

the Record

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

April 10, 1962
Volume XIV, No. 7

PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

Type 3 Vaccine Licensed for Use Against Polio

Final tests of Type III live, oral polio vaccine have been satisfactorily completed by the Division of Biologics Standards, and two pharmaceutical firms are now licensed for commercial production and distribution of all three types of the vaccine.

On March 27, licenses were granted to Lederle Laboratories, Pearl River, N.Y., for Types I, II, and III; to Pfizer Ltd., Sandwich, England, for Type III (this firm was licensed last fall for Types I, and II); and to Wyeth Laboratories, Marietta, Pa., for Types I and II.

The regulations for production of all three types of live polio vaccine were established by the Public Health Service a year ago. Types I and II have been produced under U.S. license by Pfizer Ltd. since August and October 1961 respectively and have been marketed in this country by Pfizer Laboratories of New York.

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The NLM, Moving a Million Volumes, Opens Monday in New Building Here

By Ken Stabler

Barring a post-season blizzard or other phenomena, the National Library of Medicine, comprising the world's greatest collection of medical literature, will be functioning next Monday in its new \$6.7 million home in the southeast sector of the NIH reservation.

To achieve this scheduled open-



Moving man shows off one of the specially constructed triple-shelf boxes, mounted on a dolly, used in transporting the books by truck.

ing date, the lumbering trailervans today began stepping up their transfer of the Library's 1,000,000 "items" from the old downtown building to the new.

In library lingo an "item" is anything from a 2-page pamphlet to a 1,000-page book, and the NLM has quite a few of both. Its entire collection, to be exact, numbers 1,066,068 items, including 600,000 bound volumes.

Footage Measure Used

Translated into linear footage—a measure preferred in this instance by librarian and moving man—the collection totals 65,000 linear feet, or a little over 12.3 miles.

In addition to the physical task of packing, transporting and unloading 12 miles of books, other and complicating factors are involved in the moving operation.

The NLM, in the building it has occupied at Seventh St. and Independence Ave., S.W., since 1887, has been a busy place. Last year it serviced 45,000 reader requests (from individuals who visited the building), and its Interlibrary Loan Service completed 110,000 requests from medical and other libraries in

(See MOVING, Page 4)

Dr. Calvin to Present NIH Lecture April 25

Dr. Melvin Calvin of the Department of Chemistry and the Lawrence Radiation Laboratory, University of California, will present the next in the NIH Lecture series, Wednesday, April 25, at 8:15 p.m., in the Clinical Center auditorium.

Dr. Calvin's subject will be "Photosynthesis." The *NIH Record* will carry an advance summary of the lecture in the April 24 issue.

Four from NIH Receive Awards From DHEW

Four NIH staff members will receive awards for meritorious service at the 11th Annual DHEW Honor Awards Ceremony tomorrow (April 11) at 3 p.m. in the HEW Departmental Auditorium.

[Ed. Note: Announcement of a fifth NIH staff award will be published in the next issue.]

The Department's top honor, the Distinguished Service Award, will be presented to Dr. Thelma B. Dunn, Head of the Cancer Induc-



Dr. Dunn



Dr. Berliner



Mr. Murtaugh



Dr. Kramer

tion and Pathogenesis Section of the Laboratory of Pathology, National Cancer Institute; and Dr. Robert W. Berliner, Director of Intramural Research, National Heart Institute.

Receiving the DHEW Superior Service Award will be Dr. Morton Kramer, Chief of the Biometrics Branch, National Institute of Mental Health; and Joseph S. Murtaugh, Chief of Program Planning, Office of the Director.

Dr. Dunn will be cited "in recognition of her distinguished contributions to science and of the great prestige she has brought to the United States by her exemplary accomplishments as a creative sci-

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Dr. Samuel M. Fox Is Medical Monitor During Colonel Glenn's Historic Flight

By Tony Anastasi

"Friendship 7, this is Zanzibar, Sir John. How are you feeling?—Over."

Dr. Samuel M. Fox, Assistant Director of the National Heart Institute, was talking to Lt. Col. John H. Glenn, Jr., whose space capsule was in its third and final orbit around the earth on that memorable Tuesday, February 20.

Col. Glenn's reply was a crisp confirmation that he was in first-class condition and enjoying the mission.

Dr. Fox, a part-time consultant to the Life Systems Division of

NASA and a medical monitor for this and two previous space flights, was one of two physicians to speak directly with Col. Glenn during his world-orbiting mission. The other was Dr. Julien Ward of the U.S. Air Force.

Dr. Fox also participated in a public report of Col. Glenn's Orbital Flight at the State Department auditorium last Friday.

For the *NIH Record* he recounted the following paraphrased version of his conversation with Col. Glenn while the famous astronaut was in orbit:

MONITOR: Friendship 7, this is Zanzibar, Sir John (communications name for the medical monitor). Your EKG traces are technically excellent and completely normal. We are ready for blood

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Dr. Fox

the NIH Record

Published bi-weekly at Bethesda, Md., by the Public Information Section, Office of Research Information, for the information of employees of the National Institutes of Health, principal research center of the Public Health Service, U. S. Department of Health, Education, and Welfare.

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'PERSONNEL' TO PERSON

Supervisory Training

Tomorrow (April 11) will mark the close of the third NIH Management Course for Supervisors, with 16 supervisors in grades GS-7 to GS-12 or equivalent, representing nine Institutes and Divisions, receiving certificates of completion. The program, which began in November 1961, has had a total of 31 graduates from its first two courses.

Throughout this training course, first and intermediate level supervisors—both commissioned and Civil Service personnel—have an opportunity to study and exchange views on supervisory concepts and methods. Attention is focused on subjects such as management theory, personnel management, and human relations, and every effort is made to relate these areas to the policies and practices of NIH.

The fourth, and last, course for FY 1962 will begin April 30. Sessions will be held on ensuing Mondays, Wednesdays, and Fridays in Building 15K, Room 201, for approximately five weeks. Additional information is available from your Personnel Operations Officer.

Decal Parking Stickers Required by April 15

The Plant Safety Branch advises NIH motorists that effective April 15, the new bumper decal parking stickers must be displayed on all vehicles using reservation parking lots.

PSB also reminds motorists that unless the bumper stickers are displayed, their parking privilege may be revoked.

Employees who have not received their stickers may obtain them by calling the Guard Office, Bldg. 31, Rm. B1A03, Ext. 5685.

