Dr. Hertz Named Scientific Director Of the NICHD

Dr. Roy Hertz has been appointed Scientific Director of the National Institute of Child Health and Human Development, it was announced last week by Dr. James A. Shannon, Director of NIH.

As Scientific Director of the Institute, Dr. Hertz will be responsible for developing the laboratory and clinical research programs here and elsewhere. He will be principal scientific advisor to the Director of the Institute.

Goal Described

The goal of the National Institute of Child Health and Human Development is the study of the whole individual and research into the normal processes of growth and development. One area of major importance will be research related to medical and biological aspects of the population problem.

Throughout his career Dr. Hertz has made significant contributions to the knowledge of ovulation, the physiology of menstruation and pregnancy, and the problems of growth and development. His scientific advisor to the Director of the Institute.

Study of Squid Axon Advances Nervous System Understanding

By Steven E. Beasley

The squid—a pearly, ten-armed sea animal that swims the world's oceans by jet propulsion—stars in a daily program at NINDB's Laboratory of Biophysics. Because of its giant nerve fiber (axon), the squid has made possible research which has significantly advanced understanding of the nervous system during the past thirty years.

Dr. Mohler Is Appointed Assistant to Dr. Mider

Dr. William C. Mohler of the Laboratory of Chemical Pharmacology, National Cancer Institute, has been appointed Assistant to Dr. G. Burroughs Mider, NIH Director of Laboratories and Clinics. Dr. Mohler, whose appointment became effective September 1, will assist Dr. Mider with his duties as the principal NIH policy advisor on intramural programs, including research activities at certain field installations of NIH.

Succeeds Dr. Black

He succeeds Dr. Roger L. Black who has been named an Associate Director of the Clinical Center (see NIH Record, Aug. 24). Dr. Mohler first joined NIH as a Clinical Associate in the Cancer Institute (1955-57). From 1957 to 1959 he was a postdoctoral Fellow in immunology and biochemistry at the Institute.

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A foot-long creature, the squid belongs to the highest class of mollusks, which includes its cousin, the octopus. In the squid's long, cigar-shaped body, giant axons carry messages (impulses) which control the animal's rapid intake and outward squirting of water, by which it propels itself in a forward or backward direction.

Fibers Carry Signals

The big nerve fibers function much as those of humans, carrying signals from the brain to the body's muscles and glands.

The squid's giant axon, a single nerve fiber one-fiftieth of an inch thick (about the thickness of a silk thread), can be isolated in 2-inch portions and kept alive in salt water for several hours. Research scientists who work with these axons search for clues to explain how the nerve impulse is conducted.

After firmly clamping the axon

The North Atlantic squid (Loligo) captures its prey by engulfing it with tentacles. Propulsion is accomplished by expelling water from the siphon, located just below the eye. Siphon is controlled by impulses from giant axon, an unusually large nerve fiber used in neurophysiological experiments at NINDB.—Drawing by Martin E. Finck.
**NEWS from PERSONNEL**

**SECRETARIAL-CLERICAL**

The Employee Development Section, PMB, has published a brochure listing its 1965-66 schedule of training courses for secretarial and clerical employees. These courses include training in business English, letter writing for secretaries, shorthand refresher courses, and secretarial workshops. They are presented in brochure form for the entire year to enable supervisors and employees to plan ahead for desired training. During the year each course will be announced separately as it is offered.

The first course this year, in business English, will begin September 21. Brochures and nomination forms have been sent to I/D personnel offices for distribution. Interested supervisors or employees who have not received a brochure by September 15 may obtain one from I/D personnel offices.

**Orientation Program**

In addition to the above mentioned optional courses offered by PMB, each new secretarial or clerical employee participates in an orientation program which consists of a basic program including a course in telephone techniques and courtesy.

The schedule for the orientation program has been revised this year. New employees will now report to PMB immediately after induction each Monday morning and take part in a basic orientation program lasting until 3 p.m.

After this training session the employees will report to their own Institute or Division. All new employees will be expected to participate in this program unless excused by their personnel offices.

Congressman Seeks List of Wisconsin Grads in Gov't

The office of Congressman Kastenmeier of Wisconsin is seeking the name, degree, date of graduation, and present position of Federal employees who have graduated from the University of Wisconsin. If any readers of the NIH Record are Wisconsin graduates and Federal employees, they are requested to inform Congressman Robert W. Kastenmeier, 1203 House Office Building, Washington, D.C. 20515.

