

the NIH Record

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NATIONAL INSTITUTES OF HEALTH
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Guthrie Appointed Director of PHS Smoking Study

Surgeon General Luther L. Terry of the Public Health Service recently announced the appointment of Dr. Eugene H. Guthrie as Staff Director of the Surgeon General's Advisory Committee on Smoking and Health.

Dr. Terry said that Dr. Peter V. Hamill, Staff Medical Coordinator for the Committee, has been granted indefinite convalescent sick leave.

Dr. Guthrie, whose appointment was effective immediately, is on leave from his position as Chief of the Service's Division of Chronic Diseases. For the duration of his new assignment, Dr. Will David, Deputy Chief of the Division of Chronic Diseases, will serve as Acting Chief.

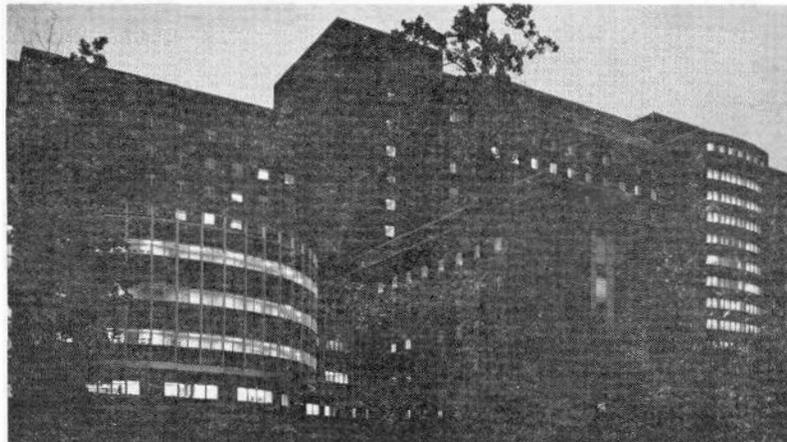
Review in Progress

The Surgeon General's Advisory Committee on Smoking and Health, composed of 10 non-Federal scientists, is now in process of making a comprehensive review of all available data on smoking and health as well as on other factors such as air pollution.

The Committee's report dealing with the nature and magnitude of health hazards is expected by the

See DR. GUTHRIE, Page 6

New 4-Story, \$2 Million Surgical Wing To Be Dedicated at Sept. 5 Ceremonies



Lights go on at dusk in the new circular Surgical Wing (left) of the 14-story Clinical Center.—Photo by Lee Bragg and Jerry Hecht.

The new 4-story, \$2 million Surgical Wing addition to the 14-story Clinical Center will be dedicated at a scientific seminar to be held Thursday, September 5, in the Clinical Center auditorium at 9 a. m.

Many distinguished guests, including leaders in the cardiac surgery and neurosurgery fields in this country and Canada, have been invited to attend the dedication ceremonies.

The recently completed, ultra-modern, circular Surgical Wing, which provides separate operating suites for heart surgery and neurosurgery, incorporates the latest advances in medical electronic and recording equipment.

Surgical teams now will have more working space and less clutter

of wires and instruments than ever before, since most instruments are in the central recording rooms.

There are three of these recording rooms. Each is in a split-level relationship to other areas; thus, one of the two centers for monitoring in neurosurgery is slightly below the operating area and looks up into it through a view window, while the other center overlooks the operating room.

A spiral staircase connects these two recording rooms. The cardiac surgery recording center is raised slightly above the operating room.

Special observation rooms and communication systems are other features that will be demonstrated to those attending the dedication.

Dr. Luther L. Terry, Surgeon General of the Public Health Service, will welcome those attending the dedication ceremonies.

Dr. James A. Shannon, Director of NIH, will speak on the "New Resource at NIH."

The keynote address will be delivered by Dr. Edward D. Churchill, John Homas Professor of Surgery, Emeritus, of the Harvard Medical School.

The seminar subject is "The Sur-

(Continued on Page 5)

Dr. Alfred Blalock Is NIH Lecturer On September 5

Dr. Alfred Blalock, Surgeon-in-Chief of Johns Hopkins Hospital, will deliver the first in the 1963-64 series of NIH Lectures on September 5 at 8:15 p. m. in the Clinical Center auditorium. His subject will be "Cardiovascular Surgery—Past and Present."



Dr. Blalock

The lecture will complete the program of dedication of the new surgical wing of the Clinical Center, to be held in the CC auditorium beginning at 9 a. m.

Dr. Blalock performed the first successful operation for the relief of tetralogy of Fallot in 1945, and is noted for other pioneering surgical techniques in the field of cardiovascular surgery.

In his NIH Lecture, the 23rd in the continuing series, he will give an appraisal of the present status of cardiovascular surgery and a review of some of the highlights in this area since Harvey described the circulation of the blood over 300 years ago.

(See NIH LECTURE, Page 7)

Dr. Keyes to Lecture In Scandinavian Nations

At the invitation of the Council of Deans of the nine Scandinavian Dental Schools, Dr. Paul H. Keyes of the Laboratory of Histology and Pathology, National Institute of Dental Research, will lecture to the staffs and students of dental schools in Denmark, Finland, Norway and Sweden during September.

Dr. Keyes will discuss recent research findings at the Dental Institute which include collaborative studies with Drs. Robert J. Fitzgerald, Harold V. Jordan, Jr., and Arden Howell, Jr., all of the Laboratory of Microbiology, on biological and bacteriological factors in dental caries and periodontal disease in hamsters.

Who Put the Catfish in the Patio Pool? Reflecting Pools Are Not for Stocking!

Who put the six catfish in the Building 31 patio pool?

Milford Myers, Chief of the Grounds Maintenance and Landscaping Section, DRS, doesn't know, but he hopes it won't happen again.

"That little pool," he said, "is not designed for fish or aquatic plants. It's no more than a foot deep and was intended for use as a reflecting pool.

"As soon as the fish were discovered we drained the pool, took them out and refilled with fresh water."

Mr. Myers assumes the fish were dumped in the pool at night by a fisherman who didn't want them.

"The same thing happened a few years ago," he said, "at one of the two Pools of Bethesda, on either

side of the main entrance to the Clinical Center.

"Those pools, like the patio pool at Building 31, are reflecting pools only. We are hoping to get them equipped with water recirculating systems and fountains. This would enable us to keep the water fresh and clear at slight cost."

The fate of the six unwanted catfish? Mr. Myers doesn't know, but there are those who consider them good eating.

the NIH Record

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NEWS from PERSONNEL

OF ALL THE WAYS to fill a Civil Service position, the employee detail is probably the least understood. Used correctly, details are very useful; used incorrectly, they can become quite troublesome.

First of all, what is a detail? A detail occurs when an employee is assigned away from his regular position without any change in his civil service status or pay. For all purposes, including performance ratings, the employee is considered as being in his regular job.

Is Aid to Supervisors

Details provide a temporary and quick method by which supervisors can meet emergency situations caused by: (1) an unusually heavy workload; (2) the assignment of new functions to a program and the necessity to have these functions performed before positions can be written; and (3) the need to cover work activities caused by the unanticipated absence of employees.