John O'Farrell Named Classification Head

John J. O'Farrell, a Civil Service career employee with 25 years' experience in personnel work, has been appointed Head of the Classification and Wage Administration Section, Personnel Management Branch, OAM, effective yesterday.



Mr. O'Farrell

Mr. O'Farrell replaces Warren Childers who has retired for reasons of health and is planning to move south soon, near Jacksonville, Fla.

Mr. O'Farrell's career experience has been with the Department of the Army, where his most recent post was that of Chief of Position and Pay Management for the Ordnance Corps.

His experience in personnel work has included positions at field and staff levels, with the Corps of Engineers and with the General Staff, reviewing personnel administration programs.

During World War II, Mr. O'Farrell served for three and a half years with the 86th Infantry Division, both in Europe and in the Philippine Islands. He attended Multnomah College, Portland, Ore., and Washington and Jefferson College, Washington, Pa.

Charlie Byrd, Guitarist, To Play Here Thursday

Charlie Byrd, well-known Washington guitarist, will present the next R&W-sponsored concert in the Clinical Center auditorium, April 12, at 8:30 p.m.

Mr. Byrd, who studied the classic guitar under Segovia, has chosen a program of works by Sor, Bach, Villa Lobos, Granados, Barrios, and Carulli. John Malchi, pianist, will accompany him in part.

Buildings at NIH Surveyed for Areas Suitable for Use as Fallout Shelters

A survey of buildings on the NIH reservation to determine areas suitable for shelter against radioactive fallout in the event of thermonuclear attack is under way here and scheduled for completion by April 1.

Known as the National Shelter Survey, the inspection and evaluation of fallout protection factors provided by certain areas of NIH buildings is part of a long-range program for civil defense authorized last year by President Kennedy to be conducted under authority of the Department of Defense, to which civil defense functions are assigned.

Purpose Explained

The purpose of the current and next phase of the program is to provide maximum protection to the greatest number of people possible, within existing Federal and public buildings. Future plans of the program include further shelter construction in public buildings in Fiscal Year 1963.

Following completion of the survey on April 1, the areas selected as having adequate protection factors will be marked and stocked with essential food, water, first-aid kits, and radiation detection meters. Any modification needed to provide adequate ventilation will be made. The DOD deadline for preparation and stocking of shelters is July 1.

Surveyed by Engineers

Phase I of the shelter survey at NIH has been carried out by building engineers of a Silver Spring architectural firm with the cooperation of the Plant Safety Branch, OD, and the Plant Engineering Branch, DRS.

The Department of Defense has delegated authority for the National Shelter Survey in the Maryland area to the U. S. Army Corps of Engineers, Baltimore District, which in turn has sub-contracted the inspection to private consultants.



The tunnel between the Clinical Center and Building 13 is one of the areas under consideration for use as a fallout shelter in the event of thermonuclear attack. Here the ceiling is checked for structural strength by (from left) Alfred L. Perkins, Chief of the Engineering Design Section, Plant Engineering Branch, DRS; Joseph Slovinsky, engineering consultant with a Silver Spring architectural firm; George P. Morse, Chief of the Plant Safety Branch, OD; and Mr. Slovinsky's associate, Fred Johnson.—Photo by Bob Pumphrey.

COSTEP Files Available

Files of students eligible for employment under COSTEP (Commissioned Officer Student Training and Extern Program) are available for review and selection in the Clinical Center, Room 2B52.

All persons interested in making a selection are urged to do so as soon as possible in order that these students may be notified of their pending appointments before finding employment elsewhere.

Ruth I. Blocher Retires

Ruth I. Blocher, a member of the DRG Personnel staff, retired recently after 22 years of service with the Public Health Service.

Mrs. Blocher transferred to DRG from the Office of Civilian Personnel, PHS, on March 9, 1947, seven months after the organization was designated a Division of the Service. She was the 37th employee to join the DRG staff.

Well known here and devoted to her work, Mrs. Blocher had been a member of the DRG Personnel staff during her entire service with the Division.

Driscoll, Stanley Named to Head NIDR Branch

Appointments of Dr. Edward J. Driscoll as Chief, and Dr. Harold R. Stanley as Assistant Chief of the Clinical Investigations Branch of the National Institute of Dental Research was announced recently by the Office of the Director, NIDR.

Dr. Robert M. Stephan, who formerly headed the Branch, has returned to full-time research.

Dr. Driscoll has been in charge of Oral Surgery in the Clinical Investigations Branch since joining the Institute in 1954.

He was recently appointed Chairman of the Committee on Anesthesia and is currently a member of the Committee on Oral Cancer of the American Society of Oral Surgeons. He has been selected by that organization as one of 25 dental specialists to attend the first International Congress on Oral Surgery, to be held in London in July.



Dr. Driscoll

Serves as Consultant

He is also a consultant in oral surgery to the Council on Dental Therapeutics, American Dental Association, and an associate editor of the Journal of Oral Surgery, Oral Medicine, and Oral Pathology. Dr. Driscoll received his D.D.S. degree from Loyola University, New Orleans, La., in 1936 and was commissioned in the U.S. Public Health Service the same year. He served in several PHS hospitals and in 1951 was appointed Assistant Chief of the Division of Dental Resources, PHS. He received a Fellowship in anesthesiology at Doctors Hospital in Washington in 1953, and attended the Graduate School of Medicine, University of Pennsylvania, the following year.

Dr. Stanley has been a member of the Clinical Investigations Branch since 1953. He received the D.D.S. degree from Baltimore College of Dental Surgery in 1948 and was commissioned in the U.S. Public Health Service that year. After completing an internship at the USPHS Memorial Hospital in Baltimore in 1949, he served a brief tour of duty at NIDR.

The following two years were spent in graduate training at Georgetown University and as a resident in oral pathology at the Armed Forces Institute of Pathology. He has been serving since 1953 as the oral pathologist for the Clinical Center and NIDR.

New Technique Enables Study Of Exposure to Viral Agents

A little-known serological technique which makes it possible to investigate human exposure to more than 100 viral agents has been perfected by a scientist at the National Institute of Neurological Diseases and Blindness.

The micro technique, providing rapid, accurate dilutions with minute quantities of reagents, was perfected by NINDB's Dr. John L. Sever in connection with the mass screening of serum in the Perinatal Collaborative Project conducted by the Institute.

