

the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH

Marston Sees End In Next Decade to Childhood Diseases

By the 1970's, all of the "normal" childhood diseases should have disappeared in America, Dr. Robert Q. Marston asserted in New York last week.

Speaking at the annual ceremonies for the presentation of the Albert Lasker Medical Research Awards on Nov. 21, Dr. Marston listed numerous research accomplishments of the recent past and said "almost every medical advance in this country in recent years has been supported to some degree by NIH programs."

Dr. Marshall W. Nirenberg, chief of the Laboratory of Biochemical Genetics, NHI, was named co-winner of the 1968 Lasker Award for Basic Medical Research, with Dr. H. Gobind Khorrana, University of Wisconsin, for their independent research in interpreting the genetic code.

A second Basic Medical Research award was given to Dr. William F. Windle, former chief of the NINDS Laboratory of Perinatal Physiology, now with the New

(See DR. MARSTON, Page 7)

Career Study Contrasts Academic—Nonacademic Salaries, Advancement

A new study, involving ten thousand doctors of philosophy, science, and education shows that about half have consistently stayed in university employment. About one fourth entered nonacademic employment, and the rest have shifted between the two.

Salaries in academic employment have spurred, but nonacademic employment salaries are higher. Physical scientists, regardless of place of employment, draw the highest pay.

Doctors in the humanities, arts, and professions are at the bottom in salary scales. Those in the biosciences and social sciences are at an intermediate pay level.

Single women with doctorates have advanced faster than married women doctors, all the women as a group have climbed the career steps more slowly than men.

(See STUDY, Page 6)

Cross Section of Pupils Participate in Study On Hearing Conservation

More than 5,000 pupils, representing a cross section of the elementary school population, took part in a hearing conservation program for detecting children who need special otological and audiological attention.

The study also indicated the need for a strong school medical service that could identify signs and symptoms of ear disease and hearing dysfunction in children.

NINDS Supports Program

The program, supported by the National Institute of Neurological Diseases and Stroke, was conducted by Dr. Eldon L. Eagles of NINDS, Dr. Samuel M. Wishnik, Columbia University, and Dr. Leo G. Doerfler, Eye and Ear Hospital, Pittsburgh, Pa.

For this study periodic hearing level determinations and otolaryngological examinations were conducted. Medical histories were also included.

Emphasis was given to the findings obtained with a group of ap-

(See HEARING, Page 6)

Research on Rabbits Proves Interferon Stimulation Cures Acute Viral Infection

Solid evidence has been provided that interferon stimulation can cure an acute viral infection.

Dr. John H. Park, an ophthalmologist at New York Medical College, and Dr. Samuel Baron of the National Institute of Allergy and Infectious Diseases, have cured rabbits of herpes simplex keratoconjunctivitis—an often fatal eye infection.

The scientists treated the rabbits with a synthetic double stranded ribonucleic acid (RNA) which stimulates the body's interferon system to produce greater-than-normal amounts of antiviral substance.

No Toxic Reactions

Treatment, begun as late as 3 days after inoculation of the rabbit's eye with virus, induced recovery from severe and fully established keratoconjunctivitis. In addition, the curative doses produced no toxic reactions.

These findings strengthen the hope that interferon inducers may also be useful in treating viral infections in man. The research was reported in the Nov. 15 issue of *Science*.

The interferon system is a natural virus-fighting apparatus of the body, producing an antiviral substance which limits the spread of invading viruses.

In many illnesses, however, the system does not produce enough interferon to overcome an established infection.

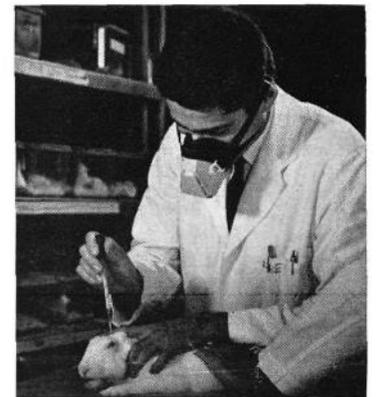
Prevents Infections

It has been known for some time that application of interferon can prevent a wide range of viral infections, and previous studies have shown some protective effect when interferon (in addition to the supply produced by the body) was applied after inoculation with virus, but before onset of disease.

Until recently, however, it was not possible to obtain enough of the antiviral substance to use in treating already established disease.

The problem was that each species of animal responds only to interferon produced by that species, making the production of useful amounts both difficult and costly.

(See INTERFERON, Page 6)



Dr. Baron inoculates a rabbit's eye to stimulate production—by the rabbit's defensive interferon system—of an antiviral substance. Experiments with an interferon inducer, PI:C, proves that it could effectively combat conjunctivitis in rabbits. Such an inducer may prove to aid humans against viruses. (Dr. Baron wears face mask because he is allergic to rabbits.)

