute, Food and Drug Administration, Veterans Administration, Atomic Energy Commission, American Cancer Society, and Damon Runyon Memorial Fund for Cancer Research. Mrs. Albert D. Lasker has been a member since the committee's formation in 1954.

### Highlights Reported

Highlights of the reports presented included the following:

More than 135,000 different materials have been obtained for primary screening, and 540,000 tests have been carried out;

Duplicate submissions of synthetic chemicals are being received at the rate of about 30 percent, compared with about 10 percent a year ago;

Planned broadening of the primary screen is about to occur, with the addition of more rodent tumors. These will include virus and carcinogen induced neoplasms

arising from the animal's own tissue. Greater emphasis will be placed on tissue culture screening methods, and eventually all materials submitted will be screened both *in vivo* and *in vitro*;

### Many Steroids Used

Nine hundred endocrinologic materials have entered the program, of which 750 are steroids. The 80 endocrinologic materials placed in clinical trial have been selected largely on the basis of structure and the results of biological assay. Urgently needed is a standardized hormone-dependent tumor of laboratory animals that can be used for routine screening;

At present, 540 investigators working in 200 hospitals are carrying out clinical trials under the auspices, and with the grant support, of the Cancer Chemotherapy National Service Center. In all, 18,500 patients have taken part, of whom 13,000 are currently involved in drug studies;

### New Agents Tested

Several new agents, being tested clinically on a confidential basis, have shown promise in malignancies traditionally regarded as "unresponsive" to drugs, including cancer of the lung, testis, bone, adrenal gland, and colon. Work with these materials is generally in a preliminary stage and involves relatively few patients.

Reports from the sponsoring agencies indicated that those taking the most active part are the NCI and the Veterans Administration.

## Q FEVER

(Continued from Page 4)

Using the new method, it was also possible to prepare satisfactory vaccines and antigens. Guinea pigs inoculated with a single 1 ml. dose of vaccine prepared from tissue culture rickettsiae were completely immune when challenged 21 days later with 10<sup>8</sup> minimum infectious guinea pig doses.

The investigators found that *C. burnetii* grows equally well in mouse-embryo tissue cultures. They suggest that this technique would be particularly useful in geographic areas where fertile hens' eggs are not readily available. Because the organism has remained viable in tissue cultures for as long as 110 days, this provides another means of maintaining strains where storage at freezing temperatures is not possible. Using the new tool, basic investigations of phase variation and morphologic entities can be undertaken.

Federal Income Tax returns filed after April 15 are subject to penalties and interest, so file today.

## ADRENAL CANCER

(Continued from Page 4)

No evidence of toxicity was observed in the liver, kidneys, or bone marrow. All patients experienced significant loss of appetite and nausea, and some showed central nervous depression varying from mild lethargy to somnolence. These toxic effects were reversible. High doses of the drug caused histologic damage and functional impairment of the normal adrenal gland.

The late Dr. Delbert M. Bergental was the senior author of the paper, which is published in a recent issue of the *Annals of Internal Medicine*. Coauthors were Drs. Roy Hertz, Mortimer B. Lipsett, and Richard H. Moy.



Weanling hamsters, 3½ weeks of age, are from the same litter. The hamster at the top is the uninoculated control. The other, a mongoloid dwarf, received rat virus (RV) at birth.

## Carotid Sinus Reflexes Influence Heart Action

The carotid sinus, a special pressure-sensitive receptor (baroreceptor) located where the carotid artery branches in the neck, reacts to changes in carotid pressure with reflexes to compensate those changes. When carotid pressure falls, it initiates reflexes via the sympathetic nerves which raise blood pressure by increasing heart rate and heart output per pumping stroke, and by constricting the arterioles. Conversely when carotid pressure rises, it reflexly lowers blood pressure by reducing heart rate and output and by dilating the arterioles.

### Changes Are Great

National Heart Institute studies indicate that carotid sinus reflexes also alter the distensibility of the venous bed, and that these changes are great enough to importantly affect heart performance. These studies are reported by Drs. John Ross, Jr., Charles J. Frahm, and Eugene Braunwald in *Circulation Research*.