Publishes Report

In a paper published in the March issue of the Journal of Immunology, Dr. Sever reports on the refinements and changes necessary to obtain reliable information with large-scale use of the technique. Comparative determinations obtained with the micro system and standard systems have established the reliability and validity of the modified technique.

The original microtiterator system was introduced by Dr. Gyula Takatsy of Budapest, Hungary, in 1950. The restricted acceptance of the system was probably related to the lack of published technical information on its use and on modifications necessary to utilize the equipment properly.

Modifications Described

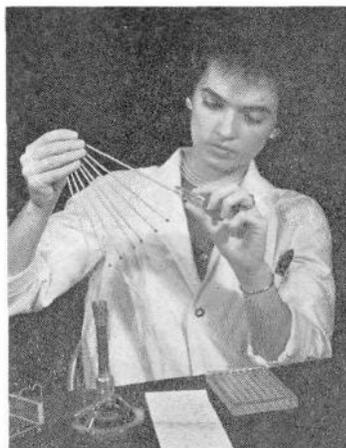
The modified system consists of plexiglass plates with small cups formed in the surface which take the place of test tubes in the standard technique. Tightly wound spiral loops that pick up exactly

0.025 ml. of reagent are used for dilution procedures. Reagent can be transferred from one cup to the next by a dip and twist procedure. Eight loops, with tapered handles, may be manipulated at one time in one hand. A hypodermic dropper that releases exactly 0.025 ml. is used to deliver reagents to the cups in the plexiglass.

Establishes Specifications

In an extensive series of tests, Dr. Sever established specifications for reliable use of the micro system in complement fixation, hemagglutination, and metabolic inhibition tests for a variety of viruses. Serological studies using the original technique have been reported by other investigators and the method is undoubtedly applicable to many types of tests.

Equipment modifications developed by Dr. Sever include a new type of plexiglass plate with radial, deep cups, as well as centrifuge carriers for the plates. Also, modified glass pipettes, hypodermic droppers, and a tape dispenser were designed, which improved the general performance of the test. The basic equipment which comprises the micro system fits into a compact, portable plastic case.



Jean Roberts of the Perinatal Research Branch, NINDB, demonstrates two of the steps involved in the recently perfected micro technique which makes it possible to investigate human exposure to more than 100 viral agents. Left: In a dilution procedure, she fills one of eight spiral loops with live virus. Right: She then dilutes the virus by transferring the loops to cups containing saline, in the plexiglass plate. The loops, with tapered handles, are designed to permit manipulation of eight in one hand at one time.—Photos by Sam Silverman.

Blackfeet Indians Are Participants In Arthritis Study

The first stage of one of the largest population studies of arthritis and rheumatism ever attempted in the United States was completed recently among the Blackfeet Indians of Montana.

The study is designed to provide better information about the role climate and heredity play in arthritis and rheumatism—maladies afflicting over 11 million Americans and held responsible for enormous economic losses and hardships.

The study team was headed by Dr. Thomas A. Burch of the Arthritis and Rheumatism Branch, National Institute of Arthritis and Metabolic Diseases. Among other members of the team were Dr. William O'Brien of the same branch, and Dr. John Lawrence of the Empire Rheumatism Council, Manchester, England, a pioneer and international authority on population studies in arthritis.

Over 1,000 Examined

The investigators examined 1,059 Indians over 29 years of age, approximately 85 percent of the Blackfeet population in that age group. They conducted physical examinations, took X-rays of hands, feet, neck, and lower spine, and performed special blood tests—all under criteria worked out and agreed upon by the world's leading authorities on arthritis and rheumatism. Using these special criteria, results can be objectively compared with results from studies made in other population groups throughout the world.

While in Montana the survey team, which numbered 12 in all including technicians and locally recruited drivers, operated from two large vans which had formerly served as chest X-ray vehicles and had been specially refitted as mobile laboratory and examination rooms for the study.

Arizona Survey Planned

The second half of the survey will be conducted on a southwestern Indian tribe in the Arizona desert next year, approximately 1,500 miles south of the Blackfeet country.

These two locations represent the opposite ends of the temperature scale in the continental United States. If it can be established that arthritis existing in a hot climate affects people differently than does arthritis in a cold climate, this may provide a lead to the possible causes of arthritis and rheumatism and may enable better control of these diseases.

MOVING

(Continued from Page 1)

this country and abroad.

For this reason the move had to be planned and executed with the least possible disruption of service.

The man in charge of the book-moving operation — William H. Kurth, Deputy Chief of the Library's Reference Services Division — explained that the items known to be in least demand were therefore moved first.

The big vans, he said, began transporting these lesser-used items on March 5, averaging a little over two loads a day. Each van carries 500 linear feet of books, stacked in specially built boxes on shelves three feet wide, three shelves to the box.

Transfer Rate Doubles

By the end of the fifth week—which was yesterday—the movers would be ready to transport the volumes in greater demand, and the rate of transfer would be doubled, beginning today, Mr. Kurth said.

By maintaining this rate of 2,000 linear feet per day through next Saturday, he estimated 60 percent of the items will be in the stacks of the new building in time for next Monday's opening. The remaining 40 percent, consisting of items of intermediate interest, will be transferred by the end of this month.

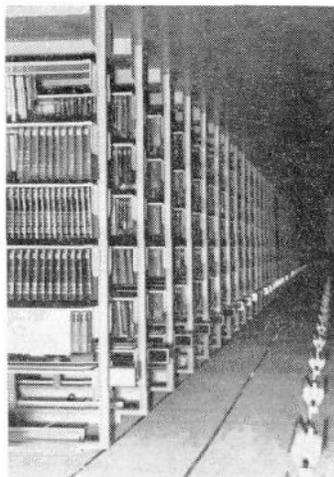
By next Monday, he said, all of the equipment and furnishings which have been arriving daily from the various manufacturers will be in place, and the Library's approximately 200 employees, headed by Dr. Frank B. Rogers, the Director, will be on the job and ready for work as usual.

Planning Is Careful

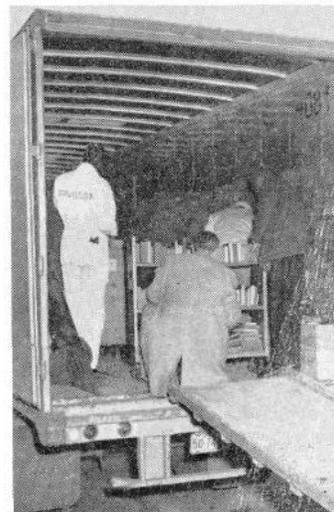
On a quick tour below ground level—three of the building's five floors are below grade—Mr. Kurth revealed additional aspects of the careful planning involved.