**Flu Vaccine Schedule Established by EHS for NIH Personnel**

Influenza vaccine will be offered to NIH employees this month according to the following schedule:

- **Building 10 Health Unit**, Rm. B2A06, 1:30 p.m. to 4:30 p.m. names A-D, September 20 and 21; names E-L, September 21; names M-P, September 22; and names Q-Z, September 29.
- **Building 11 Health Unit**, Rm. B2B34, 1:30 p.m. to 4:30 p.m., Monday, September 27.
- **Building 12 Health Unit**, Rm. B3A20, 1:30 p.m. to 4:30 p.m., Monday, September 27.
- **Building 13 Health Unit**, Rm. B2B34, 1:30 p.m. to 4:30 p.m., Monday, September 27.
- **EHS to Show Movie on 'Common Cold'**

This notice, carried in the Aug. 24 issue of this paper, is reprinted at the request of the Laboratory of Infectious Diseases, NIAID.

The NIAID Laboratory of Infectious Diseases is again in need of volunteers for its continuing study of the “common cold.”

The researchers in this laboratory are attempting to isolate and identify the viruses which cause common colds.

Volunteers will be asked to contribute nasal washings plus blood samples. Interested NIH personnel with colds, preferably within the first three days of illness, may call Mrs. Sara Kelly, Ext. 66811 for additional information. Participants will be paid $2 for each blood sample.

**4-Story Building 12A Near Completion, Designed for Computer Science Center**

Except for finishing touches and landscaping, construction of the 4-story extension to Building 12 is now complete. Numbered 12A, the new building will be used entirely for computer science and technology. This assignment, coupled with present computer occupancy of Building 12, will provide for a computer science center on the NIH reservation.

Until the computer program is fully staffed, however, several other organizational units will be moving in shortly to occupy a portion of the new building on a temporary basis.

Design and construction of the new building, including the remodeling of a large part of Building 12, was handled directly by the Plant Engineering Branch of the Division of Research Services rather than by the General Services Administration. The total cost of the building was $1.4 million.

The surrounding area, including a sunken garden, will be landscaped this fall. Special attention will be given to upgrading the present industrial appearance of the area.

The new extension, located north of Building 12, measures 86 feet by 162 feet and contains 60,000 gross square feet. The net usable floor space is 39,246 square feet.

**174 Office Spaces**

There are 174 office spaces on the top four floors, and the basement will be used entirely for housing mechanical equipment. All computer operations will remain in Building 12.

A 2-story closed passageway connects the two buildings, but only the first-floor level is usable at this time. The second-floor level presently leads into the garage area of Building 12 and will be closed off until that area is renovated into office space at a later date.

The new extension has two elevators and a loading platform, located at the west end near the main entrance. Stairwells are located at both the east and west ends of the building.

NIAID ‘Common Cold’ Study Again in Need of Volunteers

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Lloyd Stewart Named To Civil Defense Post

The appointment of Lloyd R. Stewart as Assistant for Civil Defense Mobilization at the National Institutes of Health was announced recently by George P. Morse, Chief of the Plant Safety Branch, OD.

Mr. Stewart succeeds Edward J. Stevens, who recently became the Assistant for Civil Defense to the Acting Director of Field Administration, Office of the Secretary, Department of Health, Education, and Welfare.

Mr. Stewart will develop plans to increase survival chances of NIH employees and nearby Montgomery County residents in the event of a major disaster. His first step will be to develop shelter management and self-protection plans and organizations.

Shelters to Be Stocked

NIH buildings already marked as fallout shelters are to be stocked with food, water, medical and other supplies, and personnel will be trained to manage each shelter area.

Mr. Stewart also will assist Mr. Morse in working with NIH mobilization officials and other Public Health Service officials in developing national plans and procedures for an Emergency Health Service. Before joining NIH, Mr. Stewart served with the Emergency Planning Staff of the Small Business Administration.

He also had 25 years service with the Army, retiring in 1958 as a Lt. Colonel.

Mr. Stewart attended Indiana University and the University of Maryland.

Education Office Issues College Financing Guide

Guidelines to help students and parents shop for the most favorable terms when borrowing money for college education are provided in a booklet recently issued by the Office of Education.

The 14-page publication, “Borrowing for College, A Guide for Students and Parents,” discusses loans available through Federal, State, and college programs, and from commercial banks, finance companies, savings and loan associations and credit unions.


DRS's Glassblowing Unit Creates New, Unusual Glassware for Scientists' Use

William Kump, Chief of the Glassblowing Unit, watches as Joe Fox heats a five-gallon jug prior to replacing a broken spout.—Photos by Jerry Hecht.