Film Seeks to Attract Young People to Careers In Dental Research Field

A new 30-minute film, "Laboratory of the Body," has been produced to attract young people to diversified careers in dental research.

Prints will be available to career guidance counselors and science teachers so they may show the movie to high school seniors and college freshmen.

Featured in the film are research projects at the National Institute of Dental Research, the University of Alabama, and the University of Texas Dental Branch.

The movie was sponsored by the American Dental Association, American Association of Dental Schools, and the International Association for Dental Research. It was supported by an NIDR grant.

The film premiered at the 109th annual session of the ADA in Miami Beach.



Dr. Gordon M. Tomkins, chief of the Laboratory of Molecular Biology, National Institute of Arthritis and Metabolic Diseases, will deliver the 40th National Institutes of Health Lecture on Wednesday, Dec. 11, at 8:15 p.m. at the Clinical Center auditorium. Dr. Tomkins' topic will be "Control of Gene Activity in Higher Organisms."

the NIH Record

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NEWS from PERSONNEL

SNOW DAYS

At this time of year hazardous weather conditions may result in early dismissals of NIH employees or the temporary closing of portions of NIH.

When there is a need for early dismissal, employees who can be spared will be dismissed on a zone basis at 15-minute intervals.

The various zones are defined in Policy and Procedure Memoranda, Personnel No. 4, revised Oct. 7, 1968.

Members of carpools will depart according to the zone of the vehicle operator.

Excludes 'Essential' Employees

Because of such responsibilities as patient care and experimental research, NIH can never completely close. Consequently, Institute/Division Directors designate those activities which must continue regardless of weather conditions.

Neither early dismissals nor the temporary closing of NIH apply to employees considered "essential." Such employees are to report for work despite radio and television announcements to the contrary.

If an employee is not certain whether he is "essential," he should check with his supervisor.

HEALTH BENEFITS COVERAGE

Employees planning to marry should consider possible health benefit alternatives for including their spouses under the program.

A change in marital status entitles eligible employees to: (1) newly enroll in the program, (2) change from self only to a family

NIH Television, Radio Program Schedule

Television

NIH REPORTS

Dr. Gerald D. LaVeck, Director, NICHD
WRC, Channel 4—Saturday
Nov. 30—4:25 p.m.
Preempted—AFL Football
Dec. 7

Radio

DISCUSSION: NIH

Dr. Milo D. Leavitt, Jr.
Director, John E. Fogarty
International Center for
Advanced Study in the
Health Sciences

WGMS, AM-570—FM Stereo
103.5—Friday, Nov. 29—about
9:15 p.m.

Blair L. Sadler

NIAMD

Dr. Alfred M. Sadler

NIAMD

WGMS, AM-570—FM Stereo
103.5—Friday, Dec. 6—about
9:15 p.m.

Both interviews take place during intermission, Library of Congress Chamber Music Series.

enrollment, or (3) change plans or options.

The change in registration may be made as early as 31 days before the marriage but no later than 60 days after.

Employees with questions concerning their right to change health benefits enrollment should consult their I/D Personnel Office.

The death rate for diseases of the heart (the leading cause of death) decreased from 371.3 per 100,000 population in 1966 to an estimated 366.2 in 1967.

Award-Winning Exhibit On Blood Transfusions To Be Shown at CC

An almost forgotten chapter in American medical history was reconstructed at the 21st Annual Meeting of the American Association of Blood Banks held recently in Washington.

Dr. Paul J. Schmidt, chief, Clinical Center Blood Bank, and Dr. William Kuhns of Bellevue Hospital Center, presented an exhibit that traced the history of blood transfusions in the United States during the 19th century.

The exhibit was awarded first prize, a blue ribbon and scroll, by the association.

Nobelist Honored

The meeting commemorated the 100th anniversary of the birth of Dr. Karl Landsteiner, the 1930 Nobel prize winner. He was named laureate for his discovery of blood groups in the early part of the twentieth century.

Displayed at the exhibit were original articles and illustrations on American blood transfusion methods that were practiced as far back as 1795.

Included among the documents were newspaper editorials on blood transfusions, written 100 years ago, and reflecting the opinions of the times.

The exhibit will be shown to NIH employees during Blood Bank Open House on Dec. 6 in the Clinical Center lobby. Included with this historical display will be antique blood transfusion instruments from the Medical Museum of the AFIP.

NIH Employees Engaged In Transportation Vote On Bargaining Agent

NIH employees engaged in transportation activities are voting today to establish whether or not the Washington Area Metal Trades Council will be their exclusive bargaining agency.

