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

Middle America Research Unit Transfer Contract Is Effective June 24

Negotiations were completed June 6 for the administrative transfer of the Middle America Research Unit from the National Institute of Allergy and Infectious Diseases to the Gorgas Memorial Institute of Tropical and Preventive Medicine, Inc., of Washington, D.C.

Research Explained

NIAID has directed the research efforts of MARU since its establishment in the Panama Canal Zone as a temporary field station in 1957, and a permanent field station in 1960.

The transfer was effected by a contract—for more than \$900,000—signed by officials of the Gorgas Memorial Institute and NIAID.

Dr. Davis Represents NIAID

Participating in the contract-signing ceremony were Rear Adm. Calvin B. Galloway, MC, USN (Ret.), President of Gorgas Memorial Institute, and Dr. Martin Young, Director of Research for the Institute.

Representing NIAID were its Director, Dr. Dorland J. Davis, and its scientific director, Dr. John R. Seal.

Under the contract—which will become effective on June 24—the MARU organization will continue its research efforts, and the final departure of some NIAID professional staff will be deferred for a year.

Programs to Terminate

This will permit the orderly termination of MARU's present research programs, the collation and publication of research data, and disposition of scientifically valuable serological specimens.

New professional staff will be brought in by the Gorgas Memorial Institute.

MARU's staff members have been studying such diseases as Venezuelan Equine Encephalitis, Bolivian Hemorrhagic Fever, his-

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NATIONAL INSTITUTES OF HEALTH

7 New Genetics Research Centers Open To Study Problems of Human Inheritance

Seven new Genetics Research Centers, designed to define and tackle problems of human inheritance, are opening this month at major medical schools across the country.

This concentrated effort in diagnosis, treatment, and prevention of genetic diseases is a \$4 million-a-year Federal program.

The National Institute of General Medical Sciences will administer the research funds and coordinate these seven centers:

- Albert Einstein College of Medicine, Yeshiva University, Bronx, N.Y.
- The Johns Hopkins University Medical Institutions, Baltimore
- The Mount Sinai School of Medicine of the City University of New York
- The University of California, San Diego School of Medicine, La Jolla
- The University of California, San Francisco Medical Center
- The University of Texas Graduate School of Biomedical Sciences, Houston
- The University of Washington School of Medicine, Seattle.

At the centers, specialists in many medical disciplines will work on a spectrum of genetic disorders, including bone and structural abnormalities, blood and circulatory disorders, chromosomal abnormalities, and various metabolic deficiencies.

Insight may also be gained as to the genetic component of such chronic diseases as atherosclerosis, hypertension, diabetes, kidney disease, arthritis, gastric ulcer, and schizophrenia.

Scientists hope to achieve a better understanding of the causes of genetic diseases.

This should lead to improved treatment and management techniques, and ultimately to methods of transferring genetic material and information from a patient's normal cells to correct his defective and missing cells.

Some specific projects are ge-
(See GENETICS, Page 4)

Dr. A. L. Schade Honored By Belgian City of Bruges

Dr. Arthur L. Schade of the National Institute of Allergy and Infectious Diseases was honored by the city of Bruges, Belgium, during the Twentieth Colloquium on Protides of the Biological Fluids, held there last month.

In honor of the colloquium, large silver medals of Bruges' coat-of-arms were struck for presentation to the Scientific Advisory Committee members.

A microbiologist in NIAID's Laboratory of Microbiology, Dr. Schade received a medal from the mayor of Bruges for contributions to the programs and organization of the annual colloquiums as an advisor over the past 14 years.

In addition to his work with the committee, Dr. Schade was asked to deliver the first Arne Tiselius Memorial Lecture in place of the colloquium's chairman, Dr. Hubert Peeters of Bruges, who was ill.

Prof. Tiselius, Nobel Laureate in Chemistry in 1948, had been a valuable member of the colloquium's Scientific Advisory Committee since its inception.



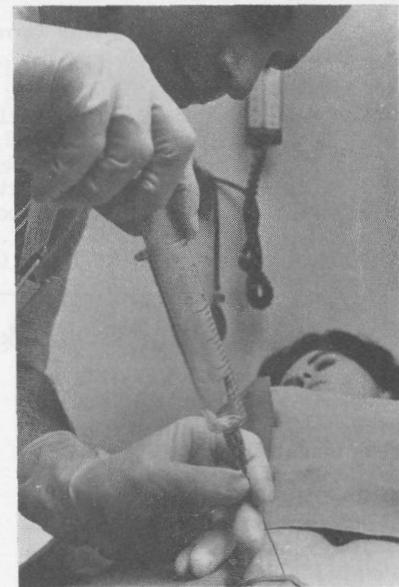
Dr. Theodore S. Theodore (l), a colleague of Dr. Schade's in the Laboratory of Microbiology, inspects the medal presented by the mayor of Bruges.

Panel on Heart Disease Meets; Plans to Give Report This September

The President's Panel on Heart Disease met May 18-22 at NIH to consider the problem of heart and blood vessel disorders and to explore ways of reducing illness

and death from these disorders.

The Panel plans to meet again July 7-9 and in August before they make their recommendations to the President in September.



Amniocentesis, the careful drawing of amniotic fluid from the womb, is conducted by Dr. Lawrence B. Karp at the University of Washington. Cells shed by the fetus are studied at the school's genetics center.

Conferees Tell Treatment On Variety of Cancers

The National Cancer Institute and American Cancer Society jointly sponsored a National Conference on Cancer Chemotherapy June 1-3 in New York City.

Dr. C. Gordon Zubrod, NCI's scientific director for Chemotherapy, was the keynote speaker.

Other NCI participants were: Drs. Paul Carbone, Stephen K. Carter, Vincent T. DeVita, Philip Schein, Michael D. Walker, and John L. Ziegler.

The first session centered on cancers in which some patients are achieving normal life spans as a result of drug treatment.

The conference concluded with a discussion of new chemotherapeutic agents, the accomplishments and potential of immunotherapy and a prospectus for the future.



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FAES Bookstore in CC Stocks Annual Scientific Reviews

As a service to NIH employees, medical and scientific books of general interest are carried at the Bookstore located at the Clinical Center, Bldg. 10, Room B1-L-101.

This service is provided by the Foundation for Advanced Education in the Sciences, Inc.

Special orders may be taken to the Bookstore—open from 9 a.m. to 4 p.m.—or phoned in on Ext. 65273.

Some new books which are cur-

recently available are: *Manometric & Biochemical Techniques*, by Umbreit et al, 5th edition, 1972; *On Death and Dying*, by Elisabeth Kubler-Ross, and *1972 Annual Review of Pharmacology*.