NIH scientists use more than a half-a-million pieces of glassware each month. Most of it can be, and is, obtained from commercial sources. But research by its very nature demands innovation in techniques and equipment, including newly designed glassware.

To this end, NIH has its own Glassblowing Unit in the Biomedical Engineering and Instrumenta- tion Branch of the Division of Re- search Services. Tucked away in a corner of Building 13, the unit is made up of five men whose experience in glassblowing adds up to more than 100 years.

Whether it's a 5-gallon beaker, a flask within a flask, or a micropipette with an opening so small that it can only be seen with a microscope, one of these men can make it.

Since most of the work is on newly designed glassware, it is not a case of "you name it, we'll make it," but rather one of "you draw it and we'll make it," according to the Unit Chief, William Kump.

Field Attracts Males

Relatively few were reported as employed in outpatient mental health clinics and private institutions for the retarded.

It was found that psychiatric nursing attracts more males (7 percent) than other areas of nursing (1 percent). The male nurse is older, with an average age of 43, than the female nurse, with an average age of 41, and has attained a higher level of education.

In addition, the male nurse has had more mental health nursing experience, averaging 14 out of a total of 17 years of professional experience, than the female nurse, who averages 8 years in mental health out of a total of 15 years in nursing.

The American Nurses' Association estimates that 90 percent of employed nurses have no college degree, 8 percent hold baccalaureate degrees, and 2 percent graduate degrees.

24 Percent Hold Degrees

Among mental health nurses, in contrast, 20 percent hold baccalaureate degrees and 4 percent graduate degrees.

Average work week for the mental health nurses surveyed was 40 hours, with a majority of their time spent in direct patient care. Males reported slightly more administrative duties and less time in patient care.

As the education level increases, the time spent in patient care decreases and the time spent in administration and teaching increases. Time spent in research was negligible.

The study was published in Mental Health Manpower Current Statistical and Activities Report, July 1965, by the Training and Manpower Resources Branch, NIMH.
Dr. Andrews Retires as Radiation Safety Head; Serves PHS 28 Years

Dr. Howard L. Andrews, Radiation Safety Officer of the National Institutes of Health and Chief of the Clinical Center Department of Radiation Safety, retired from the Public Health Service August 31. He will become Assistant Director for Health and Safety at the Puerto Rico Nuclear Center which is part of the University of Puerto Rico.

Dr. Andrews’ affiliation with the Public Health Service dates from 1947. His research contributions have varied and significant, including the development of instruments for measuring radiation, the biological effects of high doses of radiation, and the applicability of whole-body counter techniques to clinical medicine.

Holds Two Positions

He joined NIH just after the start of World War II, in the Division of Industrial Hygiene, and was named NIH Radiation Safety Officer in 1948. The Radiation Safety Section and the Radiation Safety Department was established in 1959. Dr. Andrews was appointed its Chief and held the two positions concurrently.

While conducting research on drug addiction at the PHS Hospital in Lexington, Ky., he was the first to demonstrate that the opiates tend to control the subject's reaction to pain rather than to suppress the sensation of it.

As the program of nuclear weapons testing developed, Dr. Andrews became involved as a member of the advisory panels considering the safety aspects of test detonations.

Since 1945, when he became a PHS Commissioned Officer, he has worked primarily in the field of radiation biology. He headed the Radiobiology Section in the National Institute of Arthritis and Metabolic Diseases for 14 years, and served as Chief of the Radiation Physics Section in the National Cancer Institute from 1959 to 1965.

Receives PHS Award

In February 1965, Dr. Andrews was awarded the PHS Medal for Meritorious Service for “his outstanding achievements in the broad field of physical biology.”

Dr. Andrews has been a member of the National Academy of Sciences Biological Effects of Atomic Radiation Committee since its creation in 1956 and served as its Executive Secretary from 1959 to 1964.

He is a Fellow of the American

Birth Deformities in Lambs Traced to Common Plant Found in High Altitudes

A series of severe birth deformities in lambs has been traced to a common plant found in high altitude feeding ranges in the Rocky Mountain area. The teratogenic effect is the result from the consumption of *Veratrum californicum*, one of a genus of poisonous herbs, by ewes during the breeding season.

This was reported at a recent NIDR seminar by Dr. Wayne Binns of the U.S. Department of Agriculture. NIDR interest in this subject stems from the Institute’s concern with congenital oral-facial malformations and the contributing influences of environmental factors.

Finding Is Significant

This finding is considered of great economic significance because congenital malformations in domestic animals have long been associated with genetic defects, thus making it most probable to inbreeding. The accepted solution has been to eliminate animals suspected of being responsible for the “bad line.”