These employees also have the alternative to vote for no union.

The bargaining unit includes transportation workers in the following NIH organizations: Office of Administrative Management—Supply Management Branch, Property and Supply Section; Office Services Branch, Transportation Section; Division of Research Services—Biomedical Engineering and Instrumentation Branch; Laboratory Aids Branch; Plant Engineering Branch, Maintenance Engineering Section, and Planning and Control Section.

Also, Clinical Center—Administrative Branch; NCI—General Laboratories and Clinics, and NICHD—Children's Diagnostic and Study Branch.

NIH Employees Visiting Blood Bank Open House Eligible for U.S. Bond



Getting the drop on NIH employees is Angie Watson and Mrs. Janice Watson, daughter and wife of Dr. Linley E. Watson, CC. The card-dropping practice was held to familiarize Mrs. Watson with her duties as a volunteer at the Blood Bank Open House Dec. 6. Employees who attend that day will fill out cards to be eligible for a \$25 U. S. Savings Bond.

YOU might be the winner of a \$25 U. S. Savings Bond. Every NIH employee who visits the Blood Bank Open House, to be held at the Clinical Center on Dec. 6, is eligible.

A bond will be awarded to three fortunate contestants whose registration cards are selected at a drawing the following week.

The cards will be chosen at random by Dr. Jack Masur, CC Director, or Dr. Paul J. Schmidt, chief, CC Blood Bank. The NIH Recreation and Welfare Association has donated the bonds.

Dr. Schmidt, in commenting on Blood Bank Open House, said, "We are very proud of the work that goes on here at the Blood Bank, and we want everyone to see what we do. . . ."

Post Office States Rules For NIH Registered Mail

Notice has been received from the U. S. Post Office Department that they have, on several occasions, received a number of registered articles which were not prepared in accordance with regulations.

As a reminder to all Institutes and Divisions, any person wishing to send mail registered, certified, or insured must dispatch it through the main mail facility in Building 31, for proper preparation; i. e., stamping the service desired, assigning a number, and recording that number.

Revised Quota for CFC Raises Final Percentage Pledged at NIH to 92.4

Lowering the NIH-Combined Federal Campaign quota from \$207,722 to \$198,375, just as the campaign was drawing to a close, raised the final percentage of quota pledged to 92.4, according to Dr. Seymour J. Kreshover, Director of the National Institute of Dental Research and this year's campaign chairman.

The previously announced percentage, 88.2, was based on the quota originally assigned.

8 Exceed 100 Percent

On the basis of the revised quota, eight of the NIH participating units went over 100 percent, and five others exceeded 90 percent of their individual quotas.

The National Institute of Mental Health, which has intramural research laboratories and staff in the Clinical Center, Building 15K (Child Research Branch), and the new NINDS-NIMH Research Building at NIH, went "over the top" of its CFC goal this year.

The NIMH goal was \$23,500, with \$24,065 contributed, or 102 percent. The intramural NIMH staff gave \$6,700 or nearly 28 percent of the Institute's total.

Nathan Sloate, Director of the Office of Program Liaison at NIMH, was chairman of the NIMH campaign.

CFC Collections to Nov. 1

Unit	Amount Pledged	Percent of Goal	Percent Participation
DEHS	\$1,111.00	140.1	86.5
NIGMS	5,227.00	131.7	105.2
NIDR	7,081.25	118.2	105.0
BHM	13,960.18	108.3	91.7
DRG	12,003.20	108.0	96.8
DRS	19,357.81	106.1	89.3
NLM	7,892.60	102.0	88.0
OAM	15,188.29	100.5	86.9
NIAMD	14,553.90	99.1	80.5
OD	5,184.00	97.5	96.9
NICHD	5,925.25	96.3	82.7
NIAD	6,851.96	93.4	82.2
DRFR	2,732.50	91.8	102.2
NHI	9,887.88	85.9	86.9
DBS	4,362.05	84.6	86.1
NCI	22,811.62	84.6	70.3
DCRT	5,157.00	78.8	88.6
CC	14,584.94	68.1	92.0
NINDS	9,480.30	65.5	64.7
NIH	183,302.73	92.4	85.9