The "B" level, two stories down, is devoted entirely to stacks—as is half of the "A" level. The "C" level eventually could be used for this purpose also. In the approximate center of each of these levels are the gravity chutes, similar to the mail chutes in office buildings, where the slips requesting books for the First Floor Reading Room are dropped from the Reader Service Desk. And alongside these chutes are the automatically operated dumbwaiters that lift the requested tomes to their destination.

Nearest this request-and-delivery area of the "B" level, Mr. Kurth pointed out, is the 20th Century Monograph Collection. Consisting of monographs published since 1914, its items are in greater demand—by a ratio of 10 to 1, he said—than those of the 19th Cen-



The 20th Century Monograph Collection, already well stacked, is near the receiving-dispatching center on "B" level because its items are much in demand.—Photos by William Gibson.



The first vanload of books is unloaded at the new National Library of Medicine Building here on March 5.

ture Collection, located at a greater distance from the communication center.

And so it was arranged, with the Thesis Collection still farther removed, and the Miscellaneous and other collections beyond that.

On the day of this inspection the vast majority of the seemingly endless stacks were still empty, but further evidence of planning was apparent in the stacked areas, where every tenth section of the shelves was systematically left clear of books. "Room for additions," Mr. Kurth said.

The total stack area will house nearly triple the Library's present holdings. It is calculated that stack space will be sufficient for at least 25 years' growth, after which stack increments will have to be added or other solutions found.

The moving operation will ac-

Homemakers Advised to Ease Tensions Of Every-Day Life by Change of Pace

Following is a talk recorded by Dr. Robert H. Felix, Director of the National Institute of Mental Health, as one of a series of 26 5-minute radio programs on "What Do You Know About Your Mind?" The series is sponsored by St. Elizabeths Hospital and is broadcast by local radio stations throughout the country.

The world's most important job—that of the homemaker—seems more complicated than it was 50 years ago. Today a homemaker is expected to do more than cherish her husband, rear their children successfully, and maintain a well-ordered household. She is expected to be a part-time chauffeur, charming hostess, dedicated volunteer worker in her community and church and, in many cases, help improve or maintain her family's standard of living by becoming a wage-earner. The complexities of modern living make heavy demands upon the homemaker's time, energy, and peace of mind. Most important, from the psychiatrist's point of view, they can cause tension.

Some Tension Is Good

Now psychiatrists are not against tension—some degree of tension is a good thing. Being tense—or poised for action—helps a mother hear her child's cry for help and helps keep a driver alert at the wheel. If we were not tense to a certain degree, we would not be able to react to the many threats we face in our day-to-day life and we would have an unproductive existence.

When tension gets out of hand, however, it threatens not only our physical well-being, but also our mental health.

Prolonged Tension Is Bad

Of course, everybody is over-tense at one time or another. It is normal for tensions to rise temporarily when the demands made upon us are heavy. Excessive worry without apparent cause, irritability, jumpiness, the inability to relax, feelings of inferiority and moodiness are not uncommon in everyday life. But when symptoms such as these become frequent and prolonged, it is time to do something about it. The over-wrought wife and mother is likely to upset her husband, who, after all, has tensions of his own, and

usually not be complete until April 24—two weeks from today—when the Library's Historical and Rare Book Collection, consisting of 35,000 volumes, is scheduled to arrive from Cleveland, Ohio, where it has been housed in leased space in the Allen Memorial Library.

The truck convoy will be accompanied by armed guards, and the collection, in transit, will be insured by Lloyds of London at its full estimated value of \$6 million.

Mental Health Program Heard Locally on WWDC

The 5-minute radio series, "What Do You Know About Your Mind?" produced with the cooperation of Saint Elizabeths Hospital, is being broadcast on 440 stations across the Nation. It can be heard locally on Station WWDC every Sunday at 8:10 p.m.

her children, who need to feel that their parents are stable and in control of the situation at all times.

Life being what it is—both perilous and productive—we often can do little to remove the many causes of tension. We can, however, do a good deal to keep our tensions under control.

Creative Attitude Suggested

One way to do this is to approach routine, tedious and necessary tasks with a creative attitude. A medical student I once knew found his part-time job as a grocery store clerk boring, until he decided to make a game of it and see how well he could sell "special" grocery items. He soon found that he enjoyed his job because he felt more like a salesman than a clerk.

Similarly the homemaker can accept everyday chores as a challenge to her ingenuity. She can devise ways of doing them so efficiently that there is time "left

(See *HOMEMAKERS*, Page 5)

Library Inscription Gives NLM History-in-Brief

On the inner face of the dark green granite wall at the entrance of the new National Library of Medicine is the following inscription:

"Founded in 1836 as the Library of the Surgeon General's Office, United States Army; developed as a national resource under the leadership of John Shaw Billings, Librarian from 1865 to 1895; named Army Medical Library in 1922 and Armed Forces Medical Library in 1952; made a part of the Public Health Service of the Department of Health, Education, and Welfare in 1956; established on this site in 1961; the one hundred and twenty-fifth anniversary of its founding."

New Procedure Devised For Reporting Inventions

A new procedure for reporting patentable discoveries and inventions arising out of grant-supported work has been developed by the Division of Research Grants.

Under the new procedure an "annual invention statement" must be submitted on a PHS form as part of all requests for renewal of support, and as part of all final progress reports. While formal reports of inventions have been required in the past, and will continue to be, the statement is intended to call the reporting obligation to the personal attention of scientists and institution officials on a regular basis.

Detailed information of the procedure may be obtained from Miss Katharine Parent, special assistant (extramural patents), DRG.

HOMEMAKERS

(Continued from Page 4)

over" for the more creative aspects of homemaking. By these I mean not only such homemaker's hobbies as gardening, gourmet cooking and dressmaking. I mean, too, the capacity to cultivate warm and loving relationships within the family, to form lasting friendships, to become a woman who gives encouragement and happiness to the persons who enter her life.

But regardless of how much one may wish to accept life's challenges creatively, tensions mount when one is overworked and overtired. That is why I believe that the homemaker should make time for a "change of pace." The Boy Scouts follow this rule when, on their hikes, they walk for a while, then trot, take a short rest, and walk again. The idea is that you can hike for a longer time if every once in a while you change your pace.