Dr. Binns is veterinarian in charge of investigating stock poisoning by plants at the Animal Disease and Parasite Research Division in Logan, Utah. With a team of USDA scientists he began investigating the etiology of the deformity occurring in the lambs in 1955.

Due to the sudden increase in the number of malformations observed, as well as their specificity—cyclopia (fusion of both eyes in the center of the head), hydrocephalus, and cleft palate, the investigators suspected an environmental insult, rather than a genetic factor, as the probable cause.

Determines Area First

Since a retrospective study could not be carried out, Dr. Binns first determined the geographical area where the incidence was highest. He found that the affected herds had all been quartered above 5,000 feet on moist, fertile ranges with a variety of plants for grazing.

To determine whether any of the plants might be the causative agent, Dr. Binns carried out a range-grazing experiment with ewes of known breeding date.

He found that the animals ignored other palatable foliage in favor of *V. californicum*. He then fed *V. californicum* to the ewes in varying schedules during the critical period of embryonic growth and development. Lambs with one or more deformities were born to ewes that had eaten the plant on the 14th day of gestation, a critical stage in the organogenesis of the nervous system.

14th Day Important

The severity of deformity seemed to be correlated to the amount of *V. californicum* ingested on that day. Ewes eating the plant any time before, but not including, the 14th day bore normal lambs; those eating it only after the 14th day frequently suffered fetal deaths.

Dr. Binns and his co-workers also observed that some of the ewes bearing malformed lambs had gestation periods that markedly exceeded the usual 147 days. Some of the lambs born of this prolonged gestation period were larger than normal at birth. There was no sex difference in the incidence of malformation.

In several instances of twin births, one lamb appeared normal and the other deformed. This variation was attributed to differing rates of development for each fetus.

Toxic Response Noted

Many of the ewes also had a toxic response to the plant. Their symptoms ranged from vomiting to a dangerous slowing of heart and respiration rate. The researchers found, however, that the toxic reaction lessened or disappeared if the plant was ingested in small amounts over a long period of time.

Research is still underway in USDA laboratories to determine the metabolic pathway by which *V. californicum* exerts its teratogenic effect. Thus far the study has revealed one promising possibility: that an unidentified alkaloid, found in *V. californicum*, may be the causative agent.

The investigators suspect that the substance producing toxic symptoms in the ewes is not the same one that is responsible for the teratogenic effects. Also unknown is the effect, if any, of the plant on other grazing herds, such as cattle or horses. Identification of the responsible plant and its habitat, however, permits a practical prevention of the problem by grazing the ewes at lower altitudes.

The Statue of Freedom on the dome of the Capitol building is 19'5 feet tall, is made of bronze and weighs 14,985 pounds. At its base are the words E Pluribus Unum (Out of Many One).—The World Almanac.

Hormone Pills Developed

In 1965, Dr. Hertz, in collaboration with Dr. William W. Tullner, also developed the first orally active forms of hormone pills for the treatment of menstrual disorders in women. Such substances are now used as an ingredient in oral contraceptives, a subject of direct concern to the National Institute of Child Health and Human Development.

Currently Chief of the Endocrinology Branch of the National Cancer Institute, Dr. Hertz received a Distinguished Service Award from the Department of Health, Education, and Welfare in 1963. In 1957 he received the Anne Frankel Rosenblent Memorial Award of the American Association for the Advancement of Science for outstanding accomplishment in the field of cancer research.

A native of Cleveland, Ohio, Dr. Hertz has been with the National Institutes of Health since 1941.
Clowns Caper and Balloons Fly High at 3rd Annual CC Patients' Carnival Here

By Marilyn Norris

Summer Information Trainee

A most un-hospital air prevailed at the Clinical Center's Third Annual Patients' Carnival here recently. Booths were draped with crepe paper and pennants, music played over a public address system, and a costumed clown swatted playfully at a hula dancer's bare feet.

Because of generous community cooperation, about 200 research patients and their guests were able to be festive for free.

One of the most popular activities was the Space Balloon Booth where patients launched 159 helium-filled balloons with self-addressed postcards.

The card returned from the farthest point will win. Last year's winning card was returned from the Coast Guard Station at Chincoteague, Md.

Booths included turtle races where one energetic turtle named George won most of the races. Volunteers in striped vests helped patients play pokeno, grin for Polaroid photos, have handwriting analyzed, and aim at assorted targets — with darts, bean bags, rings, poker chips and wet sponges.

CC patients drank a pink no-cal punch concocted by the Nutrition Department to satisfy possible dietary restrictions. Also pink, and nine feet tall on stilts, was clown Red Tannen.