Details are also used to place an employee in another position for training purposes, or to place an employee in a position pending completion of arrangements to take another personnel action in his case.

Details Limited

Except in the most unusual circumstances, details must be confined to periods under six months. For details under 30 days the supervisor advises the employee of the necessity for the detail and then temporarily assigns him away from his regular position.

For all other details, the supervisor must obtain approval from his personnel office by submitting

Final Concert Sept. 4

The sixth and final in this season's series of outdoor band concerts for Clinical Center patients will be given here on Wednesday, September 4, at 7:30 p.m., by the U. S. Air Force Band.

NIH employees, their families and friends are invited. The concerts are held on the first floor patio of the Clinical Center, east of the auditorium. In case of rain, the CC auditorium is used.

a request for personnel action (SF-52). A copy of the SF-52 is placed in the employee's official file to provide a permanent record of the training and experience acquired by the detail.

An improper detail, or one that is allowed to extend too long, can cause serious problems. A detail should never be a substitute for another action—a reassignment, a promotion, change to lower grade, or separation. Action should be taken well in advance of the termination date of the detail to assure that the employee is able to go to his regular position or another one.

Further information on details is available from your I/D Personnel Office.

EDUCATIONAL COUNSELING

Educational counseling will be available at NIH on September 5 and 11. John Kinker, Assistant Educational Counselor at George Washington University, will counsel NIH personnel on immediate academic interests and needs, and long-term educational plans and programs.

Assistance and counsel will not be limited to any particular school or field, as Mr. Kinker will have curricular information from many colleges and universities in the Washington area.

Counseling service will be by appointment on either date—Septem-

RML Director to Head Special WHO Group

Dr. Cornelius B. Philip, Director of the Rocky Mountain Laboratory of the National Institute of Allergy and Infectious Diseases, returned recently from Geneva, where he attended meetings of the World Health Organization and was elected Chairman of a special WHO Conference on Human Rickettsioses.

Dr. Philip reported that the purpose of the meeting was to review basic information on the epidemiology and ecology of human rickettsial diseases such as typhus and Rocky Mountain spotted fever. Recent data, both published and unpublished, were exchanged.

The conference explored how the World Health Organization could stimulate research and foster improved international assistance in the exchange of reagents and data.

The conference was attended by representatives from Australia, South Africa, France, Nairobi, Japan, Russia, and the United States, as well as by observers and advisers from WHO.

Dr. P. F. Zdrodovski of Russia was elected Vice Chairman of the conference.



Dr. Philip

Guerry Smith Appointed Chief of DRG Grants Management Branch

Dr. Eugene A. Confrey, Acting Chief of the Division of Research Grants, has announced the appointment of Guerry R. Smith as Chief of the Division's Grants Management Branch. Mr. Smith succeeds Harold W. Curran, DRG Executive Officer, who has been Acting Chief of the Branch for the past five months.

Prior to his appointment to the DRG staff, Mr. Smith was Deputy Assistant Administrator for Management of the Foreign Agricultural Service of the Department of Agriculture. He has served with USDA since 1951, except for a tour of duty in 1955 and 1956 with the U. S. Air Force.

Holds Administrative Posts

A veteran of 36 years in the Federal service, Mr. Smith has through the years held administrative posts with the Departments of State and Commerce, and the War Assets Administration.

He was an Administrative Officer for the Office of the Coordinator of Inter-American Affairs (now the Agency for International Development) from March 1943 until July 1944, and was stationed in Brazil.

Mr. Smith, a native of Takoma Park, Md., is an alumnus of George Washington University from which he received the A.B. degree in 1935 and the LL.B. degree in 1938.

OIR Requires Administrative Officer for East Pakistan

The Office of International Research is seeking applicants for the position of Administrative Officer, GS-11 or 12, for a 2-year tour of duty at the SEATO-Pakistan Cholera Research Laboratory in Dacca, East Pakistan.

Applicants should have general administrative experience which has demonstrated the ability to perform budget, personnel, travel, supply, and other general support functions. Experience should also reveal maturity of judgment and temperament.

Information concerning the position, function of the Laboratory, living conditions, allowances, travel regulations, etc., may be obtained from Mr. Detzel or Mr. Ellsbree of the NIH Personnel Management Branch, Phone: 49-66313.

ber 5 or 11, between 10:30 a. m. and 2:30 p. m. The service will be located in Building 15K, Rm. 201.

The Employee Development Section, PMB, is now scheduling appointments for the service. Call Ext. 62147.

Drs. Feldman, Schaeffer Are Science Counselors

Dr. Harry A. Feldman, Professor of Preventive Medicine and Chemistry, State University of New York College of Medicine, and Dr. Morris Schaeffer, Director of the Bureau of Laboratories, New York City Department of Health, have been appointed to serve on the Division of Biologics Standards' Board of Scientific Counselors.

The new members replace Dr. John Perrigo Fox, Chief of the Division of Epidemiology, Public Health Research Institute, and Dr. Edward C. Curnen, Jr., Director of Pediatric Service, Columbia-Presbyterian Medical Center, New York City, whose terms expired in June.

Dr. C. Henry Kempe, Professor and Chairman of the Department of Pediatrics, University of Colorado, is Chairman of the Board.

Continuing members of the Board are Dr. Willard Foster Verwey, Chairman of the Department of Microbiology, University of Texas; Dr. Benjamin Alexander, Associate Director of Medical Service, Harvard Medical School; and Dr. Scott N. Swisher, Associate Professor of Medicine, University of Rochester School of Medicine and Dentistry.

NIAID Extramural Chief Attends WHO Virology Conferences in Geneva

Dr. Robert C. Backus, Chief of the Extramural Programs Branch, National Institute of Allergy and Infectious Diseases, recently returned from Europe where he attended the World Health Organization Virology Conferences in Geneva early in July.

Through its research grants program, NIAID gives substantial assistance to WHO for coordination of a widespread program of virus research.

After the meetings in Geneva Dr. Backus made a number of project site visits to grantee institutions in Europe.

He was accompanied by Dr. Joseph Melnick, of Baylor University, on a visit to the Institute of Immunology in Zagreb, Yugoslavia.



Dr. Backus

Scientists Exchanged

Studies are under way there to determine the efficacy of the Koprowski live-virus strains of polio vaccine in Croatia. Terms of the grant also call for exchange of Yugoslavian and American scientists. Dr. Backus said that a mutually rewarding exchange was effected last year.

Dr. Backus also visited the Pasteur Institute and, while in Paris, conferred with NIH representatives of the Office of International Research located there.

Other site visits included stops in England at the British Museum of Natural History, the London School of Tropical Medicine and Hygiene, and the Molteno Institute of the University of Cambridge.

Publication Summarizes DRG History, Programs

A new Public Health Service publication, giving in summarized form the history, organization and functions of the NIH Division of Research Grants, was published recently.