Also, *Manual of Surgical Therapeutics* by Department of Surgery, University of Iowa and University of Illinois, 2nd edition, May 1972; *Strategies of Psychotherapy* by Jan Haley, and *Progress in Neurology and Psychiatry*, an Annual Review, 1972.

Smoking Ban Is Extended To Cafeteria Sections And Some Work Areas

In addition to the present no-smoking ban in public conference rooms and auditoriums, a similar restriction has been placed in cafeteria and work areas.

The Department has directed that "no-smoking areas are to be established in cafeterias under contract to DHEW in Department-controlled buildings . . ."

Supervisors are requested "to plan work space in such a way that preference of employees who request a no-smoking work area be accommodated."

Supervisors must strive to maintain an equitable balance between the rights of non-smokers and of smokers.

Smoking areas have been designated in the four cafeterias on the

Carl Lochner Pulls a Kilroy; He Was Here On the Reservation Before NIH Came



Mr. Lochner (second from right) holds a framed scroll signed by his co-workers and friends at NIH. Among the guests to bid him farewell at his luncheon were (l to r): Alexander Orban, chief, Maintenance Engineering Section, Martin Jeter, head, North Building Unit, and Stanley Oliver, chief, Plant Engineering Branch.

Carl M. Lochner, an operating engineer, retired from NIH late last month. He may very well know every blade of grass on the campus—he's been here since 1934—38 years ago.

That was one year before Mr. and Mrs. Luke I. Wilson made their first gift of 45 acres, a part of their estate "Tree Tops," to NIH, which was then located "downtown." At that time the Wilsons were Mr. Lochner's employers.

Sets a Record

In 1942, when Mrs. Wilson made her fourth and final gift of land, Mr. Lochner moved over to NIH and has worked here ever since. No one who is now here can match Mr. Lochner's longevity on the campus.

Working as foreman in charge of the grounds of an estate that was considered "in the country," and then switching over to a Federal medical research organization—without ever leaving the grounds—is an experience not given to too many employees.

Thirty years ago, there were three buildings on the reservation. The old boiler plant—Mr. Lochner's bailiwick—was located in the basement of Building 1.

When he retired, Mr. Lochner headed the rotating shift in the North Buildings Unit, Maintenance Engineering Section, Plant Engineering Branch. He operated mechanical and electrical equipment when the campus is at its quietest—at night, weekends and holidays.

At a farewell luncheon given by fellow-employees, Mr. Lochner's

reservation. Employees are urged to observe posted instructions.

Inquiries concerning the policy may be made by calling James B. Davis, Director, Office of Administrative Services, ODA, Ext. 62315.

parting gift was a set of "walkie-talkies." He likes to get out in a boat and fish in Chesapeake Bay, but at the same time, while he's out there, he likes to talk to his wife when the fish aren't biting. Now he can do both.

The Lochners are also looking forward to a leisurely cross-country trip via car.

CC Issues Manual on Cleaning

Procedures for a sanitary environment in a research hospital are described in a new publication, *Clinical Center Cleaning Procedure Manual*, produced by the Department of Environmental Sanitation Control, CC.

Single free copies may be obtained from DESC, CC, Bethesda, Md. 20014.

Quantities may be purchased for \$1.75 each from the Superintendent of Documents, GPO.

NIH Television, Radio Program Schedule

Radio

DISCUSSION: NIH

WGMS, AM—570—FM Stereo 103.5—Friday about 9:15 p.m.

June 23

Dr. Charles U. Lowe, NICHD
 Subject: NICHD Intramural Research (R)

June 30

Dr. William B. Bock, DDH
 Subject: Periodontal Disease (R)

Interview takes place during intermission of Music Room.



Anabel Holliday was recently named assistant director for Policy, Office of Personnel Management. Mrs. Holliday came to NIH in 1965 as a personnel management specialist for ADA. She has also served in other capacities, including as a personnel management specialist, writing publications and as a special assistant to the Director of Personnel.

Dr. Hathaway to Retire; On Campus Since 1958

Dr. Betty E. Hathaway, chief of the Clinical Center's Diagnostic Radiology Department, will retire June 30, after 20 years with the Public Health Service Commissioned Corps.

Dr. Hathaway came to NIH in 1958 as assistant chief of the department and was appointed chief in 1962. During 1970-1971, she also served as acting chief of the Department of Nuclear Medicine, CC.

She has been lauded for her contributions to diagnostic radiology and for the design of radiology equipment.

Dr. Hathaway has collaborated in many clinical research projects, including studies on arthritis, congenital heart disease, and cancer. She has published several articles on these subjects.

Dr. Hathaway has served as PHS counselor to the Radiological Society of North America, and has also acted as radiology consultant to the National Naval Medical Center and the National Institute of General Medical Sciences grants, publications, and patents.

She has also served as a member



Dr. Hathaway has collaborated in many radiological clinical research projects, and has also written several articles on her studies.

of the National Cancer Institute Diagnostic Research Committee.

In 1944, Dr. Hathaway received a B.S. degree from Indiana University, and taught elementary school before starting her medical career. She received her M.D. degree from the medical school of her alma mater in 1952.

Before completing her residency in radiology at the PHS Hospital in Baltimore, she was assistant director of the PHS Hospital in Alderson, W.Va.

Prior to coming here, she served briefly as assistant chief of Radiology at the Baltimore hospital.

Dr. Hathaway is a member of the American College of Radiology, and other professional organizations.

Conference Stresses Help for Troubled Employees; Lynch Offers EHS Assistance



NIH labor representatives, EHS medical and nursing specialists, and health authorities from other programs were included in the groups attending the seminars. Participants discussed "... medical-behavioral problems without the association of social or moral stigmas."

At two seminars which concentrated on helping the "troubled employee," Dr. John M. Lynch, chief, Employee Health Service, and NIH Occupational Health Officer, expressed gratitude over the fact that a turning point had been reached permitting open discussion of medical-behavioral problems without the association of social or moral stigmas.

The meetings, which took place on May 24 and 31, in Conference Room 6, Bldg. 31, were attended by NIH supervisory groups.

Dr. Lynch, in his opening address, also told participants that his staff would assist employees needing help.

Sherman Offers Support

Dr. John F. Sherman, NIH Deputy Director, said active support would be given to supervisors and managers in their efforts to restore to full productivity employees whose work is impaired because of alcohol and drugs.

Catherine P. Dougherty, chief, Employee Relations and Recognition Branch, and NIH coordinator for the Employee Alcoholism Program, discussed policies on alcoholism which were issued by both NIH and the Department.

Mrs. Dougherty also introduced several NIH groups, including labor representatives who offered union support and EHS medical and nursing specialists.