The Sheraton Park Hotel's miniature train, which is to give free rides around the reservation, was "derailed 10 miles south," according to a posted sign. Police would not allow it to be driven up Wisconsin Avenue with a defective tail-light.

Many Groups Participate

Volunteers were from B'nai B'rith, Bradley Hills Presbyterian Church, Bethesda Christian Church, Bethesda Firth Baptist Church, Silver Hill Volunteer Fire Department, Gray Service, Peggy Holt Dancing School, Normal Volunteer patients, and the CC Patient Activities Section which planned the event.

Among CC staff members attending were Dr. Clifton Himmelbach, Associate Director, and his wife; Janet Fitzwater, Chief, Surgical Nursing Service; and Margaret Badger, Administrative Officer. Mrs. Louise Anderson, Chief of the CC Nursing Department, cut the ribbon opening the carnival.

New Members Named to Advisory Heart Council

The appointment of two new members to the National Advisory Council was announced recently by Surgeon General Luther L. Terry of the Public Health Service.

Dr. Walter J. Burdette of the University of Utah College of Medicine and Dr. Richard V. Ebert of the University of Kansas Medical Center will serve four-year terms beginning October 1965.

Catholic University of America School of Social Service and is a visiting lecturer at Columbia University's New York School of Social Work. She is also the author of many articles in her field.

PINK DOG, presented by Marilyn Schoon, a volunteer from the Bethesda First Baptist Church, wins for Debra Sue Hawkins, a patient from Fawmont, W. Va., the first carousel prize.

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Dr. Birren, Director of NICHD Aging Program, Retires September 1

Dr. James E. Birren, a pioneer investigator in the field of aging and Director of the Aging Program of the National Institute of Child Health and Human Development, retired from the Public Health Service September 1.

He will become Director of the new Rosemoor-Cortese Institute for the Study of Retirement and Aging and Professor of Psychology at the University of Southern California.

Dr. Birren has been Director of NICHD's Aging Program for more than a year. From 1953 to 1964, he was Chief of the Section on Aging in the Laboratory of Psychology, National Institute of Mental Health.

Widely recognized as one of the leading scientists in the aging research field, Dr. Birren has served in the Public Health Service since 1944. He recently received the PHS Meritorious Service Medal "in recognition of his excellent contributions and achievements in the field of Gerontology."

Editors Scientific Texts

Dr. Birren was editor of the Handbook of Aging and the Individual: Psychological and Biological Aspects, published in 1959, and was an editor of Human Aging: A Biological and Behavioral Study, published last year. His most recent volume is a textbook, The Psychology of Aging.

He is co-editor of Behavior, Aging, and the Nervous System and editor of Relations of Development and Aging.

Prior to becoming Chief of the NIH Section on Aging, Dr. Birren was a research psychologist with that Institute from 1951 to 1953. He served in a similar capacity with the National Heart Institute's Gerontology Branch from 1947 to 1951 and was a Research Fellow at NIH in 1946 and 1947.

Dr. Birren is a native of Chicago and earned his B.Ed. degree from Chicago Teachers College in 1941. He received his M.A. from Northwestern University in 1942 and Ph.D. from the same institution in 1947.

He has received numerous awards for his work in the aging field including the Ciba Foundation Award for Research on Problems of Aging (1956) and the Stratton Award of the American Psychopathological Association (1960).
at each end, the researchers insert very fine-tipped glass tubes (microelectrodes) filled with a solution which conducts electricity (concentrated potassium chloride) into the axon, and then study its changes during an impulse.

Scientists now know that certain chemical changes occur as the electrical signal passes through the axon. Charged particles (ions) of sodium and potassium flow through the axon's outer covering (membrane), causing a voltage change to occur in the axon. The impulse moves on and these ions gradually return to their original locations.

More Data Sought

These chemical and electrical events must be more completely understood before the medical scientist can effectively treat the person who has one of the many diseases of the brain and nervous system involving impaired nerve function.

Using the giant squid axon, scientists at the NINDB Laboratory of Biophysics have been carrying on this important research under the guidance of their chief, Dr. Kenneth S. Cole.

In July, five NIH scientists interested in nerve impulse research participated in an NINDB-sponsored conference at the Woods Hole Marine Biological Laboratory, Woods Hole, Mass., attended by nearly 300 scientists.

Dr. Cole, Robert Taylor, Edward Rojas, and Richard FitzHugh, of the NINDB Laboratory of Biophysics, and Dr. I. Tasaki, NIMH Laboratory of Neurobiology, presented some of their recent findings concerning nerve membrane and the nerve impulse.