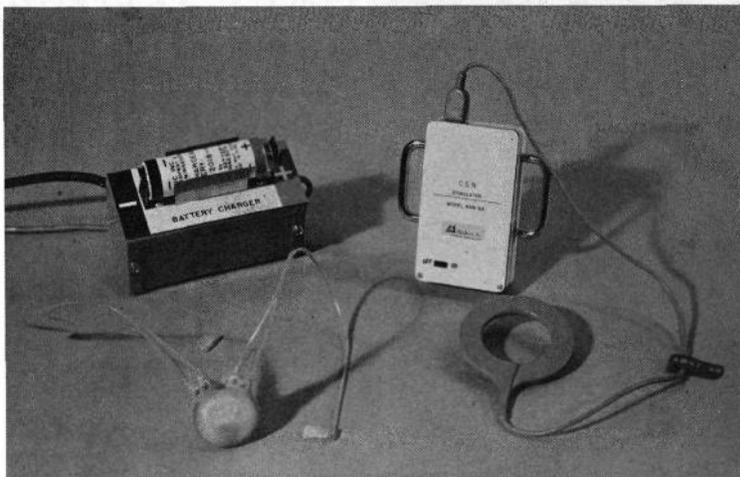
NIH Stamp Club Meeting Includes Slides, Auction

The NIH Stamp Club, sponsored by the Recreation and Welfare Association, will meet on Thursday, Dec. 5, at 7:30 p.m., in Conference Room 6, Bldg. 31.

A 35-mm slide show, "Stamps on Stamps," will be projected on screen. This will be followed by an auction of philatelic material.

For further information on the club's activities call Robert Chandler, Ext. 63120.

NHI Director Calls 'Supply and Demand' A Major Heart Transplantation Issue



Receiver of carotid sinus nerve stimulator (CSN), lower left, is surgically implanted just under the skin in patient's chest. Battery-powered CSN stimulator (upper right) operates with an on-off switch. (Another model produces carotid sinus nerve stimulation for one minute, after being depressed momentarily.) Transmitter and induction coil (lower right) are worn outside the intact chest wall. Also shown (upper left) is the battery recharger.

One of the major issues in cardiac transplantation is the problem of supply and demand, according to Dr. Theodore Cooper, Director of the National Heart Institute.

Dr. Cooper discussed this problem at a cardiac transplantation symposium of the American Heart Association Meeting in Bal Harbor, Fla., Nov. 21-24.

Other members of the discussion group were Drs. Eugene Braunwald of San Diego, Cal., Grady L. Hallman, Houston, Tex., Richard R. Lower, Richmond, Va., and G. V. J. Nossal, Victoria, Australia.

Kills 200,000

Acquired heart disease kills about 200,000 Americans between the ages of 15 and 64 each year.

"The 80,000 patients who die before they reach the hospital emphasize the great need for prevention," said Dr. Cooper.

"Of the 120,000 who reach the hospital, about 40,000 might be restored to the community through currently available methods of therapy. The remaining 80,000 cardiac patients require some form of therapy which has either been unavailable or not applied in the past.

Some Need Total Replacement

"In the case of 10,000 to, perhaps, 50,000 patients, all heart chambers are so heavily involved in the disease process that the patients require total heart replacement, either by a mechanical heart or by a transplanted one."

Dr. Cooper's assessment of the potential "supply" of donor hearts indicates impressive problems in logistics and preservation. Surveys have suggested that 70 percent of the people asked are willing to donate their bodies for medical research and therapy.

The total pool of potential donors—that is, those aged 15-64 dying from causes other than heart

disease or cancer—is only 260,000.

If 70 percent of these were willing to donate their bodies, the pool of hearts available for transplantation would be 182,000.

Not all would be suitable donors, however, since this group also includes people who die from infections, blood disorders, and degenerative diseases.

"Past heart donors have come largely from victims of trauma or of spontaneous brain hemorrhage," Dr. Cooper added. "If this continues to be the case, the supply of potential donors dwindles to about 63,000 per year, thus increasing the "supply" problem by three-fold.

'Matching' Presents Problem

"Moreover, matching even 182,000 reputedly willing donors with the possible 50,000 needy recipients would require solutions to present serious problems in organ preservation and transportation, as well as the development of extremely efficient matching systems functioning throughout the country."

The number of people who need a transplant, Dr. Cooper explained, depends in part upon the availability of other treatment resources.

Many of the patients who presently die might be saved by improved methods of therapy less drastic than total heart replacement, provided that such methods could be developed and widely applied.

"Those people whose atria, right ventricle, and great vessels are

Danny Thomas Appointed To NCI Advisory Council

Danny Thomas, entertainer and television producer, has been named to the National Advisory Cancer Council by Dr. Robert Q. Marston, Director of NIH.

Mr. Thomas is the founder of St. Jude Children's Research Hospital, Memphis, Tenn., and is a member of its national Board of Governors. The hospital is a non-profit research institution for the study of childhood cancer and other diseases and for basic research in the life sciences.

Two years ago, Mr. Thomas received the American Medical Association's Layman Award, the highest it can bestow on a non-medical man, and awarded only six times in the last 20 years.

still functioning adequately might be salvaged by temporary or permanent left-ventricular assist devices," Dr. Cooper said.