The hope that troubled employees would take advantage of the counseling and treatment offered to them on a confidential basis, was expressed by Mrs. Dougherty and other conference participants.

Other Speakers Noted

Occupational health authorities who addressed the meetings included: Dr. Maxwell N. Weisman, Director, Division of Alcoholism Control, Maryland Department of Health and Mental Hygiene; Donald Phillips, Manager of Occupational Alcoholism Programs, CSC; Dr. Norman L. Wilson,



Dr. Sherman, speaking at the first seminar, pledged active support to supervisors and managers in their efforts to help employees whose work is impaired because of alcohol and drugs.

EHS psychiatric consultant, and Leslie C. Gray Jr., National Institute on Alcohol Abuse and Alcoholism.

Transcendental Meditation Is Topic of June 21 Lecture

The physiological effects of transcendental meditation will be the subject of an R&W-sponsored lecture by Joseph Clarke tomorrow (Wednesday, June 21) at 12 noon in Wilson Hall, Bldg. 1.

Mr. Clarke is a member of the International Meditation Society.

Recent reports indicate that a deeper state of rest is produced during 10 minutes of meditation than at any time during sleep.

Scientists are investigating the applications of this state to clinical problems resulting from hypertension and stress.

For information, contact Carol Drattell, R&W, Ext. 66063.

Dr. Trygve Tuve Dies; Noted for His Scientific And Administrative Skills

Dr. Trygve W. Tuve, 38, National Institute of General Medical Sciences, died June 1 at his home in Bethesda, Md. Dr. Tuve was associate director for Manpower and chief of the Research Training Grants Branch.

He was responsible for all NIGMS programs which supports the training of health scientists for research and teaching in universities and medical schools.

An outstanding administrator, Dr. Tuve was twice honored for his work. In 1963 he received the DHEW Superior Performance Award, and in 1969, he was given the Department's Superior Service Award.

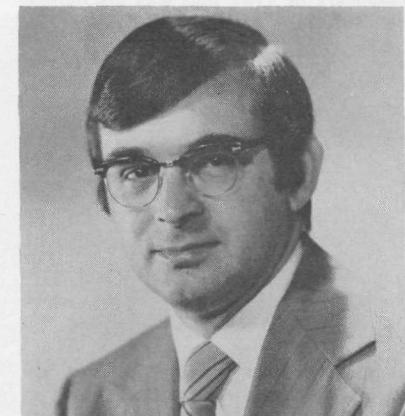
Dr. Tuve graduated from the University of Colorado in 1954 and received his doctorate in Biochemistry from Cornell University in 1958.

That same year, he joined the National Heart Institute as a PHS Postdoctoral Fellow. In 1960, he conducted research as a biochemist with the National Institute of Arthritis and Metabolic Diseases.

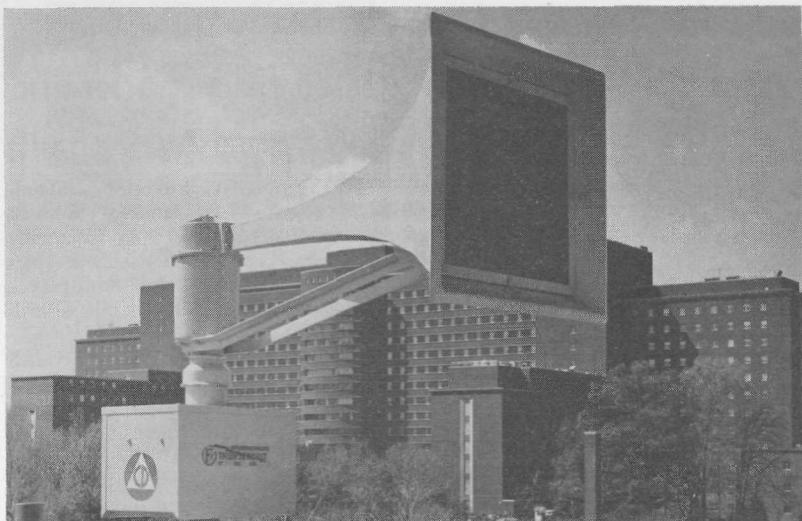
Dr. Tuve joined NIGMS in 1961—it was then the Division of General Medical Sciences—as a scientist administrator in the Research Grants Branch. Two years later he was named assistant Branch chief.

Dr. Tuve is survived by his wife Ruth, two daughters, Karen and Inga; his parents, Drs. Merle A. Tuve and Winifred Whitman Tuve of the Washington area, and a sister, Mrs. James Comley, Schenectady, N.Y.

Dr. Tuve's father, a distinguished physicist and former home secretary of the National Academy of Sciences, is also a distinguished service member of the Carnegie Institute. His mother is a psychiatrist, practicing in the Washington area.



Dr. Tuve had been honored twice by HEW. He had received both the Superior Performance Award and the Superior Service Award.



The air raid siren which once was located on top of the Clinical Center has been moved to the roof of Bldg. 12A. The electrically-operated siren replaced the old gasoline-driven apparatus which proved to be unreliable. It is tested at 11 a.m. on the second Wednesday of each month.

'Mac' McDonald Retires; Was at NIH 32 Years

Francis A. ("Mac") McDonald, an engineering technician in the Plant Engineering Branch, Office of Engineering Services, will retire June 30 after 32 years' Federal service.

Mr. McDonald, who first joined



Mr. McDonald enlisted in the Army Engineers in 1941 and was discharged in 1945 as a staff sergeant.

NIH in 1940 as a plumber in the Clinical Center, became foreman of the CC Plumbing Shop when it was established in 1953.

In 1957, the CC shop was consolidated with the PEB Plumbing Shop and he was named foreman of the merged operation.

When the Planning and Control Section was organized in 1960, Mr. McDonald transferred into its Planning and Estimating Unit as an engineering technician.

Mac's associates in the PEB credit him with having a phenomenal memory of the NIH plumbing and piping systems.

He is reputed to be able to recall from memory the history and location of just about all pipes on

Improved Service Goals For Clinical Laboratories Identified in Report

Goals for improving services of clinical laboratories have been identified in a report issued by the National Institute of General Medical Sciences.

The report was prepared by an advisory committee to help scientists and engineers select research and development projects for greater sophistication and automation of clinical laboratory analytical procedures.

Automation Needed

Health authorities recognize that this automation is urgently needed. Doctors normally must wait a day or more for analytical test results.

Automation would mean that much data could be supplied in a few minutes with reductions in labor and per unit costs.

The 78-page report, *The Mechanization, Automation, and Increased Effectiveness of the Clinical Laboratory*, assesses the status of the clinical laboratory sciences in terms of emerging trends and opportunities.

It points to specific needs and identifies neglected areas. Major areas of interest are clinical chemistry, hematology, microbiology, virology, and immunology.