15-Minute Breaks Advised

This rule can well be applied in the home. The change of pace is simply a temporary escape from the routine. It can take the form of reading, listening to the radio, working on a hobby, or some other activity you enjoy. Even if you have only fifteen minutes a day in which to change your pace, making the most of this time will do much to help create tranquility in your home.

Of course, a daily fifteen-minute change of pace is not guaranteed to solve all of the homemaker's problems. But I do recommend its usefulness as a commonsense rule of good living. At the same time, I must, as a physician and psychiatrist, remind you that if the commonsense rules of good living, faithfully followed, do not keep the tensions of living within reasonable bounds, a good person to turn to for help is your family physician.

Live Measles Vaccine Found Effective And Safe for Tropical Climate Use

The safe and effective immunization of some 400 West African children with live measles vaccine has been reported by a Division of Biologics Standards medical team which recently concluded a 2-month pilot study in Ouagadougou, Upper Volta.

The study was carried out by Dr. Harry Meyer, Jr., Chief of the Section on General Virology, Laboratory of Virology and Rickettsiology, and his associates, Dr. Daniel Hostetler, Jr., and Barbara Bernheim. The DBS scientists were in Africa at the invitation of Dr. Paul Lambin, Minister of Health, Republic of Upper Volta.

Developed at Harvard

The vaccine used in the study was the live attenuated Edmonston strain developed by Dr. John Enders and his associates at Harvard University. It was prepared in chick embryo tissue cultures and packed in a dried state in glass ampoules.

The study was made to determine whether the vaccine which has been administered safely to some 10,000 children in the United States would be equally safe for West African children in whom natural measles is characteristically associated with a high mortality.

The disease is reported to kill 25 to 50 percent of children in Upper Volta during the first few years of life, as contrasted to one in 10,000 in this country.

Suggested Last Summer

The four African ministers of health of Upper Volta, Dahomey, Niger, and the Ivory Coast, who visited NIH last summer, suggested that such a study was essential to establish the clinical safety of the vaccine before considering its large-scale use in their countries.

The DBS team, with the assistance of nurses provided by the Upper Volta Health Ministry, began vaccinations on November 28. The surveillance period was completed on January 10.

No serious reactions were encountered in any of the 439 children given the vaccine, although most of them were suffering from one or more acute or chronic infections.

The 683 children selected for the study had no previous history of measles. They were divided into three groups of approximately equal size. Group 1 received only the live attenuated measles vaccine; Group 2 was given the vaccine followed by an injection of gamma globulin; Group 3 got only gamma globulin, thus serving as a control to determine the incidence of nonvaccine related illness in Groups 1 and 2. Prior to vaccination, each child was given a

complete physical examination

A variety of diseases unrelated to the vaccine procedures appeared during the surveillance period and were treated by the DBS team. These included pneumonia, convulsions, gastroenteritis, malaria, otitis media, purulent conjunctivitis, upper respiratory infections, pyogenic skin infections and varicella.

Many of these illnesses might have been misinterpreted as a response to the vaccine if the clinical



An Ouagadougou infant is examined prior to measles vaccination by a member of a DBS pilot study team in Africa. When news spread through Upper Volta that their children could be protected against measles, mothers lined up at the dispensaries before dawn in the hope of having them vaccinated.

surveillance had been less complete. Two children developed typical measles and one other German measles. All three were found to have been exposed during the week preceding vaccination; two were in Group 3 (gamma globulin only) and one in Group 1 (vaccine only).

Venous blood samples, taken from about half the members of each of the three groups prior to vaccination and four weeks later, were brought back to DBS laboratories for measurement of measles antibodies content.

94 Percent Susceptible

Results of the serologic tests show that 94 percent of the inoculated children were susceptible to measles prior to vaccination; all of those vaccinated had developed immunity when tested four weeks after inoculation. The level of measles antibody was slightly higher in those who received the vaccine without concurrent gamma globulin.

Based on the experience of Dr. Enders and others, it is anticipated that the protection conferred by the live vaccine will be of long duration.

NIMH Scientists Find Clues to Reactions To Transplantations

Clues that may help decipher certain immunological reactions which at present prevent the successful transplantation of skin and organs and occasionally cause fatalities resulting from immunization, have been found by scientists of the National Institute of Mental Health.

The discovery grew out of research on the immunological and biochemical aspects of degenerative diseases of the central nervous system, and is reported in the *Journal of Experimental Medicine*.

Diet Deficiency Significant

Drs. Peter Mueller and Marian Kies, of the Laboratory of Clinical Science, NIMH, have found that a diet deficient in Vitamin C provides permanent immunity against experimental allergic encephalomyelitis (EAE). This is a disease in animals that resembles multiple sclerosis in man, and is considered to be identical to the fatal encephalitis in humans that sometimes results from rabies immunization.

The studies were carried out in collaboration with Drs. E. C. Alvord, Jr. and Cheng-Mei Shaw, National Institute of Neurological Diseases and Blindness grantees at the University of Washington.

Abolishes Tuberculin Sensitivity

The scientists also found that the Vitamin C deficient diet abolished tuberculin sensitivity which is measured by skin reaction to purified protein derivative (PPD) injections.

After restoration of Vitamin C to the diet, the guinea pigs recovered tuberculin sensitivity, although the group continued to remain immune to EAE.

Provides Research Leads

Since a Vitamin C-deficient diet would, by producing scurvy, create debilitating disease, the findings do not provide a feasible treatment for demyelinating diseases—those involving degeneration of the nerve sheath, myelin. However, the immunity generated against this allergic disease provides new research leads for further studies as to what occurs in allergic or immunological reactions.

If a way could be found to protect an organ against the disintegrative process resulting from an auto-allergic reaction similar to the side effects of rabies vaccination where the brain destroys itself, and in tissue transplants where the new skin or kidney is destroyed by its host, great strides can be made in an area that has baffled scientists for many years.

MONITOR

(Continued from Page 1)

pressure.—Over.

GLENN: Affirmative for blood pressure. Will proceed.

MONITOR: You have an excellent blood pressure recording. We're ready for exercise when you are.—Over.

GLENN: Getting ready for exercise. Have started. (Long pause.) Have completed exercise. Will get second blood pressure measurement. (The exercise consisted of pulling a set of elastic rubber cords a given distance a certain number of times with the hands.)