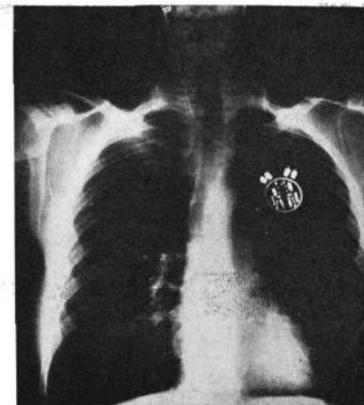
"As the cardiopulmonary bypass machines and the cardiac pacemakers have shown, such temporary devices on a short- or a long-term basis can be life saving.

"In addition, the average cost of the application or insertion of such assist devices would probably be somewhat less than the estimated cost of \$50,000 for total replacement, whether it be by total artificial heart or by heart transplant."

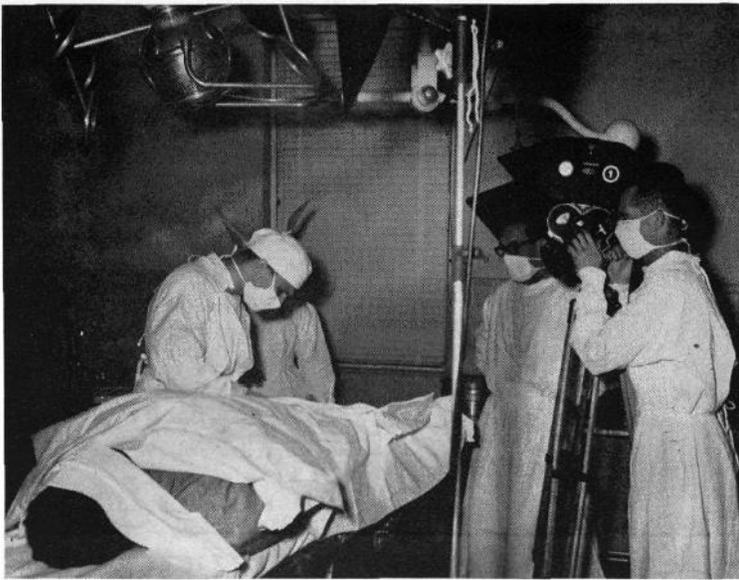
These implantable artificial assist devices will undoubtedly be available in the future, said Dr. Cooper.

He concluded with: "A great deal of work is yet to be done in determining and developing the best power source, in creating and testing the best materials, in constructing and miniaturizing the best pumping mechanism.

"But the problems have been defined and the answers can be found if we have effective leadership and imaginative and diligent investigation."



X-ray photo shows receiver of stimulation unit implanted just under the skin in the chest with electrodes attached to carotid sinus nerves in both sides of neck.



On-site shooting documents procedures and practices in the hospital, clinic or operating room for members of the medical professions throughout the world.

The National Library of Medicine's NATIONAL

When the National Medical Audiovisual Center merged with the National Library of Medicine in 1967, the world's largest medical audiovisual collection became a part of the world's largest medical library.

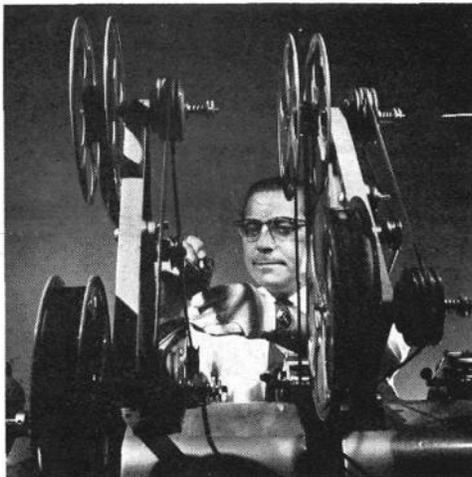
The NMAC, now headed by Dr. James Lieberman, Director of NMAC and associate director of NLM, was founded in Atlanta in 1942 as part of the Malaria Control in War Areas Program.

It came into existence during World War II when emergency training efforts proved that visual teaching media were efficient tools for instructing military and civilian personnel in new, sometimes highly specialized, jobs.

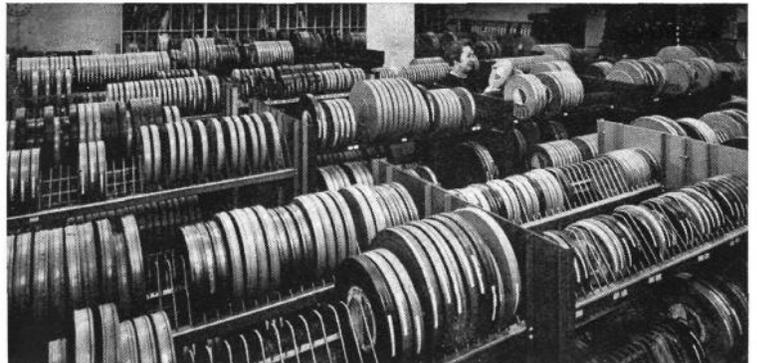
With the formation of the Communicable Disease Center in 1947, the audiovisual programs became a branch of the CDC. Later, the branch was designated the Public Health Service Audiovisual Facility until it became a component of NLM.