They found that carotid hypotension, produced experimentally in animals, caused the carotid sinus to initiate reflexes constricting the

## Drug Effects Studied in Basal-Cell Carcinoma

Dr. Eugene J. Van Scott and his associates, of the National Cancer Institute's General Medicine Branch, have reported previously that methotrexate inhibits mitosis in the roots of growing scalp hairs. This evidence of drug-induced damage to tissues derived from the epidermis provided the rationale for a study of the effects of methotrexate on basal-cell carcinoma.

The drug was given to seven patients with tumors so extensive they could not be treated successfully by surgery or radiation. Most tumors became smaller, and a few disappeared, but the responses were temporary and were accompanied by toxic side effects. In all patients, tumors that were inflamed prior to therapy showed the best response.

These observations have suggested that therapy with methotrexate may be enhanced by exposing tissues to small doses of radiation in order to provoke inflammation and accelerate mitosis. Studies of such a procedure are under way.

The report appears in a recent issue of the *Archives of Dermatology*. Coauthors with Dr. Van Scott were Drs. R. K. Shaw (now with the University of Washington Medical School, Seattle), R. G. Crouse (now with the Miami University School of Medicine, Miami), and P. T. Condit (now with the Oklahoma Medical Research Institute, Oklahoma City).

## Spermine Seen as Aid In DNA Stabilization

Spermine and other related polyamines are organic compounds containing nitrogen, and although they are relatively common their function remains largely unknown. Dr. Herbert Tabor and other investigators in National Institute of Arthritis and Metabolic Diseases' Laboratory of Pharmacology and Toxicology have previously found that these polyamines have a stabilizing effect on vital cell components such as mitochondria, and such microbiological materials as bacterial protoplasts and viruses (bacteriophage).

Dr. Tabor has now extended this work to DNA, particularly to DNA's ability to transform one type of organism into another, and shown how spermine may protect that ability from inactivation of heat. He used a transforming DNA isolated from a strain of *Bacillus subtilis*, an organism that does not require the amino acid tryptophan. When active, this DNA is able to transform tryptophan-dependent organisms into tryptophan independent ones.

## NIMH Studies Indicate Relationship of Mental Disease and Order of Birth

Evidence indicating a relationship between mental disease and order of birth was reported by Dr. Carmi Schooler, of National Institute of Mental Health's Laboratory of Socio-Environmental Studies in the January issue of *Archives of General Psychiatry*.

Using a random group of female schizophrenic patients at Springfield State Hospital in Maryland, Dr. Schooler determined how many patients were in the younger half of their sibling group and how many were in the older half. The evidence (49 in the younger half and 71 in the older half) supports the hypothesis that a significantly greater number of patients were born in the older half of their sibling group.

### Question Revived

The question of relationship between birth order and schizophrenia has been revived by recently published experimental findings with normal persons. These studies suggest a relationship between birth order and a primary symptom of schizophrenia, social self-isolation. Earlier finding indicated that first-borns or only children tend to be more gregarious in an anxiety-provoking experimental situation than those who have older siblings. Later-born subjects when anxious did not particularly wish to be with other people.

Dr. Schooler reviewed other studies on birth order and schizophrenia, pointing out that evidence of a relationship is especially strong when first-born and last-born are compared although his own study showed no significant difference.

"The evidence for the existence of greater rates of hospitalization among last than first half individuals is not as strong," according to Dr. Schooler. "The findings in our sample, however, seem to indicate that a significant difference

The NIAMD scientist found that if the transforming DNA alone was heated to 70 degrees (its "melting out" temperature), it lost half its transforming activity. However, if spermine was present, a much higher degree of heating—92 degrees—was required to produce a comparable degree of inactivation.

This stabilizing effect and the indication of some secondary intramolecular linkage of DNA will be reported by Dr. Tabor in *Biochemistry and Biophysical Research Communications*, Volume 4, 1961, and at a meeting of the American Society of Biological Chemists. Further studies may lead to a better understanding of some of the normal tissue constituents that determine the functional configuration of DNA molecules, and thus their biological activity.

exists. In general, when the data from the various studies are combined, significantly more of the subjects are last-born than first-born. This difference, however, appears to be entirely due to subjects from families of four or more.

"If a relationship between birth order and incidence of schizophrenia does in fact exist," he said, "the problem of finding its cause remains. One hypothesis is that the apparent effect of birth order is merely an artifact of the relationship between increasing mother's age and incidence of schizophrenia.