The 15-page illustrated booklet, prepared by Marian Oakleaf, DRG, reports on the building of the program from its inception in 1945 when it handled only 66 medical research contracts valued at less than \$1 million, to the multimillion dollar extramural research and training programs existing today.

Titled *The Division of Research Grants of the National Institutes of Health* (PHS Publication 1032), the booklet is available from the DRG Information Office, Westwood Building, Rm. 418.

Dr. Thomas E. Steele Named to NIGMS Post

Dr. Clinton C. Powell, Director of the National Institute of General Medical Sciences, has announced the appointment of Dr. Thomas E. Steele as Assistant Executive Secretary for the Behavioral Sciences Training Program of the Research Training Grants Branch.

In this position Dr. Steele will assist the Executive Secretary in reviewing and administering training programs at the post-doctoral level in the area of behavioral sciences.

Dr. Steele joined NIGMS after being commissioned as Assistant Surgeon in the Public Health Service last month. In June he completed an internship in medicine at University Hospitals in Cleveland, the teaching center affiliated with Western Reserve University.

Graduates Cum Laude

He graduated cum laude with an A.B. degree in zoology from Wabash College, Crawfordsville, Ind., in 1958 and received the M.D. degree in 1962 from the University of Pennsylvania.

A native of Indianapolis, Dr. Steele spent one summer during medical school in research in respiratory physiology at the University of Colorado. He also served with a Public Health Service COSTEP program for one summer at the Crow Indian Reservation in Montana.

Study Indicates Primates As Source of Infection In Human Hepatitis

Reports on 78 cases of human hepatitis among persons working with non-human primates used in research studies indicate primates as the source of infection.

Of the 78 cases of human hepatitis, chimpanzees are believed to have been the source of infection in 61 cases, Woolly monkeys in nine, a gorilla in four and Celebes apes in four.

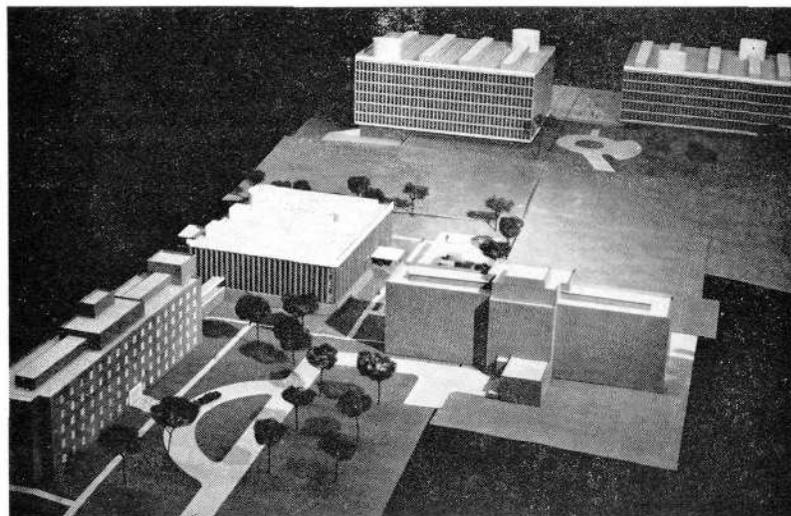
Several of the human cases occurred in multiple case outbreaks in institutions using primates for scientific investigations.

In these outbreaks, epidemiological studies showed that the non-human primates were the only common factor to which the cases could be attributed.

This link of infectious hepatitis to non-human primates points the way to further investigation into the etiology and epidemiology of infectious hepatitis and also to the need for preventive medicine measures for those working with non-human primates.

This study was presented at the 100th Annual Meeting of the American Veterinary Medical Association by Dr. Joe R. Held of the Animal Resources Branch, DRFR.

Current Construction at NIH Reveals Scope of Research



Architect's model shows three planned new buildings to be located west of Buildings 29 and 30 (left and right foreground). The white-roofed building (left) is the extension to Building 29 (DBS). The NCI Building (37) is in the right background, and the NIMH-NINDB Building (36) is at the left.

By George Mannina

The multi-faceted research programs conducted by NIH require a wide variety of facilities, equipment, and technical and scientific supporting services.

Not the least of these are the planning, design, and construction of facilities essential to fulfillment of the categorical research missions of the Institutes and Divisions.

Planning for these facilities must encompass not only the immediate research needs of NIH. It must be geared to future requirements to keep abreast of the expanding nature of research. And it has to be accomplished in relation to the NIH budget, and within the confines of the annual allowance for construction.

DRS Responsible for Planning

Responsibility for construction planning lies within the Research Facilities Planning Branch of the Division of Research Services. This branch, in turn, coordinates its activities with the Financial Management Branch of the Office of Administrative Management.

An indication of the nature and scope of NIH construction is evident in the story and pictures on completion of the new Clinical Center Surgical Wing, carried in this issue of the *Record*.

Construction on Phase 1 of the new NIH Animal Center at Poolesville, Md., also began last month with the clearing of the reservoir area and pouring of the foundation of the kennel building.

Completion of the laboratory facilities there, comprising the major portion of Phase 1, is expected by the end of 1964 or by early 1965, at a cost of \$4.9 million. The projection for completion of the entire Animal Center project, at a total estimated cost of \$12 to \$14 million, is 1966.

Currently DRS has a number of major construction projects in various stages of planning and design. These include:

- A \$4.6 million extension (29A) to the Division of Biologics Standards Building containing research laboratory facilities, on which construction is scheduled to begin by April or May 1964, with completion expected by December 1965.

- Two large research laboratory facilities, one for the National Cancer Institute (37), costing approximately \$11 million, and the other for the National Institutes of Mental Health and Neurological Diseases and Blindness (36), costing about \$12 million. Construction on these is expected to start by October or November 1964, with September 1967 set as the completion date. An \$800,000 cafeteria is planned just west of the NIMH-NINDB Building.

Near Old Georgetown Rd.

This complex of buildings will be constructed to the west of Buildings 29 and 30, nearer to Old Georgetown Road.

- A \$1.8 million extension (12A) to Building 12, primarily providing office space for central services. Scheduled for an early 1964 construction start, the target date for completion is March 1965.

- A design contract for \$6.2 million office extension to Building 31, recently negotiated.

Also underway is the planning (See *CONSTRUCTION*, Page 5)

NIH Scientists Evaluate Thymol Derivatives as Antimicrobial Agents

NIH scientists have found that thymol thiosemicarbazones demonstrate high *in vitro* antibacterial action against *Staphylococcus aureus* and anti-fungal activity against *Histoplasma capsulatum*.

Investigators of the National Institute of Allergy and Infectious Diseases and the Division of Biologics Standards have for several years synthesized and studied the effects of a number of thymol derivatives as potential chemotherapeutic agents.

The results have indicated that certain thymol hydrazones may possess significant antibacterial activity *in vitro*.

These studies stimulated interest in the possibility that thymol thiosemicarbazones may be potential antimicrobial agents.