The NMAC has pioneered in production, acquisition, and distribution of audiovisual material to the health professions and students of the health sciences throughout the world.

All types of biomedical audiovisual material—including TV programs, motion pictures, slides, exhibits, and audiotapes—



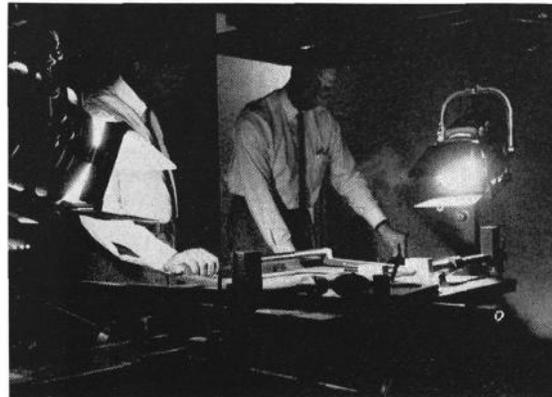
Editing of the motion picture becomes a major step in the combination of sound and visual image for the final product. Here, too, foreign adaptations are made in French and Spanish.



During FY 1968, more than 93,000 audiovisuals were shipped from NMAC to 50 states of the United States and more than 73 other nations. Included in the Distribution Collection are 16 mm color or black and white prints, television film recordings, filmstrips, and audiotapes.



Staff artists support all activities of NMAC. Here they work on drawings for a horizontal filmstrip.



Animated photography is done with special camera and rotating table which allow partial automation of the time-consuming photographic process.



In the taping and TV

MEDICAL AUDIOVISUAL CENTER

are produced in Atlanta.

These materials and those acquired from other sources are distributed by the NMAC.

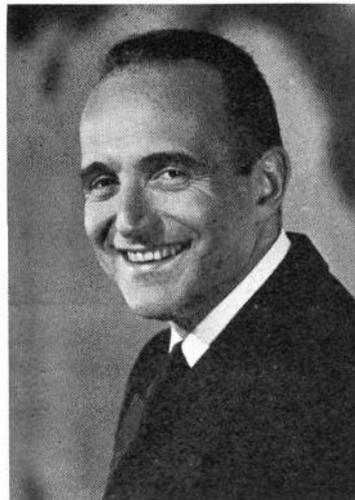
It has also been responsible for innovations in the use of electronics media for teaching medicine and the allied professions. Another contribution to education has been its assistance in the development of a Graduate Degree Program in Biomedical Communications.

The NMAC provides a wide range of services. On May 27, 1967, it inaugurated the first community-wide Medical Television System in the Nation. The system links NMAC with 15 affiliated institutions in the Atlanta metropolitan area.

The system is now being operated by the Emory University School of Medicine on behalf of the Georgia Regional Medical Program, to which it was recently transferred.

The NMAC has detailed Joseph Staton, Health Services Director, to help provide guidance and expertise during the transition period.

Other facets of the NMAC's activities are: serving as an international clearinghouse for biomedical information; producing catalogs and special film listings in the health sciences, and holding the National Archives of Medical Motion Pictures.



Dr. James Lieberman, Director of NMAC and associate director of NLM.



Color transparencies are produced and copied with sophisticated equipment adapted for special medical needs. Slides are copied and placed in cardboard folders before distribution as a teaching tool or illustration for a publication.



The National Archives of Medical Motion Pictures houses rare films dating from the early 20th century. Although not available for loan, they may be used as reference resources for the professions at the NMAC Annex.



The NMAC sponsored Community Medical Television reaches a number of affiliated institutions on a closed circuit 2500 McMagahertzian bandwidth. Telecasts are beamed at medical and biomedical audiences.



television director's booth, video engineer and sound man prepare for a television program which will later be distributed to medical schools across the United States.



A collection of still photographs, built up during the 25 years of NMAC's existence, serves as the foundation for reference on many medical and biomedical subjects. Stills are made available to members of the medical/health professions for teaching, for publication with manuscripts, or for reference.

HEARING

(Continued from Page 1)

proximately 1,200 children who were available for a continuous 5-year study. Of this group, 29.6 percent showed evidence of definite otoscopic abnormality indicating ear disease.