Single copies of the report may be obtained from the Information Office, NIGMS, Bethesda, Md.

the reservation.

Mac is known throughout NIH, particularly by the research staff, for the many years which he assisted in the installation of scientific equipment and getting it to operate properly.

Except for his military duty, Mr. McDonald's Federal service has been continuous at NIH.



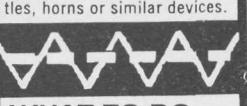
CIVIL DEFENSE INSTRUCTIONS

ATTACK WARNING



Wavering tone or short blasts for 3 minutes on sirens, whistles, horns or similar devices.

WHAT TO DO



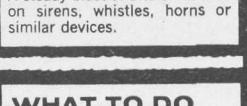
Take Best Available Shelter at Once!

ACTUAL ATTACK DETECTED



A steady blast of 3 to 5 minutes on sirens, whistles, horns or similar devices.

ATTENTION ALERT SIGNAL



Turn on your radio to local station for official instructions. Check your family emergency plan. Obey police and Civil Defense instructions. Do not use the telephone.

NIEHS Names 6 Scientists To Its Board of Counselors

Six members were recently appointed to the Board of Scientific Counselors of the National Institute of Environmental Health Sciences.

These members are leaders in the basic and clinical sciences related to the Institute's research activities, who provide expert advice on scientific program policy. They are:

Dr. Thomas W. Clarkson, instructor, Radiation Biology, School of Medicine and Dentistry, University of Rochester; Dr. Kenneth P. DuBois, Director, Toxicity Laboratory, University of Chicago, and Dr. Marvin Kuschner, professor and chairman, Department of Pathology, State University of New York at Stonybrook.

Also, Dr. Mindel C. Sheps, professor, Department of Biostatistics, School of Public Health, University of North Carolina; Dr. H. Eldon Sutton, chairman, Department of Zoology, University of Texas, and Dr. Sidney Weinhouse, Director, Fels Research Institute, School of Medicine, Temple University.

DRG Book Indexing FY 1971 Grants, Awards Is Available

Public Health Service Grants and Awards Fiscal Year 1971 Funds, Part I, NIH Research Grants and Research Contracts, is now available from the Division of Research Grants.

The 449-page book is the first of a four-part series which will index all current PHS support to medical research and training, health manpower education and training, construction of research facilities, and resources.

Copies of Part I are available at \$2 each from the Superintendent of Documents, GPO.

Single free copies may be obtained on request from the DRG Information Office.

GENETICS

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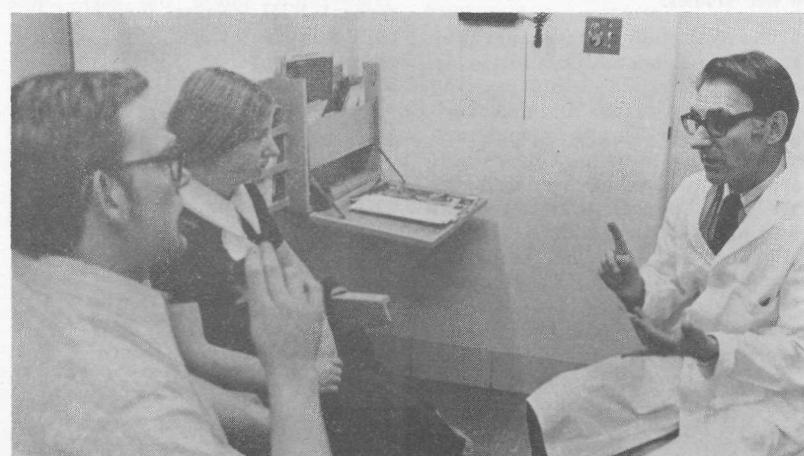
netic mapping of human chromosomes, identification of carriers of genetic diseases, studying control mechanisms of genetic expression in man, and use for a central repository of human cell lines at the Institute of Medical Research, Camden, N.J. (See the *NIH Record*, June 7, 1972.)

In announcing the centers, Dr. DeWitt Stetten, Jr., Director of NIGMS, pointed out that about seven percent of the American population suffers from one or more genetic defects.

"These diseases account for 25 percent of all hospitalizations, and yet modern medicine is today totally lacking in effective treatment," he said.

"In a few instances, some of the symptoms of the diseases can be deferred or prevented by drastic dietary treatment or by replacement of the deficient end-product protein."

"But, none of these diseases can yet be cured in the sense that a victim no longer needs continuing treatment," Dr. Stetten explained.



At a genetic counseling session, Dr. Arno Motulsky, principal investigator of the center at the University of Washington, gives a couple the results of tests conducted to detect certain genetic defects.

Investigators Say Electrical Stimulation Partially Restores Use of Paralyzed Limbs

By Carolyn Holstein

Some functions of paralyzed limbs can now be partially restored through direct electrical muscle stimulation. And prospects seem promising for restoring other more complicated functions.

This was the consensus of leading scientists who recently attended a conference on Functional Neuromuscular Stimulation which was held on the campus.

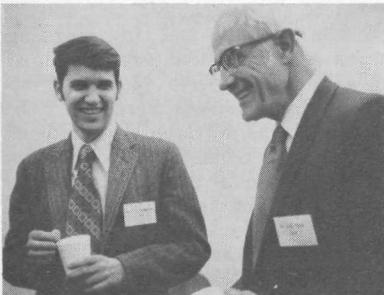
The conference was sponsored by the Laboratory of Neural Control, National Institute of Neurological Diseases and Stroke, the United Cerebral Palsy Research Foundation, and the Committee on Prosthetics Research and Development of the National Academy of Sciences.

Dr. Karl Frank, chief of the NINDS laboratory, served as chairman.

Stimulation is achieved by implanting telemetry controlled—radio—electrical stimulators at specific muscle sites to take over the function of damaged nerves which would normally control the muscle.

So far stimulation has been most successful in hemiplegics—persons paralyzed on one side of the body—usually from a stroke.

Application of this technique in paraplegics—both legs paralyzed—



During a coffee break, Drs. Hambrecht (l) and Frank discuss NINDS research with other investigators attending the conference.

or quadriplegics—those with all four limbs paralyzed—is more difficult.

Doctors reported successfully correcting "foot drop"—dragging of the foot during walking—with electrical stimulation in several hundred stroke and cerebral palsy patients.

Electrical signals were transmitted from a heel switch in a shoe insole to a receiver implanted in the patient's leg. Every time the patient uses his leg to take a step, the implanted receiver activates an electrical stimulator causing a contraction of the muscle that lifts the foot.

Doctors are currently working on this at Case Western Reserve University and other centers here, and also at the University of Ljubljana in Yugoslavia.