50 Compounds Tested

Accordingly, 50 compounds were prepared, analyzed, and tested *in vitro* for antibacterial action against *Staphylococcus aureus* and for antifungal activity against *Histoplasma capsulatum*.

Of the 13 compounds with some activity against *Staphylococcus aureus*, four derivatives—salicylaldehyde, 5-chlorosalicylaldehyde, 5-nitrosalicylaldehyde, and 3-ethoxy-4-hydroxybenzaldehyde—showed high *in vitro* bacteriostatic activity, with three of the four also possessing antifungal activity against *Histoplasma capsulatum*.

In acute toxicity studies the highest tolerated dose of these four compounds in mice by intraperitoneal injection was 4 g/kg. This apparently low toxicity is due in part to low solubility of the drugs.

With the initial *in vitro* studies as background, work on *in vivo* studies is in progress.

Investigators in the study are Dr. Benjamin Prescott, Willard R. Piggott, and William B. Hill of the Laboratory of Infectious Diseases,

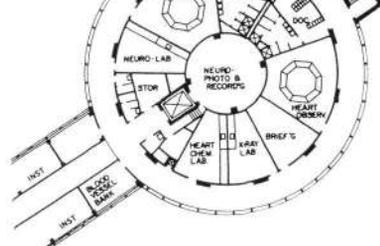
New NIH Surgical Wing Incorporates Innovations of Design and Equipment



Surgeon in heart catheterization room of the Surgical Wing simulates a "transseptal left heart catheterization," a technique developed by the National Heart Institute as an aid in diagnosing heart defects. The surgeon is guided by the television image (fluoroscopic) of the catheter as it is threaded through leg vein into left chamber of heart.—Photo by Sam Silverman.

When the Clinical Center opened in 1953, it was already apparent that innovations in medical electronics and advances in surgical techniques would soon make additional surgical facilities necessary.

Construction of the new Surgical Wing was begun on July 13, 1959. The major innovations consist of comprehensive electronic monitoring and recording systems and advanced methods of air hygiene.



This diagram of the third floor is typical of the layout of other floors in the Surgical Wing and shows the advantages of its circular construction, providing easy access to all facilities.

NIAID, and Dr. C. P. Li and E. C. Martino of the Laboratory of Virology and Rickettsiology, DBS.

The study was reported at the 3rd International Congress of Chemotherapy, Stuttgart, Germany.

44 Grants Awarded for Neuro-Sensory Training

The awarding of 44 grants amounting to \$1,323,114 was announced recently by the Neurological and Sensory Disease Service Program of the PHS.

Thirteen of the grants are for the continuation of projects previously initiated under this program, while the rest support new community service and professional training.

The awards went to organizations in Alabama, California, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, North Carolina, Ohio, Oklahoma, Rhode

Island, Texas, Utah, and West Va.

Particularly significant was a grant of \$68,106 made to the University of Louisville School of Medicine to help establish a neuro-medical consultation service for the areas of Kentucky lacking such facilities.

The service will be offered by a Central Biomedical Telemetry Laboratory to which EEG (brain wave) tracings can be sent by telephone from four strategically located data sending stations for recording and review by specialists offering the consultation service. The project will be directed by Richard C. Turrell, M.D., Assistant Professor of Medicine (Neurology).

John Buck Named Head Of NIAMD Reorganized Lab of Physical Biology

The National Institute of Arthritis and Metabolic Diseases has announced a reorganization of its Laboratory of Physical Biology (LPB) and the appointment of Dr. John B. Buck as Acting Chief.

Dr. Buck will also head the Laboratory's new Comparative Physiology Section, created to conduct research on the general nature of factors influencing the development of cells and organisms.



Dr. Buck

Serving for Dr. Buck, now at Cambridge University, England, for a year of research, is Dr. Edwin D. Becker, Assistant Chief. Dr. Becker is also Chief of the Section on Molecular Biophysics, formerly the Photobiology Section.

This section is investigating the structure and interactions of biologically significant molecules and the influence of ultraviolet and visible radiation on cells, among other studies.

Other Sections Created

Two other newly created LPB sections are the Electrochemistry and Colloid Physics Section, with Dr. Karl Sollner as Chief, and the Cellular Physics Section, headed by Dr. Richard Podolsky.

The Electrochemistry group will study colloidal structures important to biological systems. Cellular Physics will investigate the kinetics of the contractile process in muscle and the activation of the contractile mechanism.

Dr. Paul D. Altland has been designated Chief of the Section on Physiology, which investigates the effects of the physical environment on organ functions and the effects of internal environment on cellular functions.

The Laboratory's old sections on Bionucleonics and Molecular Biophysics have been abolished.

anesthesia room to the operating room.

All leads from the patient (temperature probes, pressure transducers, electroencephalograph leads, etc.) are attached to the junction box.

From this a single cable leads to the floor and is attached to the pedestal plug-in receptacle in the anesthesia room. Thus, monitoring and recording is begun there.

When the patient is wheeled through the sliding doors into the adjacent operating room, the single cable is pulled out of the anesthesia room pedestal and a few moments

(See INNOVATIONS, Page 5)

Of the electronic instrumentation, one bioengineer said, "Our design objective was to provide the surgeon with data on the patient's condition as quickly, surely, and precisely as the nurse puts the scalpel in his hand."

Heavy equipment and a television control center are located in the basement.

The first floor houses the Clinical Center blood bank, where it is convenient to operating areas which use a large volume of blood products. For example, 25 pints of whole blood may be used during a typical open-heart operation.

Operating Room Elsewhere

The second, third, and fourth floors house the cardiac surgery and neurosurgery operating rooms and related facilities.

Because of the usefulness of electronic instruments, modern operating rooms often contain a tangle of wires and a clutter of instruments.

In the new wing the batteries of instruments and the technicians who operate them are brought into a central location in special recording rooms, leaving more room for the people and instruments essential in operating areas.

For example, where cardiac surgery formerly might have required 15 or so individuals, the new surgical suites are designed so that only about half that number need be in the operating room at one time.

A key system is the patient junction box attached to the movable table that is wheeled from the

INNOVATIONS

(Continued from Page 4)

later is plugged into the pedestal in the operating room, with little interruption in monitoring.

There are three central recording rooms serving neurosurgery and one recording room serving heart surgery. The latter room contains main elements of two identical cardiac suite systems. Two essentially similar neurosurgery systems are provided for neurosurgical operating and anesthesia areas.

These four major electronic systems pick up and record a number of physiological phenomena, while giving the surgical teams and observers instantaneous visual display of signals on display boards mounted in operating rooms, recording rooms, and observation rooms.

Data Channels Increased

Formerly, surgeons at the Clinical Center had seven or eight channels of physiological information about the patient's condition available to them.

Now there are 24 different channels. A 24-channel chart recording device takes down a record, so that a rather complete history of the entire operation is available afterward.

Information may concern blood flow, blood loss, blood pressure, heart output, brain output, heart rate, oxygen tension, respiration rate, temperature. These signals can be obtained from several locations on the body at the same time, where correlation is useful.