"There are also many plausible psychological explanations. As an example, parents may represent for the young child the only significant social source of anxiety reduction, sibs having no such effect. First-born and first-half children, in general, probably have greater access to their parents than last-born and last-half sibs, whose parents have a proportionately greater number of other children for whom to care. Thus, compared with last-born and last-half children, first-born and first-half children may have been more successful in their early attempts to alleviate anxiety through social means."

## Catecholamines Studied For Metabolic Action

National Institute of Mental Health investigators have delineated the metabolic features of the metabolism of norepinephrine and have elucidated a number of areas in which this metabolism differs quantitatively from that of epinephrine.

Even more significant have been findings on the mechanisms of the binding and inactivation of norepinephrine at or near its site of action.

In animal studies using injections of tritium-labeled norepinephrine of high specific activity, the research workers have demonstrated a rapid uptake of this hormone by certain tissues of the body which are richly innervated by the sympathetic nervous system. Denervation of such structures results in a loss in the ability to bind norepinephrine.

A number of drugs including reserpine, chlorpromazine, amphetamine, and cocaine also have the ability to prevent this binding or to cause the release of bound nore-

## ACTH Found Necessary To Ketosis Development

Previous studies by other investigators in experimental diabetes have demonstrated that both the anterior pituitary and adrenal glands are necessary for fat mobilization and ketosis in the diabetic animal. However, the specific hormones involved and their site and mode of action had not been identified.

Drs. Robert O. Scow and Sidney S. Chernick, Laboratory of Nutrition and Endocrinology, National Institute of Arthritis and Metabolic Diseases, studied the effects of varying amounts of insulin and of other hormones on the increasing levels of sugar, ketone bodies and fats in the blood of pancreatectomized rats. Removal of 99.5 percent of the pancreas was made possible by Dr. Scow who had developed new delicate surgical techniques, employing a microscope and miniature instruments.

### Adrenals Removed

The investigators found that pituitary adrenocorticotrophic hormone (ACTH) had no effect in raising blood sugar and ketone bodies when the adrenals were removed from the animal. However, a significant rise was observed when the adrenals were intact.

This demonstrates that the ketosis-forming action of ACTH is mediated through the adrenal cortex, in all probability by stimulating secretion of glucocorticoids—hormones from the cortex which affect the rise in blood-sugar.

Growth hormone, another hormone of the pituitary, had very little ketosis-forming action, even when given with small doses of glucocorticoids.

The NIAMD scientists also reported that the accumulation of fat in the liver results in an increase in the formation of ketone bodies. Insulin was found to have no effect on this formation in the liver, but did accelerate removal of ketone bodies from the blood.

The findings were reported in *Recent Progress in Hormone Research*, Volume XVI, and at a recent meeting of the Society for Experimental Biology and Medicine in Washington, D. C.

pinephrine from these sites.

The tranquilizers, reserpine and chlorpromazine, although similar in clinical effects, have very few chemical effects in common. The similar action observed in connection with norepinephrine may provide insights into the mechanism of their psychoactive action.

The findings were reported by Dr. H. Weil-Malherbe, NIMH Visiting Scientist, in the *Journal of Neurochemistry*.

## Hamsters Elect Slate, Plan June Production

The R&W Hamsters, NIH's little theater group, elected officers on March 2 and made plans for an early summer production.

Tryouts for "Skin of Our Teeth," a play by Thornton Wilder, are being held today from 12 to 1 p.m. in the CC auditorium, and Wednesday and Thursday in Wilson Hall at the same hours.

The production is scheduled for the end of June.

Officers for the coming year are Oscar L. Grabner, OD, President; John W. Robinson, NIAID, Vice President; Judith Bunney, wife of Dr. William Bunney, Secretary; and Billy J. Sadesky, OD, Treasurer.

Yvonne Cooper, CC, was elected Property Custodian, and Ervin J. Liljegren, NIAID, is Publicity Chairman and Librarian.

## INTERNATIONAL

(Continued from Page 1)

Dr. Shannon and approved by the Office of the Surgeon General May 20, 1960, will be a staff office of the Office of the Director, NIH. It will be responsible for:

- Coordinating all international activities of the National Institutes of Health;

- Advising the Director and the Surgeon General on matters relating to the international aspects of medical research and research training;

- Assisting the Institutes in the development of international programs; and for

- The central administration of all NIH research activities utilizing U.S.-owned foreign currencies.

It will also constitute the central point for NIH relationships with the World Health Organization, the Pan American Health Organization, and other international research and scientific organizations.