MONITOR: Your blood pressure determination is completed—and it is not elevated. The EKG has been normal throughout the entire pass and no physiological problems appear. Your pulse returned to within 10 beats of the pre-exercise rate in one minute after you stopped exercising.—Over.

Returns to Bethesda

Dr. Fox recently returned to NHI from a 2-month trip to Africa, where he was on invitational orders to NASA for Project Mercury.

Aside from working as an Aero-Medical Monitor at the tracking station in Zanzibar, East Africa, Dr. Fox was engaged in developing special apparatus for measuring physiological functions, including blood pressure and respiratory activity. He had previously been "briefed" at Cape Canaveral and the Air Force School of Aviation Medicine in San Antonio, Tex., as had Dr. Francis T. Flood of the U.S. Public Health Service Hospital, New Orleans, La.

Dr. Flood was also at the Zanzibar station during Col. Glenn's flight. Dr. Leonard Laster of NIH's Institute of Arthritis and Metabolic Diseases also aided NASA in Col. Glenn's flight by designing and adapting techniques for absorption tests.

Military Excluded

The other tracking stations were largely manned by Armed Forces flight surgeons, but the Government of Zanzibar requested that no members of the military be stationed at the NASA Tracking Station on the Island.

A clinical physiologist who joined the NHI in 1957, Dr. Fox has known the astronauts since late 1960. In spare moments while working in the program, Dr. Fox sometimes joined the astronauts in fishing, water skiing, skindiving, and water polo. He admits they can swim circles around him.

Most of their off-duty hours, however, were spent in talking about the many complex problems involved in the program.

During the orbital flight Drs. Fox and Flood were personally

Spring Fashion Show in CC Defies Friday the 13th Jinx



Disregarding the superstitions of Friday the 13th, these models who will participate in the CC spring fashion show on that date this week, pose with a ladder. From left: Betty McMahon in a poppy red wool coat and white knit hat, Virginia Moore wearing an aqua party dress, and Ruth Marino in a black silk cocktail dress with white organza skirt. Other models will include four girls, age 9 to 11, and three men.

It will take more than misplaced ladders, broken mirrors or black cats to dampen the enthusiasm of CC patients, doctors, nurses, and other employees of NIH who are looking forward to a spring fashion parade on Friday, the 13th of April, in the 14th floor assembly hall of the Clinical Center.

Equally unconcerned are the Virginia Moore models who will walk under a ladder onto the red-carpeted runway at 7:30 p.m., garbed in colorful styles from Mark Daniels of Rockville, Tots and Teens of Wildwood Manor, and Lawrence Reed of Congressional Plaza. Smart coiffures from the talented hands of Vincent et Vincent will also be shown.

Patients have been invited to compete in a special Easter bonnet

contest, with hats of their own creation. Prizes will be given for the prettiest and the most original.

Music by Stephen Flinn will set the pace for the lively commentary by Virginia Moore, former "Mrs. Maryland." Special guest models will be Iris Beery, "Mrs. District of Columbia"; and Lou Ellen Fee, "Miss Rockville."

Floral arrangements and potted palms will be provided by the Fernwood Garden Club, Blackstone, and Gude.

responsible for monitoring 28 different signals—and helped monitor 60 more—from the capsule transmitters. Col. Glenn reported no defects in visual acuity or reach accuracy and no disorientation after rapid head motions.

Also, the first publicly reported test of the response to exercise while in orbit was smoothly performed over the Zanzibar station, preceded and followed by measurements of left brachial artery blood pressure.

Continuous telemetered electrocardiographic tracings were obtained during the first and second

orbits along with measurements of body temperature and respiration.

Voice contact was all that was expected or obtained during the third orbit, since the capsule passed outside telemetering range.

After returning to his desk at NIH's Building 31, Dr. Fox said that he missed some aspects of the enforced life of a beachcomber.

He spoke with enthusiasm of the prompt manner in which Dr. Laster responded to a call to set up a test of Glenn's gastroduodenal absorption while in the weightless, orbital state.

Within one month of its first

Carcinogen Instillation Induces Lung Cancer In Laboratory Animals

Some investigators believe that the increased frequency of lung cancer in man is due to cigarette smoking or atmospheric pollution, or a combination of both environmental factors. At this time, little is known of the nature of the carcinogen and how it acts. One of the chief obstacles to scientific investigation of this problem has been a scarcity of reproducible methods for inducing the disease in laboratory animals by the route by which substances from the environment enter the lungs of man.

Substance Is Potent

Scientists of the National Cancer Institute's Laboratory of Pathology have reported the successful induction of lung cancer in hamsters by instillation of 3,4-benzopyrene into the tracheobronchial tree. This substance is one of the most potent animal carcinogens so far isolated from either cigarette-smoke condensate or air pollutants. Whether it plays a role in the development of lung cancer in man is still uncertain.

The tumors, some of which histologically resembled squamous-cell carcinoma, a type of bronchogenic carcinoma that occurs in man, were found only in animals that received the carcinogen suspended in Tween 60, a wetting agent. The mucosa of the tracheobronchial tree revealed atypical epithelial changes in addition to the tumors.

Oil Solution Ineffective

However, neoplastic lesions were not induced in animals that received benzopyrene dissolved in olive oil.

The results lead the authors to suspect that the ability of Tween 60 to increase the permeability of mucous membranes to carcinogens may explain its promoting action and the success in inducing tumors in the present study. It is possible, they believe, that the induction of the tumors was related to the difference in the physical state of the carcinogen—in a suspension rather than a solution.

The study was reported by Drs. Katherine M. Herrold and Lucia J. Dunham in a recent issue of the Journal of the National Cancer Institute.

mention, Dr. Laster had designed the protocol and helped the NASA-affiliated labs acquire the technique for the xylose absorption test with which he has been working. Dr. Fox believes this represents the shortest time in NASA history between the initiation of a medical test and its adoption for an actual flight.

VACCINE

(Continued from Page 1)

Reserve quantities of both types have been acquired by the Communicable Disease Center in Atlanta, Ga., for studies under conditions of epidemic use. The licensing of Type III now makes available to physicians and health officers a choice of two methods of immunization against polio—the killed, inactivated Salk vaccine and the live, attenuated vaccine prepared from Sabin strains.

The delay in the licensing of the Type III strain, which is genetically the most labile of the three, was caused by difficulties encountered under manufacturing conditions in producing five consecutive lots of vaccine which met the requirements for a low degree of neurovirulence in monkeys, and the essential characterization, by means of tissue culture markers, of each lot.