The extremely high quality of air furnished critical areas of the new surgical wing contains only one organism (pollen, bacterium, dust, etc.) or less per 100 cubic feet.

Ultra-Pure Air Used

Air is supplied surgical areas from ceiling vents and comes down like a blanket, literally washing the operating table in ultra-pure air, and is carried away through vents below the operating table level.

In special observation rooms, the viewer hears discussions by operating personnel through his headset and has access to physiological information directly from the display board. He may also use binoculars to see closely the details of surgical technique.

Many specialists collaborated in creating the new surgical wing. Their overall objective was to design, build, and equip a most advanced surgical area, providing not only the best facilities for treatment of Clinical Center patients but also serving as a proving ground for a number of innovations that may contribute to the care of patients everywhere.

Surgical Wing To Be Dedicated Sept. 5

(Continued from Page 1)

gery Investigational Programs of NIH," to be presented by three speakers and three discussants. They are Dr. Alfred S. Ketcham, Chief of the Surgery Branch, and Dr. Charles G. Zubrod, Director of Intramural Research, both of the National Cancer Institute; Dr. Andrew G. Morrow, Chief of the



Observers look down at open-heart surgery through observation room windows in dome of the cardiac operating room. Headpieces allow communication between observers and operating and recording room personnel. Binoculars bring the open-heart operation close-up, enabling the viewer to see details of surgical technique.—Photos by Sam Silverman.

CONSTRUCTION

(Continued from Page 3)

for a \$5.6 million first phase of the Master Utilities Extension to provide essential sewer, water, power, mechanical, and air-conditioning systems and facilities for existing buildings and those in the planning and design stages.

Program requirement planning also is in progress for the \$700,000 cafeteria extension in the Clinical Center providing additional seating for 250, and the relocation of the CC Library, at a cost of \$900,000. Space now occupied by the Library will be converted into laboratory (clinical) use.

Among the more important off-the-reservation construction projects now in the planning and design stages are an \$8.5 million Gerontology Building in Baltimore, part of the National Heart Institute program; an \$850,000 NINDB Perinatal Research Laboratory in Puerto Rico, and a \$400,000 NIMH Basic Research Laboratory in Lexington, Ky.

A vacation should be just long enough for the boss to miss you, and not long enough for him to discover how well he can get along without you.—The Washington Post.

Surgery Branch, National Heart Institute, and Dr. Alfred Blalock, Surgeon-in-Chief, Johns Hopkins Hospital; and Dr. Maitland Baldwin, Director of Clinical Research, National Institute of Neurological Diseases and Blindness, and Dr. Wilder Penfield, Honorary Consultant, The Montreal Neurological Institute.

Dr. Masur Discusses Design

Dr. Jack Masur, Director of the Clinical Center, will discuss "The Design of the New Surgical Wing," and Gerald S. Cohen of the Instrumentation Engineering and Development Branch, Division of Research Services, will speak on "Instrumentation in the Operating Rooms."

Dr. Baldwin will also serve as Chairman of the morning session.

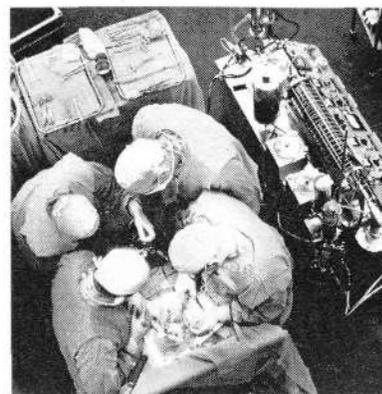
At 2 p. m. the visiting surgeons and professional participants in the dedication will tour certain areas of the Surgical Wing, which is now in full operation.

Terry Praises Facility

Surgeon General Terry, in commenting on the Surgical Wing, said, "The electronic instrumentation in the new facility extends the senses of the surgeon farther than ever before has been possible.

"We believe that the new wing will be an important addition to the resources of the clinical investigation programs in cardiac surgery and neurosurgery at the National Institutes of Health."

Among the guests invited to the dedication ceremonies are NIH staff from the Office of the Director, the Institute Directors, Scientific Directors and Clinical Direc-



Open heart surgery is viewed from the observation room. Heart-lung machine is at right.

tors, members of the Surgery Study Sections A and B, Scientific Counselors of NCI, NHI and NINDB, professors of surgery from nearby and other medical schools, Chiefs of Surgery of local hospitals, and the Chief Surgeons of the Army, Navy, Air Force, PHS, Veterans Administration, and Coast Guard.

Dr. Francis A. Arnold, NIDR Director, Wins 1963 Callahan Award

Dr. Francis A. Arnold, Jr., Director of the National Institute of Dental Research, will be the recipient of the 1963 Callahan Award to be presented September 23 in Cleveland by the Ohio State Dental Association.



Dr. Arnold

The honor is the highest granted by the Association for professional contributions to the art and science of dentistry.

The presentation has been made each year since 1921 at the Callahan Award Luncheon of the Association's annual meeting to "a person who has made a contribution of exceptional value to dental science." Former recipients include Drs. Leon Williams, J. R. Blayney, George Paffenbarger, P. O. Pederson and Gen. Joseph L. Bernier.

World Renown Gained

Dr. Arnold is internationally recognized for his work in dental research and research administration. He was a pioneer in the study of fluorides and their effect on teeth and has reported extensively on oral bacteriology, oral pathology and the epidemiology of dental caries. His reports on the production of carious teeth in hamsters led the way to extensive use of these animals in dental research.

A native of Ohio, Dr. Arnold received his B.S. in 1932 and D.D.S. in 1934 from the Western Reserve University.

Is PHS Officer

In 1936 he became a Commissioned Officer in the U.S. Public Health Service and the following year began his association with NIH. He has been with the National Institute of Dental Research since its inception and has directed NIDR since 1953.

Dr. Arnold has served as President of the International Association for Dental Research and Vice President of the Scientific Commission, Federation Dentaire Internationale. He has received an honorary Doctor of Science degree from Western Reserve University.

Also selected officials of national surgical associations, the Director of the American College of Surgeons, members of the Pilgrim Society and similar cardiac surgery groups, the President of the Harvey Cushing Society, and the Chief Nurses and Operating Room Supervisors of the Montreal Neurological Institute and Johns Hopkins Hospital.

Former NIAID Scientist, Dr. Sanford Kuvin, Wins Univ. of London Award

Dr. Sanford F. Kuvin, formerly of the National Institute of Allergy and Infectious Diseases, has received the Frederick Murgatroyd Award presented annually by the University of London to the best student earning an academic post-graduate diploma in clinical tropical medicine. During the past year he has been studying at the London School of Hygiene and Tropical Medicine as an NIH Fellow.

While at NIAID, Dr. Kuvin helped formulate a blood test designed to indicate carriers of malaria. He and his associates demonstrated that malaria antibody production can be observed by a modification of the fluorescent antibody technique.

Conducts Ghana Study

Following this discovery Dr. Kuvin conducted a pilot epidemiological study of malaria in Ghana; this investigation will be reported in the near future in the British Medical Journal.