Dr. Cole Honored

The conference participants honored Dr. Cole for his outstanding contributions over the past thirty-five years to the field of nerve conduct. The present thrust of research at NINDB's Laboratory of Biophysics carries on this tradition and seeks to further develop Dr. Cole's methods.

Perhaps the most important single discovery in the exploration of the way nervous signals are generated was that electrical and chemical changes in the nerve cell membrane occur during the impulse. How these changes occur has been the fascinating subject of Dr. Cole's research since 1920.

In 1942 Dr. Cole and Dr. H. J. Curtis made the first direct reading of the voltage (potential) difference between the nervous system and the outside of a nerve's membrane, taking advantage of the squid's giant axon for the experiment.

The large-sized fiber made possible the insertion of one electrode into the core of the axon while another electrode rested on the nerve's external surface.

In 1949 Dr. Cole developed the "voltage-clamp" to demonstrate the relationship between electrical voltage and current flowing in an axon during an impulse. This method involves unusually sensitive measurement of membrane potential in the giant squid axon.

This research advance gave birth to other discoveries by Profs. A. L. Hodgkin and A. F. Huxley of Great Britain, who won the 1965 Nobel Prize in physiology for their mathematical description of ion flow in the squid axon during an impulse. Squid used at the NINDB laboratories are supplied from the Eastern Shore of Maryland. They are brought here, by truck, in an aquarium.

Chilean Squid Larger

Each summer some of the staff move to Woods Hole where fresh squid are available daily. For a long time scientists have known of the much larger squid available off the coast of Chile.

Within this larger squid, the giant axon may reach a diameter of one and a quarter millimeters (three times the size of the North Atlantic squid's axon). Using this unique structure, experiments can be carried out which are impossible to accomplish with any of the smaller squid available in the northern hemisphere.

Dr. Taylor points out that scientists in many laboratories have succeeded in "replacing the internal contents of the squid axon with salt solution (perfusion), in order to more easily study how the axon functions."

"In a sense," he maintains, "we are approaching the end of an era in physiology. Aspects of nerve conduction such as the relationship between electrical voltage in nerve and eye movements, are well understood."

"We know there is probably a two-molecule fatty acid layer making up the nerve membrane, but we aren't certain of the other constituents. The advent of the more advanced techniques to the study of giant axons in the large Chilean squid makes discovery of these other portions foreseeable."
Dr. Meader Leaves NCI: 18-Yr. Career Parallels Research Grants Growth

Dr. Ralph G. Meader, Associate Director for Grants and Training of the National Cancer Institute, is leaving Federal employment in mid-September to assume responsibility for the administration of the research program at Massachusetts General Hospital in Boston. He ends a term of service here that coincides with the period of rapid growth and expansion of the NIH research grants program.

Dr. Meader came to NCI in 1947 as a consultant and Scientific Director of the Cancer Research Grants and Fellowships Branch. None of the other categorical Institutes of NIH had yet been created. The Division of Research Grants was less than two years old. It was in 1947 that the grants and fellowships appropriation had for the first time reached $300,000. From 1938, when the NCI grant program had officially begun, until 1947, the figure had remained in the neighborhood of $100,000.

Research Expanded

By the time Dr. Meader took up his consultant post here the Fiscal Year 1948 appropriation approximated $2.5 million and the Congress had provided over $2 million to begin the NCI research facilities construction program which has expanded into the Health Research Facilities Program of NIH.

In May 1949 Dr. Meader joined NCI on a full-time basis and became successively Deputy Chief and Chief of the Research Grants Branch in the period 1948-60, and Associate Director for Grants and Training, 1960-65.

He was active in the development of policies and plans for the research and training programs of NIH and PHS generally, and was primarily responsible for such programs in NCI. The Institute's grant program has expanded to an annual appropriation of more than $772 million.

Much of Dr. Meader's own time has been devoted to work on the NCI Specialty Fellowships Board. During his service in both policy development and program operating capacities here, his advice has been sought by other Federal, state and private organizations.

He helped to organize the first Gibson Island Conference on Cancer that has developed into the annual Gordon Conference on Cancer, and he is now a member of the Selection and Scheduling Committee of the conferences.

Grounds Unit Labors to Save NIH Trees Threatened by Construction and Drought

Four consecutive years of drought, plus new building excavations, utilities trenching, and additional roads and parking lots, are endangering one of the greatest natural assets of the NIH reservation—its trees.

Obviously, the trees in construction sites have to be removed or transplanted. But more important are the trees in the undergrowth of water tables caused by trenching and large excavations. Pavement also causes a smothering effect, shutting off soil air and preventing natural percolation of rain water into the soil.