Dr. Frederick T. Hambrecht, LNC, the conference's organizing chairman, considers this system

important "not only because it can aid hemiplegics in walking, but because it is providing basic knowledge for developing more sophisticated systems for control of more complex muscle actions."

Scientists also discussed the possibility of electrically stabilizing knee and hip joints enabling paralyzed patients to stand without collapsing.

Muscle Fatigue Discussed

"Electrically stimulating muscle reverses atrophy and with time can strengthen it to functional levels. But continuous rather than intermittent stimulation can produce muscle fatigue making joint stabilization more complicated than correcting foot drop," Dr. Hambrecht said.

Researchers agreed that muscle fatigue might be reduced by converting muscle fibers from fatigue-susceptible to fatigue-resistant types. Dr. Thomas Mortimer reported such conversions during experiments in animals at Case Western Reserve University.

Restoring useful function to legs of quadriplegics or paraplegics with spinal cord injury is far too complex to be done by a single muscle stimulator, scientists agreed.

Problems Noted

Dr. Hambrecht explained that "many muscles are involved which will require multiple sensors and stimulators along with complex central circuitry."

"In addition, there are many other problems such as muscle fatigue and spasticity. But eventually, I'm confident we will be able to aid these patients as well," he said.

However, one vital function for spinal cord injury patients—bladder control—has been successfully treated with FNS. Restoration of this function is extremely important because the leading cause of death among patients is kidney infection resulting from poor bladder evacuation.

Dr. Blaine Nashold, Duke University, reported functional bladder contraction in four patients using an electrical device implanted in the region of the spinal cord that controls the bladder.

He added that this method might be useful in restoring sexual function as well.

In addition, electrical stimulation may possibly correct scoliosis, an abnormal curvature of the spine which usually occurs at puberty.

A Toronto physician, Dr. W. B. Bobechko, told of successful animal

Savings Bond Drive Closes But Payroll Plan Still Open

This year's NIH Payroll Savings Bonds drive ended June 9 with 34.3 percent employee participation.

NIEHS had the greatest percentage increase, 10.5 percent; BHME was second with an 8.8 percent increase.

Although the drive has officially closed, bonds are always available by payroll deduction through timekeepers.

With the aid of some 500 canvassers from 20 NIH units, 365 new buyers allotted \$5,845.05 per pay period to U. S. Savings Bonds. In addition, 163 employees increased their bond deductions.

The Division of Research Grants and the Division of Research Resources staff members lead in percentage of participation—over 50 percent are enrolled in the payroll plan.

experiments on this disorder using electrical stimulation. He said this method may now be ready to try in a patient.

Dr. Bobechko will stimulate the appropriate back muscles to counter balance the abnormal curvature. Hopefully, over a period of time, this will strengthen the spine.

An LNC development that is considered particularly promising is a "sintered tantalum capacitor" electrode which could prolong the functional life of the stimulating electrodes without producing tissue damage.

"One of the greatest needs in FNS is a source of control signals to trigger the stimulators, especially in spinal cord injury patients," Dr. Hambrecht explained.

"We are working on methods of deriving these signals from individual brain cells. Animal experiments suggest that eventually we may even be able to train brain cells for specific control tasks unrelated to their normal function," he said.



The flowers in the garden of Stone House (Bldg. 16) were beautiful in full bloom but you ought to see them in color.—Photo by Ed Hubbard.

MARU TRANSFER

(Continued from Page 1)

toplasmosis, Chagas' disease, toxoplasmosis, hepatitis, and vesicular stomatitis.

The Unit has been functioning under cooperative agreements with the Army Medical Research and Development Command and the Pan American Health Organization.

The Army contingent, which has been separately funded, will continue as an independent Command within the Canal Zone.

The Gorgas Memorial Institute, with its laboratory in Panama City, Republic of Panama, is a memorial to the work of Maj. Gen. William Gorgas, who devised measures to control malaria and yellow fever during construction of the Panama Canal.

It is an internationally known research center in tropical medicine and parasitology and has made important research contributions through the information it has gathered on arthropods.

Much of its work has been focused within the Republic of Panama. The contract will enable the Institute to expand its research and geographic coverage.

AMETA Study Team Wants Forms Returned by This Friday

Employees who were given questionnaires by the AMETA Study Team (See NIH Record, April 25, 1972) about the management and use of computer resources at NIH are requested to return them by Friday, June 23.

The answers to the questionnaire are to be analyzed by computer to provide facts for study recommendations—the number of returned questionnaires will have an impact on the accuracy of the analysis.

NIH personnel who would like to fill out the questionnaire may call NIH Computer Resources Survey, Ext. 64604, for a copy of the form.

Robert Brown Receives AALAS Durbin Award

Robert Brown is considered an exceptional man. He came to the National Institute of Neurological Diseases and Stroke in 1968 and within 6 months was in charge of an animal caretaking unit.

Now, he has received the Durbin Award as the most outstanding animal technician in the Washington and surrounding areas.

The \$150 annual award has been given by the National Capitol area branch of the American Association of Laboratory Animal Science for the past 3 years.

An association committee makes its selection based primarily on the applicant's achievements indicated through his supervisor's recommendation.

This is the first time a technician from NIH has won the award.

Dr. William T. London of the NINDS Infectious Diseases Branch, Collaborative and Field Research, hired Mr. Brown after hearing about him from another technician.

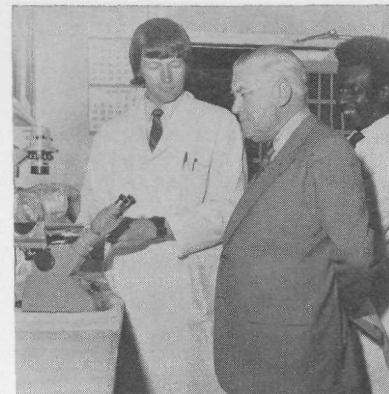
Rises From the Ranks

Five and one-half years later, Mr. Brown supervises four technicians.

Working a 6-day week, he is in charge of a research colony of 350 primates. He gives animal injections, takes liver biopsies, and personally manages 100 rhesus monkeys in a breeding colony.

"When Mr. Brown came to the laboratory, he learned quickly and was totally responsible," Dr. London said.

"He did not have a high school degree. During his 5 years at NINDS he has received a high school equivalency degree, attended Upward Mobility College, taken two night courses here at NIH and a short training course in advanced animal technology at



Peter G. Probst (l), DBS Laboratory of Virology and Rickettsiology, demonstrates his recently invented roller bottle viewing stage for Dr. Roderick Murray (c), DBS Director, and Dr. Henry C. Orr, chief, Cell Biology Section. Mr. Probst received a cash award for the invention which provides a rigid base for microscopic examination of roller bottles of varying sizes. The viewing stage, adaptable to all microscopes, minimizes roller bottle breakage and the subsequent loss of contents.