Dr. Kuvin was also co-author of a paper presenting clinical and physiological findings in inmate volunteers infected with *Plasmodium cynomolgi bastianellii*, and compared these with results in volunteers infected with *Plasmodium vivax*.

These findings were sought after the accidental discovery that *P. cynomolgi bastianellii*, the causative agent in one strain of simian malaria, was transmissible to man.

Dr. Kuvin has accepted a teaching position at Jackson Memorial Hospital of the University of Miami, beginning September 1.

DR. GUTHRIE

(Continued from Page 1)

end of the year.

Dr. Guthrie, a Commissioned Officer of the Public Health Service since 1951, is a native of Washington, D. C. He received his medical degree from George Washington University School of Medicine in 1951 and the degree of Master of Public Health from the University of Michigan School of Public Health in 1955.

In his early Service career, he served on field assignments in Maryland and California. Recalled to headquarters in 1957, he was first named Chief of School Health and Rural Health Activities, then Chief Program Officer for the Bureau of State Services. Before his appointment as Chief of the Division of Chronic Diseases, he was head of the Neurological and Sensory Diseases Service Branch of that Division.

Ira Miller, NIDR, Grows Prize Dahlias, Distributes Them Among NIH Buildings

By Marjorie Hoagland

Ira O. Miller, National Institute of Dental Research maintenance man, has an unusual hobby that has put NIH employees and visitors much in his debt. He gives joy to people through flowers—in this in-



Ira Miller arranges a display of his many-hued dahlias in Building 30 with the assistance of Dana Niemark of the NIDR Information Office.—Photo by Jerry Hecht.

stance, some of the most beautiful dahlias grown in Maryland.

For approximately seven years Mr. Miller has been growing his magnificent dahlias in the garden of his home near Clarksburg, Md., about 25 miles from NIH. And for the past four years he has brought bunches in, once or twice a week, to grace the lobbies and offices of buildings here. It's a volunteer service that gives him much pleasure.

The dahlias are grown in 24 rows of 50 plants per row. His flower and shrubby garden occupies about one-quarter acre of his one and three-tenths acres. He grows varieties yielding 14 shades of color, ranging from flame to shades of white, purple, yellow, blue, and the salmon-colored cactus dahlia, among others.

Names Listed

The names are varied, such as Arthur Godfrey, King David, Silveretta and My Goodness. The Arthur Godfrey is his largest, measuring as much as 13 inches in diameter.

"I enjoy growing flowers," Mr. Miller said, "and perhaps I have a 'green thumb' for it. Flowers somehow demand to be shared. I spend most of my waking hours on duty at NIH, and I like to contribute something extra . . . something personal, from myself."

Mr. Miller said he began his hobby by obtaining roots from a

R&W Hamsters Tryouts Set for 'Say, Darling'

Tryouts for the musical comedy, "Say, Darling," the R&W Hamsters' Fall production, will be held September 8, 9, and 10 at 8 p.m. in the Clinical Center auditorium.

Billed as "a comedy about a musical," this lyrical and humorous production deals with the ups, downs, ins and outs of putting together and presenting a Broadway show.

Aspiring actors, actresses, singers, dancers, and comedians are needed for the show based on the book of the same name by Richard Bissell.

Also needed are make-up artists,

friend and growing as many different colors of dahlias as he could. He also grows roses, iris, jonquils, gladioli and chrysanthemums.

He brings the dahlia bunches to NIH in cans, and the receptionists at the various buildings usually transfer them to vases for display. For the past two years he has been selling some of the dahlias to NIH employees at nominal price to help pay for the sprays and other materials needed for his hobby. He also sells bulbs.

So far, the buildings to receive the choice flowers from Mr. Miller are Buildings 4, 10, 13, 29 and 30.

NICHD Director Names Dr. Franz W. Rosa as Professional Assistant

Dr. Robert A. Aldrich, Director of the National Institute of Child Health and Human Development, has announced the appointment of Dr. Franz W. Rosa as Professional Assistant for Perinatal Biology, effective immediately.

Dr. Rosa, a career officer in the Commissioned Corps of the Public Health Service, will organize and supervise the perinatal biology research and training activities of the Institute, established by the Surgeon General January 30.

He will be responsible for coordinating the Institute's program to foster scientific investigation of the development of human life during the period from shortly before birth to a few weeks after birth.

Has Broad Experience

A pediatrician with broad experience in public health training, maternal-child health problems, epidemiology and international health, Dr. Rosa has been assigned by the Public Health Service to the Agency for International Development since 1954, and served for three years in Iran, two years in West Pakistan and three years in Ethiopia.

A native of Davis, Calif., Dr. Rosa obtained his M.D. degree from Harvard Medical School, and after clinical pediatric training at Vanderbilt and Johns Hopkins Universities and the University of Colorado, earned the post-doctoral degree, Master of Public Health, from the University of California.

He is a diplomate of the American Board of Pediatrics.

costume crew, stage hands, set designers, prop men and women, electricians, and persons interested in working on publicity for the show.

"Say, Darling," the musical, was co-authored by Bissell, his wife Marian, and Abe Burrows. Burrows has won much Broadway and nationwide acclaim as co-author of "Guys and Dolls," as author and director of "Can-Can," and as director of "Happy Hunting."

Songs in the show are the work of composer Jule Styne, co-producer of the original play, and lyricists Betty Comden and Adolph Green, the duo responsible for songs in such well known shows as "Two on the Aisle," "Peter Pan," and "Bells Are Ringing."

Director for the Hamsters' presentation of "Say, Darling," is Merik (Spike) Dabrowski, a long-time actor and director in Washington area theatre groups.

Further information on the tryouts may be obtained from the R&W office, Bldg. 31, Rm. 1A18, Ext. 63597.

Dr. Stoenner Concludes Russian Scientific Tour

Dr. Herbert G. Stoenner, Assistant Director of the National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratory in Hamilton, Mont., recently concluded a 6-week tour of veterinary research facilities in the Soviet Union under the U.S.-U.S.S.R. scientific exchange program.

Dr. Stoenner went to the U.S.S.R. June 19 as a member of a delegation of American veterinary scientists to confer on diseases common to man and animals.

The U.S. team visited centers of veterinary research in Moscow and a dozen other cities where they observed Russian methods and procedures in veterinary public health.

Visits Other Countries

After leaving the Soviet Union, Dr. Stoenner was scheduled to stop in Finland, Sweden, and Denmark to meet with officials of local institutions engaged in veterinary science.

He hoped to discuss zoonoses and other matters of mutual interest with the faculties of the College of Veterinary Medicine in Helsinki, the Royal College of Medicine in Stockholm, and the Royal Veterinary and Agriculture College in Copenhagen.

Dr. Stoenner also expected to take part in pre-congress sessions of the World Health Organization on respiratory diseases and leukemia in animals and to attend the World Veterinary Congress in Hanover, Germany, before returning home last week.