### Conducts Research

Dr. Cummings has been Chairman and Professor of the Department of Microbiology at the University of Oklahoma Medical School since 1959. In addition to his administrative and teaching duties there, he has conducted research in epidemiology, microbiology, and clinical medicine, and served as Consultant to the Veterans Administration and the Medical Research Foundation of Oklahoma.

From 1953 to 1959 he was Director of the Research Service Department of Medicine and Surgery of the Veterans Administration, where he was responsible for the administration of a \$17 million medical research program and the coordination of research activities with other Federal agencies, including NIH, the Department of Defense, and National Science Foundation.

Previously he was Chief of the Tuberculosis Research Laboratory at the U.S. Veterans Hospital in

## Excess Property Exhibits Demonstrate The Diversity of Equipment Available



James B. Davis, Chief of SMB (left), shows Dr. G. Burroughs Mider, Director of Laboratories and Clinics, OD, excess property exhibit on display in the Bldg. 1 basement corridor. Another exhibit is at the entrance to the CC cafeteria.—Photo by Bob Pumphrey.

Two attractive exhibits illustrating some of the types of reconditioned equipment available through the Supply Management Branch, OD, are now on display here.

The exhibits are located in the basement corridor of Bldg. 1 near the elevators, and at the entrance to the CC cafeteria. They will remain in these locations until mid-March, and then be rotated throughout other NIH buildings. Both were designed by the Medical Arts and Photography Branch, DRS.

### Range Is Wide

Ranging from optical lenses to bulldozers, from chapel altars to file cabinets, the excess property items are obtained from NIH labs and offices where they are no longer needed, and from excess supplies of various government installations.

A search is being made now for sources of medical supplies and electronic equipment throughout

the Veterans Administration and the Department of Defense.

A small charge is made for reconditioned equipment, and it must be put to official government use. Transportation charges must be paid on items obtained from other agencies.

### Lists Circulated

The agent for obtaining and disposing of all excess property at NIH—the Property Unit, SMB—regularly circulates a list of wanted articles and of those available. Of the 500 to 700 items requested during the past year, over 80 percent were supplied by this method. In all, 65,000 items were received and issued during FY 1960.

Changing programs, reduction in staff, and ordinary wear and tear create the excess property. The need is brought about by growing programs, increased staff, and new laboratories or offices created before the budget includes their cost.

Atlanta, Ga. (1949-53) and Director of the Tuberculosis Evaluation Laboratory of the PHS Communicable Disease Center in Atlanta (1947-49).

### Serves in Denmark

From December 1946 to April 1947, while attached to the U.S. Embassy in Copenhagen, Denmark, he participated in research and training at the State Serum Institute there.

Born in Camden, N.J., in 1920, Dr. Cummings received his B.S. Degree from Bucknell University and his M.D. from the Duke University School of Medicine in 1944.

Mr. Grant during the past year was on leave as Executive Officer of NHI to serve as Director of the Special Staff on Aging in preparation for the recent White House Conference on Aging.

For his work on this assignment he was commended by the outgoing DHEW Secretary, Arthur S. Flemming. In 1959 he also received a Superior Performance Award from Secretary Flemming for his accomplishments in research administration.

Mr. Grant entered the Federal Service in 1942 as an employee of the Civil Service Commission and came to NIH in 1948 as Executive

## Dr. Freyhan Becomes Deputy Chief of Joint NIMH-SEH Center

Dr. Fritz A. Freyhan, Assistant Professor of Psychiatry at the University of Pennsylvania, became Deputy Chief of the Clinical Neuropharmacology Research Center in Charge of Clinical Studies on February 15.

The appointment was announced jointly by Dr. Robert H. Felix, Director of the National Institute of Mental Health, and Dr. Winfred Overholser, Superintendent of St. Elizabeths Hospital.

The Clinical Neuropharmacology Research Center, located at St. Elizabeths Hospital, is a joint research facility of the two institutions.

### Research Is Collaborative

At the Center, the staff of the Clinical Investigations Program of NIMH is currently engaged in a collaborative research project with St. Elizabeths Hospital, aimed at studying the action and mode of action of agents which affect mental functioning with special reference to the problems of mental illness.

The Center is under the immediate direction of Dr. Joel Elkes, Chief of the CNRC and Director of Research for St. Elizabeths Hospital. Dr. Elkes also serves as Chairman of the Joint Committee on Research, NIMH-SEH.