An additional 9.3 percent showed unsatisfactory visibility of ear drum a sufficient number of times so that its condition could not be categorized.

The findings proved that about 39 percent of the children needed medical attention at some time during the 5-year period.

Tests Demonstrate Need

Also, the changes in hearing sensitivity noted in the annual tests demonstrated the importance, at an early date, of establishing accurate hearing levels for each child.

These tests would aid in measuring subsequent changes in hearing sensitivity considered indicative of a need for medical attention.

A report on the study was published in a special issue of *The Laryngoscope*. Copies of the report are available from the NINDS Information Office.

STUDY

(Continued from Page 1)

The study, "Careers of Ph.D.'s: Academic Versus Nonacademic," was developed by the National Academy of Sciences-National Research Council under contract with NIH. Persons who obtained their doctorates at U.S. universities in 1935, 1940, 1945, 1950, 1955, and 1960 were surveyed.

In the academic group, the rise from instructor to full professor was fastest for the physical scientists, intermediate for the biologists and social scientists, and slowest for the nonscientists.

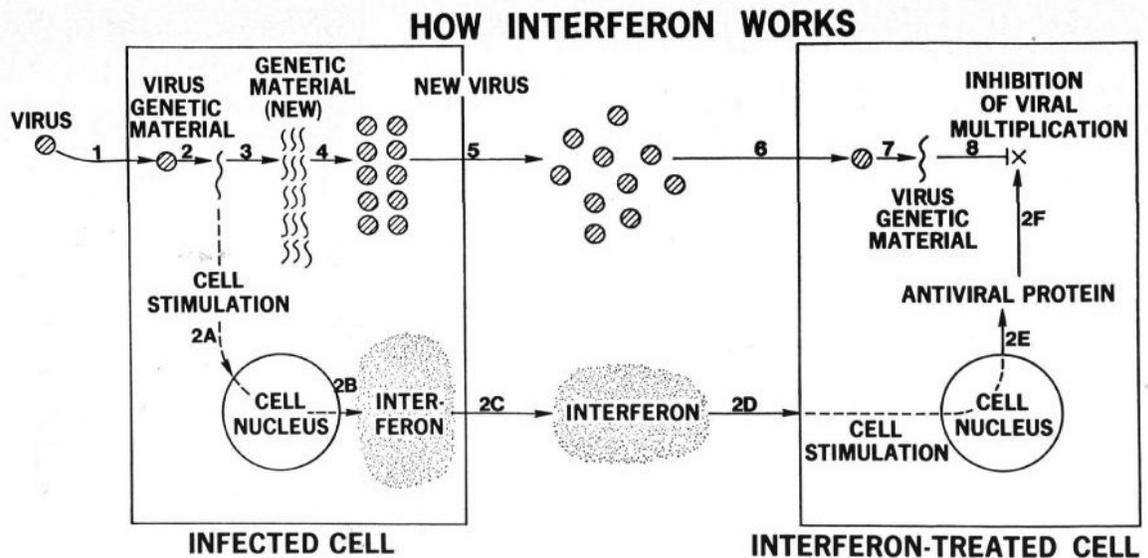
Log Noted

Women bioscientists lag 2 to 4 years behind men bioscientists in moving up from instructor to full professor, but in the social sciences the lag is as much as a decade.

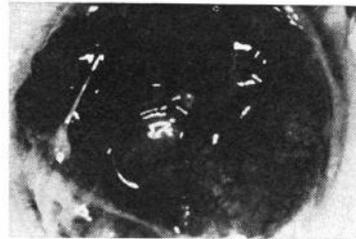
The report shows that Federal support for predoctoral graduate students grew dramatically from less than 5 percent of total support before World War II to nearly 25 percent after World War II.

Postdoctoral fellowships for men and women increased somewhat from the prewar (1935-45) to the postwar graduation group (1950-60). But the percentage having such fellowships was higher for women than for men both prewar and postwar.

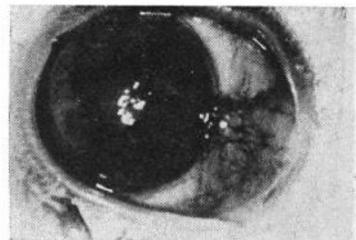
The report is the second in a series. A third report will concentrate on mobility, primarily geographic. The principal investigator



At the left of the figure (1) virus comes in contact with cell and penetrates cell membrane. Virus then releases its genetic material (2) which organizes cell to make copies of the genetic material (3). New genetic material (4) is coated with viral protein to form completed new virus and (5) new virus is released into the fluid around the cells where it can now spread to other cells. During early stages of infection process of viral multiplication within the cell stimulates the cell (2a) to utilize stored information for interferon synthesis. Through series of complex procedures, interferon protein is made (2b) and released rapidly (2c) into extracellular fluid. In many instances the interferon precedes new virus to surrounding cells. Interferon stimulates the surrounding cells (2d) to utilize another set of stored information to produce an intracellular, antiviral protein (2e). Antiviral protein (2f) acts to change cell's protein synthesizing machinery so that it cannot be used by viral genetic material subsequently encountered. Therefore, infection by new virus of the interferon-protected cell (6) still leads to release of virus genetic material (7) but that material is discriminated against by the cell synthesizing machinery (8) and essential virus materials fail to be produced. Thus, virus multiplication is inhibited and cell is protected.