Dr. Stoenner

Demonstration Programs Set Up in 8 Centers

Demonstration visiting programs have been established in eight community mental health centers throughout the United States to make available to the States and local communities the knowledge gained in mental health center programs in operation.

The centers selected include San Mateo County Mental Health Center, Calif.; Albert Einstein College of Medicine, N.Y.; the Mount Sinai Hospital, N.Y.; Montefiore Hospital, N.Y.; Fort Logan Mental Health Center, Colo.; Massachusetts Mental Health Research Corporation, Boston; Minnehaha Guidance Center, Sioux Falls, S.D.; and the Greater Kansas City Mental Health Foundation, Mo.

A demonstration officer has been assigned to each center.

NHI Scientists Develop Simple Test to Measure New Family of DBO Inhibitors

Scientists of the National Heart Institute have developed a new and simple test for measuring the activity and effectiveness of a new family of experimental drugs called dopamine-beta-oxidase (DBO) inhibitors.

These compounds show promise as research probes for the study of hypertension, and future members of this family might well provide a new approach to the treatment of this puzzling disease.

Dopamine-beta-oxidase is an enzyme essential to the production of norepinephrine and epinephrine. These catechol amines are manufactured by the body from tyrosine, an amino acid derived from dietary protein. Dopamine-beta-oxidase catalyzes one of the final steps in the norepinephrine-epinephrine production line: the conversion of dopamine to norepinephrine.

Role of Amines Suspect

Norepinephrine and epinephrine are strongly suspected of playing an important role in essential hypertension, although neither amine has as yet been convicted.

Nevertheless, a number of drugs currently used against hypertension appear to owe their blood-pressure-lowering action to their effects on various facets of catechol-amine metabolism.

Thus many scientists believe that drugs which can block the body's production of these amines might provide a promising new therapeutic approach.

Inhibitors Studied

Several compounds that inhibit DBO have been found to block catechol amine synthesis in laboratory animals. They are the first agents that have proved to be effective *in vivo*. Although presently available DBO inhibitors are far too toxic for use in patients, it appears likely that safer inhibitors, possibly suitable for clinical trial, will eventually be developed.

This possibility prompted Drs. Albert Sjoerdsma and Wilfred von Studnitz, of the NHI Experimental Therapeutics Branch, to seek an

effective method for assessing the effectiveness of DBO inhibitors in man.

Since the staff at each center is presently unable to meet the needs of visitors who wish to learn about the operation of such programs, the officer's duties will include: Scheduling of visits for maximum use of the center with minimum disruption of the program operation; corresponding with interested visitors and familiarizing himself with the visitor's proposed program in advance to offer appropriate consultation, utilizing the assistance of NIMH Regional Office staffs; and developing an individual

visit agenda of interviews, observations and other study opportunities to meet the visitor's needs.

These centers were selected for the program because they are (1) comprehensive, including the basic core of services—inpatient, outpatient, day-night, and aftercare; (2) community based; (3) operating programs; and (4) in addition to having most of the facilities of a comprehensive community mental health center, individually, unique units of service which the demonstration might highlight.

Foreign Compound Used

Drs. Sjoerdsma and von Studnitz turned instead to a foreign compound, hydroxyamphetamine (Peredrine-Smith, Kline, & French). Hydroxyamphetamine is similar enough in chemical structure to dopamine, the substance ordinarily processed by DBO, to fool the enzyme occasionally.

Hence, when hydroxyamphetamine is given orally, a portion of the dose is taken on by DBO and converted to a compound called hydroxynorephedrine.

Excreted by Kidneys

The body can neither use hydroxynorephedrine nor make anything else out of it, so it is promptly excreted by the kidneys. The amount of hydroxynorephedrine appearing in the urine after the administration of hydroxyamphetamine thus provides an index of DBO activity and can be used to assess the effectiveness of DBO inhibitors.

Studies on five patients given varying daily doses of hydroxyamphetamine showed that about half the dose appeared unchanged in the urine, but about four to nine percent appeared as hydroxynorephedrine. The remainder, apparently, was not absorbed and was probably excreted in the feces. The resulting urinary levels of hydroxynorephedrine were high enough to be easily and accurately measured, providing a useful technique for measuring DBO activity.

These findings were reported in the British Journal of Pharmacology and Chemotherapy.

NIH LECTURE

(Continued from Page 1)

Dr. Blalock joined Johns Hopkins in 1941, where he is also Director of the Department of Surgery of the School of Medicine. Prior to that he was Professor of Surgery at Vanderbilt University School of Medicine for four years. He was first associated with Vanderbilt in 1925 as Resident Surgeon and remained there in various capacities until 1941.

He received his A. B. degree from the University of Georgia in 1918 and his M. D. degree from Johns Hopkins University School of Medicine in 1922. He holds nine honorary degrees.

A native of Culloden, Ga., Dr. Blalock has won numerous awards. These include the Research Medal, Southern Medical Association, the Gordon Wilson Medal, the Passano Award, the Matas Award, the American Medical Association Distinguished Service Award, and the International Feltrinelli Prize for 1954 for Medicine.

Wins Lasker Award

Also the Lasker Award for 1954, the Gairdner Award for 1959, the Modern Medicine Award for Distinguished Achievement for 1960, and the Johns Hopkins Hospital Distinguished Service Award for 1960.

Dr. Blalock has delivered 41 Lectures and is a member of 47 medical societies, including the National Academy of Sciences, American College of Cardiology, Harvey Society, Society of University Surgeons, Chicago Surgical Society, British Cardiac Society, Society of Thoracic Surgeons of Great Britain and Ireland, American Medical Association and the American Heart Association.

He has authored many scientific articles on traumatic shock, hypertension, congenital heart diseases and acquired heart diseases, and is the author of a book titled Principles of Surgical Care: Shock and Other Considerations.

3 Review Panels Meet

Three Fellowship Review Panels of the Career Development Review Branch, Division of Research Grants, for the first time recently arranged participation sessions adjacent to a grantee institution for a discussion of problems and policies involved in the awarding and acceptance of PHS grants.

At the invitation of the panel groups—Physiology, Anatomy and Pathology, and Clinical Research—the University of Minnesota, the Medical School, and the Graduate School which included the Mayo Foundation for Medical Education and Research, participated in combined activities during the 3-day meeting, held in Minneapolis.

Study Reveals Costs of Mental Health Training For Fiscal Year 1961

A total of approximately \$106 million of Federal and non-Federal funds was spent to train mental health personnel in 1960-61, a newly published National Institute of Mental Health study shows.

The States and the Federal Government contributed almost equally to total national expenditures in this field, with State governments contributing 42 percent of the \$106 million and the Federal Government contributing 41 percent.

The remaining 17 percent was from other sources, including city and county governments. All data obtained were for the fiscal year ending June 30, 1961.

Core Disciplines Stressed

Two-thirds (\$68 million) of the total expenditures was for graduate training in the core mental health disciplines: psychiatry (\$43 million), clinical psychology (\$14.9 million), psychiatric social work (\$7.8 million), and psychiatric nursing (\$2.5 million). Instructional salaries accounted for 36 percent of these funds spent in core areas and 44 percent was for direct payments to trainees, such as stipends or salaries.