Exhaustive Studies Made

The monkey neurovirulence tests required for live poliovirus vaccines involved exhaustive studies made by Division of Biologics Standards scientists over a 2-year period. The tests comprised the intraspinal and intrathalamic injection of monkeys with dilutions of the virus strain, and the comparison of the results with those obtained in similar groups of monkeys with dilutions of the reference virus preparation made from the Sabin Type I strain.

Evidence of the degree of neurovirulence is determined by the number of animals at each dilution showing pathological changes in the brain and spinal cord. The monkeys are observed for paralysis over a 17- to 21-day period. No lot of vaccine is approved unless its neurovirulence is as low as that shown by the monkeys inoculated with the reference material.

150 Tests Conducted

Since January 1961, when the manufacturers first submitted vaccine to DBS for testing, more than 150 such tests have been made involving more than 4,000 monkeys. This has provided a body of information and experience which is invaluable in judging the validity (or otherwise) of individual tests.

In addition, the genetic *in vitro* tissue culture marker tests were intensively studied by DBS scientists to the point at which confidence in methodology and reproducibility of the tests was assured.

These genetic markers are inherent characteristics of a virus strain, and if the markers of an individual lot of vaccine differ from those of the seed, that lot of vaccine cannot be approved for use. One such characteristic, called the temperature (t) marker,

NIH Participation in NHA-Joint Crusade Lower than Overall Government Figure

NIH participation in the National Health Agencies-Federal Service Joint Crusade was 37.6 percent and 35.3 percent, respectively, on March 26, the end of the third week.

Commenting on the report, Dr. Seymour J. Kreshover, Associate Director in Charge of Research, NIDR, and Chairman of the NIH Campaign, said "This latest report indicates that NIH is behind the overall government participation of 42 percent recorded at the end of the same period."

Four Keymen Honored

Only four NIH keymen have achieved 100 percent participation in their areas. They are: Judith Foote and Warren Ash, both of NIDR; and Laura Nevins and Arnold R. Stull, both of DBS.

For their outstanding work these keymen will receive letters of commendation from the PHS Campaign Chairman, Dr. James Watt, Chief of the Division of International Health.

"I hope that those who have not

yet participated will consider the humanitarian goals of the agencies and the essential work they perform, and let their contribution be a dedication to these goals," Dr. Kreshover said. "We at NIH should, by reason of our health research mission, feel a sense of pride in participating in this campaign—especially since there is a relationship between our research and the health and welfare services represented in the work of these agencies."

The following table shows NIH participation at the end of the third week:

Organization	Percent of Participation	
	N.H.A.	J.C.
OD	40.5	37.9
OAM	49.7	40.5
NCI	33.8	31.7
NHI	26.0	27.2
NIAID	9.7	14.2
NIAID	32.1	31.3
NIDR	87.6	80.9
NIMH	37.4	36.8
NINDB	43.1	42.2
CC	19.1	18.1
DBS	51.2	56.8
DRG	48.4	49.0
DRS	52.0	45.5
DGMS	69.2	65.8
TOTAL	37.6%	35.3%

PHOTOGRAPHERS' ASS'N MEETS HERE



Roy Perry (center), Chief of the Photographic Section, Medical Arts and Photography Branch, DRS, was moderator of a panel session at the monthly meeting of the Washington Chapter of the Biological Photographers Association held here March 27. Panel members are, from left, Frank Pilachowski, Western Electric Co., Baltimore; Marion Warren, local freelance photographer; William G. Floyd, Vitro Corp., Silver Spring; and Albert Dannager, University of Maryland. The meeting was held in the Clinical Center auditorium at the invitation of the NIH Photo Section.—Photo by Sam Silverman.

involves a demonstration of the suppression of the growth of the virus at higher temperatures, such as 40° C., as compared with growth of attenuated strains at the optimal growth temperature of approximately 36° C.

Virulent virus strains, on the other hand, generally grow well at the higher temperature. While this marker does not effect complete correlation with virulence, it does serve to discriminate between different strains. A number of other characteristics, such as the so-called "d" and "MS" markers are also examined.

Schizophrenic Patterns Of Sleep Investigated By NIMH Scientists

Evidence from recent National Institute of Mental Health studies on schizophrenic patients suggests that their pattern of dreaming resembles that of normal persons, but that striking differences exist between sleep patterns of normal and schizophrenic subjects.

Dreaming is associated with specific patterns of brain waves and eye movements that can be recorded without disturbing sleep. If a definite amount of dreaming is necessary for everyone, the NIMH investigators asked, does the hallucinating schizophrenic, who might in a sense be said to be "dreaming" during his waking hours, dream less, or perhaps more, during the night?

Preliminary Findings Analyzed

Preliminary findings from studies conducted on six schizophrenics who experienced hallucinations and a similar number who did not, indicate that schizophrenics who hallucinate, and those who do not, both dream while asleep; and that the typical physiological pattern of their dreaming is not essentially different from that of normal persons.

On the other hand, the tests showed striking differences in sleep patterns between the schizophrenic group as a whole, and normal subjects. First, the sleep of all the schizophrenics was very disturbed. Most subjects went to sleep fairly promptly and slept until awakened next morning. But they seldom attained the depth of sleep of normal subjects, and their sleep was much more restless with more frequent body movements and brief awakenings. In contrast to the body movement pattern of normal subjects, the body movement of schizophrenics was particularly frequent during dream periods.

Further Investigation Required

Most significant, the test subjects generally tended to awaken and remain awake a few minutes in the midst of their dream periods, something normal persons seldom do. Whether these preliminary results are characteristic of schizophrenics, or merely expressions of disturbed sleep that might be found in depressives and other severe anxiety states, requires further investigation.

The studies were reported by Dr. Frederick Snyder, Dr. Irwin Feinberg and Richard Koresko, NIMH, at a Conference on Sleep, EEG and Dreaming, at the University of Chicago.

BULLETIN

As this issue of the *Record* went to press, Plant Safety Branch was notified by D.C. Transit Co. officials that the Silver Spring-Bethesda-NIH rush-hour bus service, inaugurated December 18 on a trial basis, will be discontinued following completion of the schedule of Friday, April 20. A more complete report and explanation will be carried in the April 24 issue.

AWARDS

(Continued from Page 1)

entist in the field of experimental induction of malignant growths."