### Native of Germany

Dr. Freyhan, born in Germany in 1912, has been an American citizen since 1943. He received his medical education at the University of Freiburg and the University of Berlin where he received his M.D. degree in 1937.

He entered psychiatric residency training at Delaware State Hospital, Farnhurst, Del., in 1940 and was associated with that hospital in various capacities for 20 years, becoming Clinical Director in 1951 and Director of Research in 1956. Since 1954, he also occupied the position of Psychiatric Director of Delaware Hospital in Wilmington.

The research program developed by Dr. Freyhan at the Delaware State Hospital directed national and international attention to his work in psychopharmacology and brought invitations to address scientific and professional meetings both at home and abroad.

Secretary of the NIH Board of Civil Service Examiners.

In 1950 he transferred to NHI, where he became Administrative Officer in 1951 and Executive Officer in 1955.

He attended the University of Maryland and in 1938 received an LL.B. degree from Columbus College of Catholic University.

## NIAID Counselors Meet Today and Tomorrow, Dine With Huebner

The NIAID Board of Scientific Counselors was scheduled to meet here today and tomorrow in sessions devoted to the research of two NIAID components: the Laboratory of Cell Biology and the Laboratory of Biology of Viruses, under the direction of Drs. Harry Eagle and Karl Habel, respectively.

Dr. Dorland J. Davis, Associate Director in Charge of Research, NIAID, will also review the Research Associate Program for the Counselors and will discuss the research experiences of the young physicians and scientists assigned to NIAID who have participated in this venture since its inception several years ago.

The Counselors have been invited to attend a dinner for Dr. Robert J. Huebner, Chief of the NIAID Laboratory of Infectious Diseases, to be held tomorrow evening at the nearby Naval Medical Center Officers Club. Dr. Huebner is scheduled to deliver the NIH Lecture later the same evening (at 8:15) in the CC auditorium.

### DR. HUEBNER

(Continued from Page 1)

on viral and rickettsial disease problems includes the clinical description of the cause and mode of transmission of rickettsialpox. In his epidemiological studies he has investigated Q fever, parainfluenza virus infections, and the natural history of polyoma virus. He has conducted laboratory and field studies on adenoviruses and vaccine prophylaxis.

Dr. Huebner received national recognition through election in 1960 to the National Academy of Sciences. He is a Fellow of the American Public Health Association, the American Medical Association, and the New York Academy of Sciences, and holds membership in numerous other scientific societies.

He is a member of the WHO Expert Committee on Virus Research, the NRC Committee Advisory to the U. S. Army Chemical Corps, the Advisory Committee on Respiratory Diseases of the American Thoracic Society, and the Committee on Enteroviruses of the National Foundation.

Dr. Huebner was a recipient of the Bailey K. Ashford Award of the American Society of Tropical Medicine and Hygiene and of the Award in Biological Sciences of the Washington Academy of Sciences.

He has given many named lectures, including the Eli Lilly Lecture in 1957, and the Harvey Lecture and the Carl Puckett Lecture last year.

He holds two teaching appoint-

### Masur Gets Pinned



Webloe Scout Peter Bahn pins Dr. Jack Masur, Director of the Clinical Center, during National Boy Scout Week. Peter is the son of Dr. Anita K. Bahn, Chief of the Outpatient Studies Section, Biometrics Branch, NIMH. Webloe is the highest Cub Scout classification.

### Gray Ladies Graduate 19 at CC Exercises

Fifteen women from Montgomery County and four from Washington became Red Cross Gray Ladies at the Montgomery County Chapter graduation exercises held in the Clinical Center February 24.

Dr. Jack Masur, CC Director, extended greetings to the class and Mrs. Eric Collins, Montgomery County Chairman of Red Cross Volunteers read the Gray Lady pledge. Gray Lady pins were awarded by Mrs. Matthew Sawtell, County Vice-Chairman.

The invocation and benediction were pronounced by the Clinical Center chaplains, and the color guard of the Red Cross Motor Service presented the colors.

The new Gray Ladies will serve as volunteers in the CC and other county medical centers, providing personalized service for hospitalized patients.

### NHI Seeks Missing Book

A large red book, the Index Handbook of Cardiovascular Agents—Volume II, Part 1, compiled by Dr. Isaac Welt, has been lost while en route to the Bldg. 10 library from the office of Dr. Eleanor M. K. Darby, NHI.