The average stipend to a psychiatric resident during the year surveyed was \$5,975; to a clinical psychology student, \$2,688; to the psychiatric social work student, \$2,396; and to the psychiatric nurse student, \$2,938.

Stipends given by NIMH equaled or slightly exceeded the average stipend in each core field except psychiatry, where the mean NIMH stipend was \$4,847.

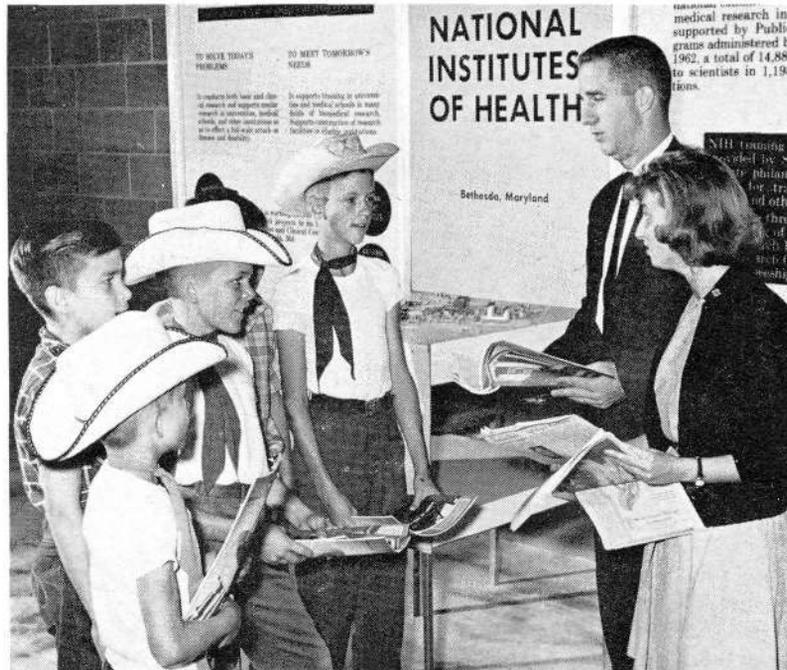
The total training expenditure, including teaching costs, in 1960-61 for a psychiatric resident averaged \$12,757; for a clinical psychology student, \$5,087; for a psychiatric social work student, \$5,000; and for a psychiatric nurse student, \$6,360.

Other Costs Noted

A total of \$27 million was spent in 1960-61 for graduate training outside the four core disciplines, for employee inservice training, and training of such groups as volunteers. Training activities not identified by type received \$11 million.

The survey was directed by Drs. Eli A. Rubinstein and Joseph A. Cavanaugh of the Training Branch, Extramural Programs, NIMH, and was accomplished through the professional and technical assistance of the Surveys and Research Corporation of Washington, D. C. Entitled, Survey of Funding and Expenditures for Training of Mental Health Per-

4-H MEMBERS VISIT NIH EXHIBIT AT FAIR



On opening day of the Montgomery County Fair, Michael Canning and Linda Perry, information staff members of the National Institute of General Medical Sciences, answer questions of young 4-H Club members visiting the NIH exhibit.—Photo by Jerry Hecht.

NIH Exhibit Attracts County Fair Visitors

Visitors to the annual Montgomery County Fair last week at Gaithersburg were attracted to the NIH exhibit on display there.

Feeling that all too many county residents drive by NIH with little idea of what it is and does, the exhibit was designed to acquaint the public with the work of NIH and the Public Health Service.

The exhibit booth was manned each day by NIH information employees who distributed information material explaining the mission and purpose of NIH.

In addition, each day featured the work of a different Institute. The schedule was:

Monday, the National Institute of General Medical Sciences; Tuesday, National Heart Institute; Wednesday, National Institute of Neurological Diseases and Blindness; Thursday, National Institute of Mental Health; Friday, National Institute of Allergy and Infectious Diseases; Saturday, National Institute of Arthritis and Metabolic Diseases.

sonnel, 1960-61, the study is available as Public Health Service Publication No. 1028.

Single copies may be obtained free of charge from the Publications and Reports Section, National Institute of Mental Health, Bethesda 14, Md.

High School Counselors Attend NIH Workshop On Job Opportunities

An NIH workshop for six counselors from the Montgomery County junior and senior high schools was conducted here August 13. Its purpose was to acquaint the counselors with NIH objectives and occupational opportunities and to assist them in their counselling of secondary school students.

John M. Sangster, Chief of Personnel, greeted the participants at the morning session and introduced Dr. Robert Farrier, Assistant Director (Professional Services Department) of the Clinical Center.

NIH Film Shown

Following a talk by Dr. Farrier on the history of the NIH and its mission, the group was shown the NIH film and taken on a tour of the Clinical Center.

At the afternoon session John D. Ewan of the Recruitment and Placement Section, PMB, discussed trends in employment and employment opportunities at the NIH.

This discussion focused attention on two primary employment areas: the student who completes formal education with the termination of his high school studies, and the student interested in a scientific career who plans a higher and perhaps more specialized education.

Highlighting the program were

NIDR Studies Response Of Germfree Mice to Bacterial Endotoxin

National Institute of Dental Research scientists have found that conventionalization of germfree mice increases their susceptibility to endotoxin. Contamination with single strains of an indigenous bacterium fails to increase susceptibility.

Recent investigations have led to the theory that the intestinal bacterial flora influences the response of the host to bacterial endotoxins.

To examine further this hypothesis groups of germfree and specific-pathogen-free mice of the same genetic stock were contaminated with single strains of *E. coli* bacteria or conventionalized with microflora common to their strain.

Endotoxin Tested

Three weeks later all groups were challenged with endotoxin from the same strain of *E. coli*.

The investigators found that conventionalization of germfree or SPF mice increased their susceptibility to endotoxin. Contamination of these mice with single strains of an indigenous *E. coli* failed to increase susceptibility to endotoxin from the same strain of bacteria.

The scientists propose that the reaction of the mice to bacterial endotoxin must involve other microbial products which act synergistically to produce the increased susceptibility of conventionalized germfree and SPF mice to bacterial endotoxin.

This research was reported in the Proceedings of the Society for Experimental Biology and Medicine by Drs. S. Borglum Jensen, Stephan E. Mergehagen, Robert J. Fitzgerald, and Harold V. Jordan, of the Laboratory of Microbiology, National Institute of Dental Research.

the occupational study tours of the Clinical Center, the Division of Research Services and the National Cancer Institute.

Representatives from each area took two of the counselors on a tour of work sites at three job levels: the entrance level, the skilled or technical level, and the managerial or professional level. This portion of the program had been especially requested by the guidance counselors.

Both the County and NIH participants characterized the workshop as interesting and beneficial. PMB expressed the hope that similar sessions will be arranged to accommodate a more ambitious program, to include university and professional school counseling personnel, as well as an extended multiple county program.