On February 27 Dr. Dunn was one of six recipients of the second annual Federal Woman's Award, given to outstanding women in Government for their contributions to the Federal career service.

Dr. Berliner will be honored for "major contributions to an understanding of the kidney and its functions, and for outstanding direction of a major research program of exceptional quality and productivity."

Dr. Kramer's award is in recognition of "his outstanding contributions in the biostatistics and epidemiology of mental health in the United States, and for his pioneering activities in these fields internationally."

Mr. Murtaugh will receive his award "in recognition of consistently outstanding service, and specifically for major contributions to the development of the policies and programs of the National Institutes of Health."

With NCI Since 1942

Dr. Dunn came to NIH in 1942 as a Research Fellow in the National Cancer Institute and was appointed to her present post in 1950. In addition to her recent honors, in 1959 she was named "Medical Woman of the Year" by the American Medical Woman's Association, and in 1958 was selected to represent NIH as a member of a delegation of distinguished American women physicians on a trip to the Soviet Union.

Since joining the research staff of NHI in 1950 as Chief of the Laboratory of Kidney and Electrolyte Metabolism, Dr. Berliner has become known as one of the world's foremost renal physiologists. In 1959 he was elected President of the American Society for Clinical Investigation, the only Federal employee ever to receive this honor. He has held his present position in NHI since 1954.

Experience Cited

Before becoming a member of the NIMH staff in 1949 as Chief of the Biometrics Branch, Dr. Kramer was Chief of Research and Information in the PHS Office of International Health Relations. He has also served on the faculties of Western Reserve University, the School of Tropical Medicine in San Juan, Puerto Rico, and the New York University School of Medicine.

A veteran of nearly 27 years' service with the Federal government, Mr. Murtaugh joined the Public Health Service in 1947, after serving with several wartime executive agencies. Before coming to NIH in 1956 he was Assistant

RIBBON CUTTING OPENS EXHIBIT



Mrs. Lyndon B. Johnson cuts the ribbon opening the "Man Against Cancer" exhibit on April 2 as Sen. Warren G. Magnuson of Washington (left) and Rutherford L. Ellis, Chairman of the Board of Directors of the American Cancer Society, look on. Sen. Magnuson was cited at the ceremonies for "his continued support over the past 25 years of the attack against man's cruellest enemy, cancer." The exhibit, jointly sponsored by the National Cancer Institute and the American Cancer Society, is open to the public from 11 a.m. to 8 p.m. daily through April 29, at Pershing Square, 14th St. and Pennsylvania Ave., N.W.—Photo by Bob Pumphrey.

Neurology Unit Holds 2-Day Seminar in CC

Members of a newly organized international group of neurosurgeons, anesthesiologists, and basic research scientists gathered at the Clinical Center last Sunday and Monday for the first meeting of the Neuroanaesthesia Section of the World Federation of Neurology.

The 2-day seminar was devoted to discussions concerning the use of anesthesia in neurosurgery, particularly the problems encountered with hypothermia and extracorporeal circulation. Twenty papers were presented by participants from many parts of the United States and Canada, including five NIH staff members.

Dr. Howard R. Terry, Jr., of the Mayo Clinic, is secretary of the Neuroanaesthesia Section. The committee on arrangements included Dr. Clarence L. Hebert, Chief of the CC Anesthesiology Department; Dr. Robert M. Farrier, CC Assistant Director; and Dr. Maitland Baldwin, Clinical Director, NINDB.

The meeting was attended by about 100 physicians. The group's next seminar is scheduled for this fall and will be held in Belgium.

Executive Officer for the Bureau of Medical Services. He has held his present position since September 1960.

EHS Urges Vaccinations For All NIH Employees

Preventive medicine is an important aspect of the NIH Employee Health Service's activities. During the past month a concerted drive was conducted to provide smallpox vaccinations to all Clinical Center patient-care employees. It is estimated that between 60 and 65 percent of these employees have now been immunized within the year.

The drive to increase this number will continue, and Dr. John M. Lynch, Chief of the Employee Health Service, urges all NIH employees who have not been vaccinated within the last three years to be sure to take this precaution. Clinical Center employees who have patient-care responsibilities should be vaccinated every year.

For the convenience of employees, smallpox vaccinations will be provided in the CC Health Unit, as well as the North Employee Health Unit, Bldg. 31, Rm. 2BB34. Most other services in the CC Health Unit have been curtailed during the current renovation.

Dr. Andrews in Europe for Medical Meetings

Dr. Justin M. Andrews, Director of NIAID, left March 24 for a 3-week trip to Europe. He will attend two meetings of the International Interim Committee for the Seventh World Congresses of Tropical Medicine and Malaria, one

Washington University Alumni Federation Cites Dr. Edward G. Hampp

Dr. Edward G. Hampp, Senior Research Associate of the American Dental Association in the National Institute of Dental Research, was cited recently by the Washington University (St. Louis) Alumni Federation for outstanding service to the dental profession.

The citation, made at the University's Founders Day Banquet, was awarded "in recognition of his service to dentistry through teaching and through significant research in the field of microbiology."

Dr. Hampp is a former Washington University faculty member. He received the D.D.S. degree from the University's School of Dentistry in 1936 and the M.S. degree from the School of Medicine in 1939.

He received the Washington Academy of Science Award in the biological sciences for outstanding research in 1949, and was the recent recipient of the Georgetown University School of Dentistry 1961 Award of Merit "for contributions to the dental profession."

Two from DGMS Win Performance Awards

Geraldine Woodward and Corinne T. Graves of the Division of General Medical Sciences received awards for sustained superior performance on March 22.

Mrs. Woodward, who is a Grants Assistant in the General Clinical Research Centers Branch, was commended for her outstanding work in the initiation and development of the General Clinical Research Centers Program over the past two years.

During this period, appropriations for the Program grew from \$3 million to more than \$27.5 million, and 40 General Clinical Research Centers have been established in medical schools and research hospitals across the Nation.

Mrs. Graves, who is an Information Specialist in DGMS, was commended for her exemplary performance during a period when the unusual growth of DGMS posed increased responsibilities for the Information Staff in publishing and distributing pamphlets, brochures and other materials relating to the Division's research and research training activities.

in Paris on March 27 and the other in Geneva beginning March 30.

The Committee has been convened to make plans for the forthcoming Congresses of Tropical Medicine which will be held in Rio de Janeiro, Brazil, in 1963.