New York State University Agricultural and Technological College in Delhi.

"He then became certified as a laboratory animal technician by the AALAS.

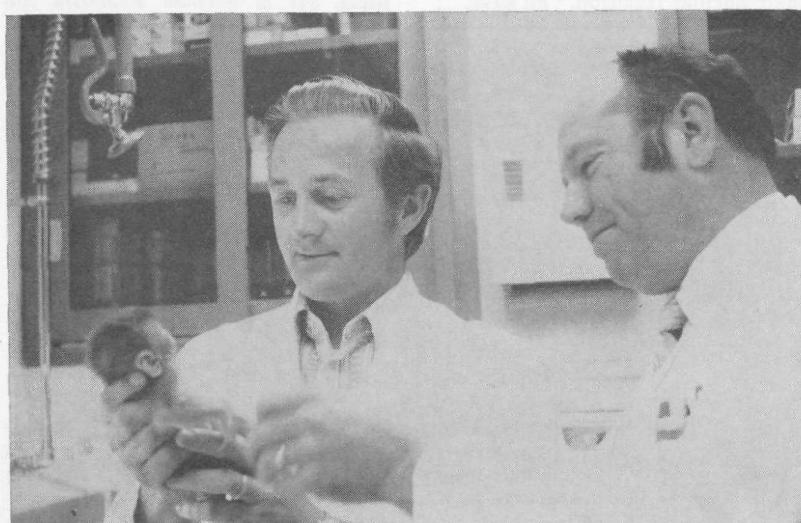
"A technician is defined as providing technical help. A technologist is a true supervisor. So, Mr. Brown is in fact a technologist, but he is not yet certified," Dr. London explained.

This year Mr. Brown is applying for AALAS certification as a laboratory technologist which requires 6 years experience and passing a written test.

Training Program Active

"The AALAS has an active training program here at NIH," according to Dr. London, chairman of the certification board.

"This year 56 men and women completed the training program and approximately one-half of them qualified to become certified," he said.



Mr. Brown (l) and Dr. London examine a baby rhesus monkey.

Nat'l Library of Medicine Display Traces Emergence of Modern Child Health Care

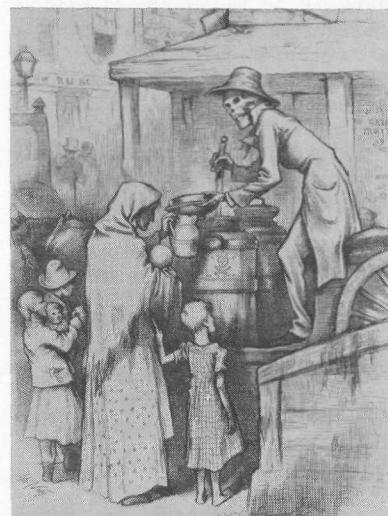
"Miniature adult" is how a child was long regarded—physically, if not mentally. This attitude profoundly influenced traditional approaches to problems of child health.

How the "miniature adult" concept was transformed to our current approach to health care for infants and children is the subject of an exhibit in the lobby of the National Library of Medicine.

"The Emergence of Modern Child Health Care in America" treats the years from 1873 to 1981 as crucial for this transition.

Recognition by the medical establishment of a new and different approach to problems of child health was signalled by the American Medical Association's establishment in 1873 of a Section on Obstetrics and Diseases of Women and Children and, in 1880, of a Section on Pediatrics.

Thus, these two dates lead the chronology (prepared by Manfred Waserman, of NLM's History of Medicine Division) which is prominently displayed in the exhibit.



"SWILL MILK"—Death ladies contaminated milk to the poor in the streets. Wood engraving after Thomas Nast, "Harper's Weekly," Aug. 17, 1878.

Four cases are devoted, respectively, to early [pre-1873] child health work; child health and the public school; pioneer steps in the care of the crippled child, and child health in the public health movement.

In addition to portrait-photographs of many trail-blazers in the field, other subjects treated graphically in the exhibit are the campaign for "clean milk," the introduction of school lunches, and legislation for the care and treatment of crippled and deformed children.

A "toothbrush drill" in a New York City elementary school was photographed in about 1910; other photographs depict the physical examination of school children during the early years of this century.

"The Emergence of Modern Child Health Care in America" will June 5 to Sept. 22.

NIH Visiting Scientists Program Participants

5/26—Dr. Shigeru Takanashi, Japan, Section on Biochemistry. Sponsor: Dr. Nicholas R. Bachur, NCI, Baltimore Cancer Research Center.

5/30—Dr. Akira Kimura, Japan, Laboratory of Biochemical Pharmacology. Sponsor: Dr. Loretta Leive, NIAMDD, Bldg. 2, Rm. 123.

5/30—Dr. Paulo R. Leme, Brazil, Mathematical Biology Section. Sponsor: Dr. Munes Berman, NIAMDD, Bldg. 31, Rm. 9A16.

6/1—Dr. Chandrakasan Gowri, India, Laboratory of Biochemistry. Sponsor: Dr. Karl A. Piez, NIDR, Bldg. 30, Rm. 414.

6/4—Dr. Heinrich Mallin, U.S.A., Biochemical Section. Sponsor: Dr. David P. Rall, NIEHS, Research Triangle Park, N.C.

Facts on Acoustic Neuroma Published in NINDS Booklet

Facts about acoustic neuroma, a curable tumor, and its warning signs and treatment are explained in a new pamphlet, *Acoustic Neuroma, Hope through Research*, published by the National Institute of Neurological Diseases and Stroke.

Symptoms of the disease are a sudden loss of hearing in one ear, ringing in the ear, or sometimes facial numbness, or dizziness.

The pamphlet also describes research on acoustic neuroma supported by the Deafness Research Foundation, a voluntary health agency. In addition, the booklet, which can be obtained from the NINDS Information Office, lists sources of help.

Latest Leaflet on Fluoridation Released Through Dental Health

Fluoridation . . . Nature's Way to Prevent Tooth Decay is the latest in a series of leaflets on fluoridation released by the Division of Dental Health, BHME.

The terms "natural" and "adjusted" fluoridation are explained, emphasizing that the source of the fluoride ion is immaterial to its absorption and use in the body.

Single free copies are available from the Office of Communication Services, DDH, Federal Bldg., Room 302, Bethesda, Md. 20014, Ext. 61105, be on display in the lobby from

Visitors are welcome during the Library's regular hours: 8:30 a.m.-5 p.m., Monday through Saturday (closed Sundays).