Charged with the responsibility of protecting the trees from such natural and man-made elements is the Grounds Maintenance and Landscaping Section of the Plant Engineering Branch, DRS.

Section Chief Milford Myers says that the older, mature trees are of marked concern, for it is impossible to transplant them.

Trees Weakened

"Even though a tree may not actually be touched," says Mr. Myers, "such changes as raising or lowering grades in the vicinity, changes in the water table, and compaction of the soil are targets for insects and disease." During the initial planning of any construction at NIH, Mr. Myers and his staff play a significant role in the design and selection of sites which will affect the minimum number of trees.

For example, a shallower-rooted, lower-faced curb than normal was used along North Drive and Wilson Drive to avoid deep excavation in root zones of mature trees.

A native of Michigan, Dr. Meader received the A.B. degree from Ohio Wesleyan University, the M.A. from Harvard College, and the Ph.D. in anatomy from Yale University, where he became an instructor in that subject in 1931. He had risen to the rank of Associate Professor at the time of his departure to join NCI.

From 1938 to 1940, Dr. Meader was a Rockefeller Foundation Fellow in Neurology working with Prof. Ariens Kappers at the Central Institute for Brain Research, and with Prof. Bernard Brouwer at the Neurological Institute of the University of Amsterdam in The Netherlands.

From 1942 to 1948 he served the Jane Coffin Childs Memorial Fund for Medical Research, first as Assistant to the Director, then as Assistant Director. He has been Executive Secretary for the National Advisory Cancer Council since 1947.

A Fellow of the American Association for the Advancement of Science, he is a member of the American Association of Anatomists; American Association for Cancer Research; Corporation of the Bermuda Biological Station for Research, Inc.; Phi Beta Kappa, Sigma Xi, and numerous medical and technical societies. He is the author of 22 published papers.

During the past year over 860 shrubs, 63 trees, and 10,000 ground cover plants have been transplanted from construction sites.

The trees ranged from 3 to 15 inches in diameter, were 15 to 55 feet high, and weighed from 400 pounds to 20 tons. Of these, only three medium-sized trees have been lost.

Beech, Willows Transplanted

In addition, 25 young American beech have been transplanted from the Poolesville Animal Center to NIH, and 30 weeping willows have been started along the stream banks and are doing well.

Other trees, not transplanted, have been prepared as much as possible to withstand the shock of a changing environment by fertilizing, pruning, and watering.

Wetting agents allow deeper penetration of water, and antitransplanted roots reduce moisture loss through the foliage.

Sprinkling systems are being operated around-the-clock in critical areas, even when it is raining.

A stepped up insecticide and fungicide spray program to protect weakened trees is also in progress.

Mr. Myers says that future losses of healthy, mature trees can be expected. "The worst area will be along Old Georgetown Road and the area of the new NCI-NINDS-NIMH complex," he said.

Contract Awarded for Cancer Research Using Rat-Size Marsupials

Several species of rat-size marsupials—relatives of the opossum—from South America and Australia, will be established as laboratory animals and used in cancer research by University of California scientists who have been awarded an initial $97,433 contract by the Public Health Service.

The contract will be administered by NCI investigators who are interested in developing new systems for testing potential cancer-causing agents.

Since much of the embryonic development of young marsupials may be observed directly while they are in the mother's pouch, these animals provide special opportunities for determining the effects of cancer-causing chemicals on normal growth.

The cell, which took William Dehn an entire week to make, was formed by first cutting a quartz cylinder into two half-circles. These two pieces were then fused together at the edges and a neck put at the top to form something similar to a hip flask. The solutions under study are placed inside the cell, which is positioned around a UV light.

"Truly a piece of art," was the comment of the investigator upon receiving the cell.

GLASSWARE

(Continued From Page 3)
FAMILY PLANNING
(Continued from Page 1)
900 surveys. In addition, survey findings will supplement official government statistics by supplying data on family planning, fertility, and sterility, that is not collected by such agencies as the Bureau of the Census and the National Center for Health Statistics.

Data collected will have considerable significance to health research efforts. For instance, whereas the last survey was made in 1960, oral contraceptives were just going on the market.

Updates Prior Survey
Since that time, their use has grown to include an estimated 6 million women in the world, including some 4 million Americans. Thus the older surveys, though still containing useful information, need updating to encompass data on oral contraceptives not included in earlier studies.

The 1966 survey will provide data on a full range of characteristics of families using various fertility control methods, and will provide important baseline data from which other studies, geared more specifically to health problems, can be formulated.