Dr. Darby asks that anyone who knows of the whereabouts of this book call her at her office, Bldg. T-6, Rm. 2402, Ext. 3670.

ments, as Clinical Assistant Professor, Infectious Diseases in Pediatrics, Georgetown University School of Medicine, and Visiting Lecturer in Microbiology, Harvard University.

A prolific writer, Dr. Huebner has to his credit a bibliography of more than 100 scientific articles.

### Clopine, NIH Librarian, Transfers to VA

John J. Clopine, NIH Librarian since June 1959, transferred March 1 to the Veterans Administration to become the Assistant Librarian, Division of Special Services.

One of his first responsibilities in his new position will be to conduct a survey of information storage and retrieval possibilities among the 300 libraries in the VA hospital system.

Mr. Clopine had been with the Department of Health, Education, and Welfare for the past four years. Before coming to NIH, to succeed Scott Adams as NIH Librarian, he was the Assistant Librarian in the departmental library serving the Public Health Service and the other DHEW agencies.

Mr. Clopine became Chief of the Library Branch, DRS, in April 1960, when the NIH Library was elevated to branch status in the Division of Research Services.

Dr. Malcolm S. Ferguson, recently appointed Chief of the Medical Arts and Photography Branch, DRS, will be Acting Chief of the Library Branch pending the selection and appointment of Mr. Clopine's successor.

### R&W Sponsors Concert By Dr. Kenneth Wolf

Dr. M. Kenneth Wolf, an NINDB Research Associate here two years ago, will give a piano recital in the Clinical Center auditorium on March 27 at 8:30 p.m.

The concert is the fifth in the 1960-61 series sponsored by R&W.

Dr. Wolf's program will include works by Beethoven, Chopin, Scriabine, Debussy, and Liszt.

A man who pursues two full-time careers, Dr. Wolf studied piano under the late Artur Schnabel, and is a concert pianist and composer. He received his M.D. degree from Western Reserve University Medical School and is now on the faculty of the Harvard Medical School. He returns to NIH occasionally as a Consultant.

Dr. Wolf has given piano concerts here twice previously.

There will be no admission charge or tickets required for the concert.

### LAUNDRY

(Continued from Page 2)

laundry will supply clothing for adult mental health patients if a doctor certifies that this is necessary.

The supply unit can't stock everything, and sometimes special items are needed—like monkey catchers. In this case, the four seamstresses of the Fabrication and Repair Unit will fill the gap and make the needed item. A monkey catcher is a canvas bag used

### Chief of PHS Nursing To Address Meeting Of Mortar Board

Mrs. Lucile Petry Leone, Chief Nurse Officer of the Public Health Service, will speak on "Public Health in the 1960s" at a meeting of Mortar Board in the Clinical Center auditorium next Monday, March 20, at 7:30 p.m.



Mrs. Leone

The D.C. Chapter of the organization, a national honorary society for women, invites the attendance of staff members of PHS-NIH and their friends.

Mortar Board members and guests who wish to see the Clinical Center will gather in the lobby for a tour starting at 4 o'clock. They will have dinner in the cafeteria at 5:30 and reassemble in the auditorium at 7:30. Jane Showacre of NIAID is Chairman of Arrangements.

### Heads Nursing League

Mrs. Leone is President of the National League for Nursing, a health organization with 23,000 individual members and more than 1,000 agency members.

In April she will represent the league at the convention of the International Council of Nurses, in Melbourne, Australia, and will confer with health leaders in other Australian cities, in New Zealand, and in Hawaii.

### Wins Nightingale Award

Before coming to the PHS in 1941, Mrs. Leone was Assistant Director of the University of Minnesota School of Nursing. During World War II she headed the Cadet Nurse Corps. She is a graduate of the University of Delaware, the Johns Hopkins School of Nursing, and Columbia University, and holds eight honorary doctorate degrees. In 1959 she was awarded the Florence Nightingale Medal by the International Committee of the Red Cross.

to keep the handler from being bitten when the monkey is removed from its cage.

The fabrication unit also makes operating room linens of unusual sizes, special slipcovers and draperies for conference rooms, and even plastic mattress covers for metabolic patients.

All of this added up to more than 5½ million pieces of laundry processed by this busy section during a recent seven-month period.