Howard Spence Retires At End of Month; Chief, CC's Sanitation Dept.

Howard Spence, chief of the Clinical Center's Department of Environmental Sanitation Control, will retire on June 30.

Mr. Spence has been a commissioned officer in the Public Health Service since 1946. He has served at several PHS installations including the Communicable Disease Center, and the Division of Water Pollution Control.

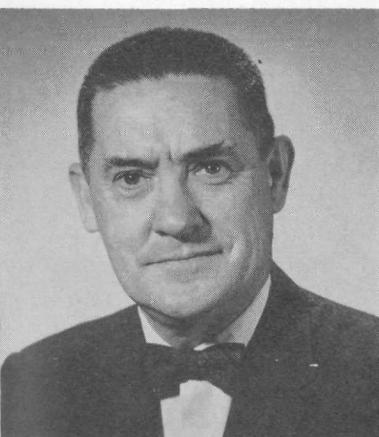
He also worked with the Division of Indian Health where he consulted with Indian hospitals, and the Division of Chronic Diseases. In both Divisions, he was concerned with environmental problems.

Mr. Spence joined the Clinical Center in 1962, and has been responsible for administering the department's engineering and microbiological environmental sanitation studies, and testing new equipment.

Prior to acquiring his PHS commission, Mr. Spence was a sanitary engineer with the Champaign, Illinois, Water Company; the Illinois State Health Department, and the Chicago Bridge and Iron Company. He was a member of the U.S. Army Air Force, on duty in both the United States and India, as a sanitary engineer.

Mr. Spence holds a B.S. degree in Sanitary Engineering from the University of Illinois, a certificate in Meteorology from the University of Chicago, and a master's degree in Public Health from the University of Minnesota.

Mr. Spence has written articles which have appeared in *Hospitals*, the official journal of the Ameri-



Mr. Spence, a diplomate of the American Academy of Environmental Engineers, has had several articles published in professional journals.

can Hospital Association, and the *Executive Housekeeper*. He has provided technical assistance in preparing other publications for the National Bureau of Standards and the American Hospital Association.

Project Control Staff Breaks Own Record For Grants Processing; Efforts Awarded



The DRG staff was cited "... for its unusual performance over the past few years culminating in the remarkable achievement of handling an unprecedented workload for the June 1972 council review."

By Sue Meadows

After completing the busiest application deadline in the history of the Division of Research Grants, members of the Project Control Staff, Research Grants Review Branch, took time on June 7, to attend a special awards ceremony in the office of Dr. S. Stephen Schiaffino, RGRB chief.

The staff was cited "... for its unusual performance over the past few years culminating in the remarkable achievement of handling an unprecedented workload for the June 1972 council review."

Group Honored

Dr. Luis Angelone, assistant chief of referral, RGRB, presented a group award to the Section, which had received and processed 5,419 grant applications.

The previous record, according to Irene Mathsen, chief of Project Control, was 4,650 applications received during the February deadline in 1971.

Mrs. Mathsen, who has been with Project Control for 11 years, explained that the volume was so high during this record deadline that many staff members put in as many as 25 hours of overtime per pay period.

She praised the group as "a very congenial one, able to take the pressure."

Explains Increase

She attributed the increase in grant applications in part to the new and expanding programs within NIH and HSMHA such as cancer, heart, alcoholism, and drug abuse.

In addition to these programs, there was a special series of applications for the National Institute of Allergy and Infectious Diseases program, the National Heart and Lung Institute program (SCORE), and the National Institute of General Medical Sciences program (genetic centers).

Publication on Malaria Dedicated to Researcher And Inmate Volunteers

An illustrated book, *The Primate Malaria*, published by the National Institute of Allergy and Infectious Diseases, has been dedicated to an NIAID scientist—the late Dr. Don E. Eyles—who died of malaria while doing research on that disease in Kuala Lumpur, Malaya, and "to the inmates at the U.S. Penitentiary, in Atlanta, Georgia, who volunteered to accept infection with human and simian malarias."

The book contains a section on the evolution of primate malarias and a discussion on the ecology of the hosts and life cycle of the parasite.

The authors are four scientists; three were formerly with NIAID and one is with NIAID's Laboratory of Parasitic Diseases in Chamblee, Ga. They are:

Drs. G. Robert Coatney, who has retired and was, at one time, chief of NIAID's former Laboratory of Parasite Chemotherapy; William E. Collins, who is in Chamblee, and Peter G. Contacos and McWilson Warren, both formerly with the Laboratory of Parasitic Diseases and now assigned to the Center for Disease Control.

Dr. Dorland G. Davis, NIAID Director, described the book as "not only a splendid scientific contribution, but also an extremely attractive volume which is enjoyable to read."

In the book, the authors point out "the fact that lower primates, especially monkeys and apes, harbor malarias infective to man, and,

Directors of MEDLARS Centers Overseas Meet With NLM Head, Staff

International cooperation and policy issues were among the subjects discussed at a recent National Library of Medicine meeting with directors of institutions and MEDLARS centers in foreign countries.

Chairmen of the sessions included Dr. Martin M. Cummings, NLM Director, Dr. G. Burroughs Mider, NLM deputy director, and Mary Corning, special assistant to the Director. Representatives from other nations also headed the sessions.

Overseas participants came from Australia, Canada, France, Germany, Japan, Sweden and the United Kingdom. A delegate from the World Health Organization also attended.

Conferees agreed that enhanced medical research, education and health care are the motivating forces for improving information handling and biomedical communications.

Participants recommended the establishment of an International Policy Advisory Group which will meet periodically for the purpose of examining policy issues.



A film—"What About Tomorrow?"—to recruit students into dentistry recently won a first place Gold Camera Award in the U.S. Industrial Film Festival and Seminar, held in Chicago. Later, the movie, produced by the National Dental Association under contract with DDH, will receive a CINE Golden Eagle Certificate. Film project director Dr. Clifton O. Dummett (r), associate dean, U. of Southern Cal., receives the award from J. W. Anderson, director of the festival.

which produce disease in him, is a relatively new concept and one of special significance in the light of worldwide programs of malaria eradication and control."

The 366-page book, which contains references and an extensive index, is available for \$7 from the Superintendent of Documents, Government Printing Office.

Cryosurgery for Liver Cancer Studied; Technique Eradicates Disease in Rats

By Alice Hamm

A technique which may have implications for the treatment of liver cancer is under study at the National Cancer Institute.

Cryosurgery—the destruction of tissue by freezing—has been found to eradicate cancer in the livers of rats without adverse effects to the animals as a whole.

In recent years cryosurgery of human cancers has been used in the treatment of readily accessible cancers of the pharynx, prostate, and rectum.