Study data are expected to shed light on trends in sterility induced by various causes, including voluntary surgical sterilization for fertility control purposes.

Questions asked during survey interviews will include those on demographic characteristics of the family, detailed pregnancy and fertility data, attitudes toward future pregnancies, size of family desired, and types of family planning methods used.

Needed Information Listed
Information gathered on characteristics of individuals in the study sample will concern: birth control methods previously used; side effects reported by women using various fertility control methods; time required to regain fertility after discontinuing oral contraceptive use; socio-economic background of the family; age, estimates of women's age distribution at menopause; sources of family planning information.

Dr. Charles F. Westoff, Professor of Sociology at the University of Wisconsin, will be principal investigator for the project.

Overheard on the NIH reservation—One employee to another: "So many people ask me for directions; I often wonder where they end up when I tell them."

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Dr. Thomas A. Burch (right), of the National Institute of Arthritis and Metabolic Diseases, shows NIAMD Executive Officer William G. Baylis graphic results of his study in a new Institute exhibit. Dr. Burch, head of an NIAMD team making epidemiological studies of arthritis and diabetes among North American Indians, found that the Pima Indians inhabiting the warm Arizona climate have a higher occurrence of rheumatoid arthritis than the Blackfoot Indians of Montana.—Photo by Ed Hubbard.

8 Groups to Study
Leukemia in Cattle
In NCI Program
Leukemia in cattle will be the subject of eight studies supported by awards totaling more than $1.25 million from the Public Health Service. These studies will be an integral part of the special virus-leukemia program of the National Cancer Institute.

Research on bovine leukemia has been stimulated by recent reports of virus-like particles in cow's milk, revealed by the electron microscope.

The particles were found in greatest quantity in a few individual and pooled samples of milk from an experimental herd with a high incidence of leukemia. Cattle known to have leukemia are not used for commercial dairy purposes.

Possibility Remote
The possibility that these particles are related to human leukemia is minimized by the relatively small number of leukemia cases—17,000 per year in the U.S.—compared with the millions of persons who drink milk regularly.

The new Institute-related work, however, will help determine if the observed particles represent viruses, are causally related to leukemia in cattle, and are similar to viruses known to cause leukemia in laboratory animals.

The projects will be located at the University of California, Davis and Berkeley; University of Pennsylvania, Philadelphia; University of Minnesota, St. Paul; State University of New York, Syracuse; South Jersey Medical Research Foundation, Camden, N.J.; and the

Mycoplasma Studies
To Be Conducted
By 3 Institutions

Mycoplasma — microorganisms appearing frequently in human and animal leukemic tissues—will be intensively studied by scientists in three institutions awarded contracts totaling $189,685 by the Public Health Service. The contracts will be administered by the National Cancer Institute.

The institutions and amounts of the contracts are: University of Texas M. D. Anderson Hospital and Tumor Institute, Houston ($99,629); Wistar Institute, Philadelphia ($40,125); and Roswell Park Memorial Institute, Health Research Division, Buffalo ($40,931).

Studies Are Broad
The studies will help determine if mycoplasma are causally related to leukemia, if they are contributory factors, or if they are "passenger" agents.

Studies such as these on the cause and prevention of leukemia constitute one of the four principal areas of the Cancer Institute's special virus-leukemia program. Other program areas are treatment of human leukemia, the nature of animal leukemias, and the control of hazards involved in virus-cancer research.

Because mycoplasma may resemble viruses closely in size, structure, and certain chemical properties, improved techniques must be developed to characterize and differentiate these organisms. The studies will attempt to detect mycoplasma in the bone marrow and sera of leukemia patients and to correlate their presence with the course of the disease and the immunologic status of the patient.

Leukemic and normal cells grown in tissue culture will be examined for the organisms, and practical methods of preventing mycoplasma contamination of cultures will be devised.

The research will also evaluate the effects of infecting mice with mycoplasma, both alone and in combination with viruses that cause leukemia in these animals. Animal cell cultures will also be infected to study the changes induced.

Over $1 Million in Contracts Awarded
For Intensive Virus-Leukemia Research

NIH Orchestra Begins
7th Season Rehearsals
The NIH Orchestra, sponsored by the Recreation and Welfare Association of NIH, will begin rehearsals for its seventh concert season next Tuesday, September 14, at 8 p.m. in the CC auditorium. Thereafter, rehearsals will be held every Tuesday evening at the same time and place.

Mark Ellsworth, Concertmaster of the National Gallery Orchestra, will again conduct the NIH orchestra. Membership is open to any NIH employee or family member, able to play an instrument.

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