The use of cryosurgery as a curative treatment has been limited to skin cancers, and possibly to mouth



Dr. Hammond and his associates reported their findings on the freezing method in a recent issue of the journal, "Cancer."

and brain. Recent findings, however, have encouraged investigation into cryosurgery as a useful form of cancer treatment of the viscera.

Studies in several animal tumor systems have recently shown that tumor cure rates consistently approach 100 percent when repetitive freezing is performed using large probe tip-to-tumor contact surfaces at low probe-tip temperatures (-180° C).

This technique rapidly freezes the target area to temperatures below -60° C and markedly prolongs thawing, a combination which is maximally lethal to cells.

The present study was undertaken to assess the safety and identify potential complications of cryosurgery to rat livers with and without obstruction of blood flow into the liver, and also to determine whether that method can consistently eliminate rapidly enlarging tumors in rat liver.

Eleven adult inbred female Fischer 344/N rats received implants of a 3,4-benzpyrene-induced tumor in its eighth transplant generation. When tumors became .35 inches \pm .08 inches in diameter, they were subjected to cryosurgery.

Untreated, these tumors rapidly enlarged and invariably killed the animal within 30 days of inoculation.

Of the 11 tumor-bearing animals, all with temporary obstruction of the blood flow into the liver, 10 animals survived long enough for

evaluation of anti-tumor effects.

Despite treatment of extensive areas of the liver, cryosurgery was generally well tolerated. No hemorrhage or bile leakage occurred, and the extent of tissue destruction by freezing was localized and could be consistently controlled.

One animal died 6 hours after treatment from the combined effects of anesthesia and low temperature.

Another animal, which died 18 days after cryosurgery, had pneumonia in both lungs, apparently secondary to a liver abscess involving the target area; at autopsy no tumor was found in microscopic studies of its liver.

In two rats, death following cryosurgery was due to starvation and tumor recurrence in the abdomen. No evidence of recurrent tumors was seen in the remaining 7 animals.

In another experiment, eighteen normal male rats of the Sprague-Dawley strain were used by the investigators to study cryosurgery of normal liver.

Following the surgical procedure, liver function was evaluated by measuring the level of the enzyme transaminase. This enzyme occurs in large quantities when liver damage has taken place. Results showed that liver function had returned to normal within 14 days.

Compared to single applications of the probe tip, repetitive freezing increased the depth and rate of freezing as evidenced by an enlarging iceball (area of frozen tissue) and by temperature measurements.

'The NIH Record' Receives Two Awards This Month

The NIH Record staff has been notified that it will receive two awards.

First, the Federal Editors Association presented a Blue Pencil third place award to the Record as one of the "Outstanding Government Publications Produced in 1971." It was presented at a luncheon meeting on June 13.

Another honor will be given the Record by the Washington chapter of the Society for Technical Communications at an awards ceremony on June 23.

It has again been selected for "achievement in the field of technical communication."

When the Record won this contest last year, it was automatically entered in an international competition for which it received an Award of Merit last month.

Blocking the flow of blood into the liver allowed further increases in depth and rate of freezing by excluding a major source of continuous heat input, the blood.

As shown in the rat studies and in previously reported studies on monkeys, repetitive freezing, as compared to single freezing, and blockage of the blood supply, not only enlarge the iceball but also insure uniform death of all cell types in the frozen area.

The report on the cryosurgery study by NCI scientists was published in a recent issue of *Cancer*.

The scientists are Drs. William G. Hammond, chief, Clinical Investigation Branch, Alfred S. Ketcham, clinical director, and Bryan Neel, III, now at Mayo Graduate School of Medicine, Rochester, Minn.

BHME to Sponsor New Computer Laboratories To Improve Health Care

A new program to promote the application of computer technology to health care has been undertaken by the Bureau of Health Manpower Education.

The Comprehensive Health Manpower Training Act of 1971 authorizes BHME to support planning and development of a small number of "free-standing or university-based computer laboratories."

The systems in these laboratories would enable physicians and other health personnel to use computers in providing health services and in processing related biomedical information.

Develops Communications

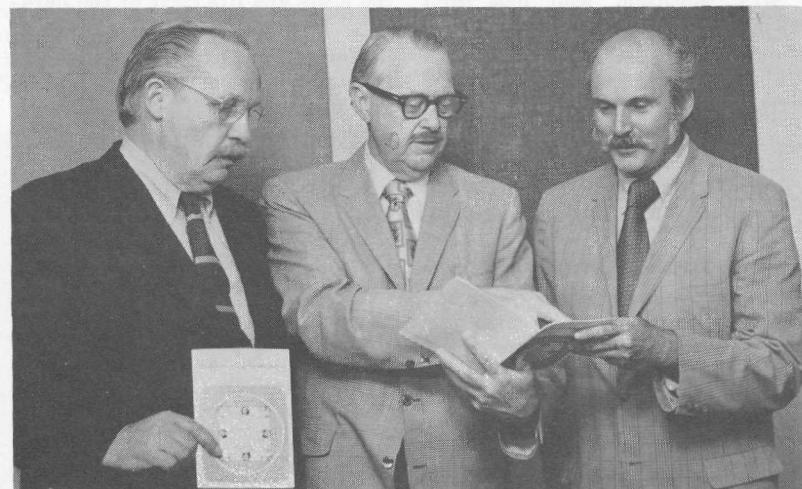
The laboratories would develop compatible languages, standard terminologies, communication networks, and decision-making strategies.

The program will be administered by the Bureau's Office of Special Programs, directed by Dr. Douglas A. Fenderson.

"This section of the Act was not intended for the support of individual project grants. It has as its goal, the development of computer laboratories in which specialists . . . will collaborate . . .," Dr. Fenderson said.

He indicated that this collaboration should hasten the integration of computer resources with health services.

Another research effort authorized by the 1971 Act provides for grants to use computer technology in determining which functions performed by physicians could be transferred to appropriately-trained personnel.



NIH INFORMATION ACTIVITIES HONORED.—On June 23 the Society for Technical Communications will present an award for the DRS booklet, "Medical Arts and Photography Branch." Responsible for its "achievement in the field of technical communications" were (l to r): Arthur F. Moore, MAPB chief, writer; Harold F. Osborne, chief, ODI Publications and Reports Branch, editor, and Ron Winterrowd, General Illustration Section chief, designer. Martha Walpole received the Federal Editors Association's Blue Pencil second place award on June 13. She was editor of "Sudden Infant Death Syndrome," prepared by the Scientific Information and Publications Branch of NICHD. Also, Morton Lebow and Clifford Allen, BHME, were awarded first place for the motion picture film, "Code Blue." Charles C. Shinn, DRS, won second place honors for his slide presentation, "MEDLARS—What It Is—What It Does."