In the interferon therapy experiments, rabbit eyes infected with *Herpes simplex virus* (top photo), but not treated, developed severe conjunctivitis, with congested blood vessels almost obscuring white of eye. At lower left of eye, pus secretion is evident. In the lower photo, an eye treated for 7 days with interferon has almost returned to normal appearance.



for the series is Dr. Lindsey R. Harmon, Office of Scientific Personnel, NAS-NRC.

Copies of Career Patterns Report Number Two, "Careers of Ph.D.'s: Academic Versus Nonacademic," may be obtained from the Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, Wash., D.C. 20418.

INTERFERON

(Continued from Page 1)

Scientists in many laboratories have begun to work with several synthetic and natural substances—among them a plastic, pyran copolymer; a mold product, statolon; as well as working with ribonucleic acids.

These stimulate the body to produce increased quantities of interferon, which in turn directs antiviral substance manufacture.

RNA now appears the most promising of these inducers because, as a natural component of the body's cells, it may produce less toxic reaction.

In the current experiments, the scientists used a synthetic, double stranded RNA, polyinosinic acid: cytidilic acid (known as PI:C), which, in initial experiments, had been shown to cause no irritation to the rabbits' eyes.

PI:C Application Tested

After infecting the eyes with herpes simplex virus, they tested topical application of the PI:C injection into the anterior chamber of the eyes, and injection directly into the bloodstream.

Rapid healing occurred in all rabbits when treatment started as late as 3 days after virus inoculation.

In rabbits inoculated with virus, but not treated with the PI:C (controls), most animals were blinded by the infection, and about one-third of the rabbits suffered central nervous system infection and

died.

These findings must be extended to other virus infection, the scientists report, to establish conclusively the therapeutic role of interferon. But such demonstrations seem possible, they say, because herpes simplex virus has been shown to be only moderately sensitive to the antiviral action of interferon in rabbit cells.

Herpes virus infections of the human eye may also be treated with PI:C, the scientists suggest. Already the RNA has been shown highly active in inducing viral resistance in human cells in the test tube.



Patricia Breen, secretary to DRS engineer Gerald Cohen, Biomedical Engineering and Instrumentation Branch, wears the lovely two-orchid corsage presented to her by Radio Station WASH when she was chosen secretary of the day.

DR. MARSTON*(Continued from Page 1)*

York University Medical Center's Institute of Rehabilitation Medicine, for basic discoveries in developmental biology and for improving treatment of brain-damaged infants.

Dr. John H. Gibbons, Jr., Jefferson Medical College, Phila., was awarded the Lasker Award for Clinical Research.

The \$10,000 Lasker Award which Dr. Nirenberg shares with Dr. Khorana is the fourth important American prize he has received this year. He also shared the Nobel Prize in Physiology with Drs. Khorana and Robert W. Holley of the Salk Institute. Dr. Nirenberg will go to Stockholm to receive the Nobel Prize Dec. 10.

Awards Presented Annually

The Lasker Awards are presented annually by the Albert and Mary Lasker Foundation and are highly prized. The luncheon at which they are announced is an important event attended by outstanding scientists, administrators and leaders in public affairs.

Dr. Marston noted that since he assumed office as NIH Director in September, "Institute by Institute told me of progress."

The first area of progress, exemplified by Dr. Nirenberg's research, is in better understanding of the nature of life processes, he said.

The second is in reports of "very promising leads," including effective chemotherapy in some cancers, documentation of risk factors in cardiovascular diseases, progress toward elimination of dental caries within 10 years, advances in development of artificial kidneys, and better control of virus diseases by new vaccines and induction of interferon.

The third area of progress, Dr. Marston said, is in "making available the fruits of research to the patient without undue delay."

Testing of L-dopa Cited

He mentioned administration to persons suffering from Parkinson's disease of the drug, L-dopa, to be tested in about 20 institutions for efficacy and safety by the NINDS with the guidance of an expert task force.

Dr. Marston observed that the testing of L-dopa in patients "would probably not have been possible without a vast amount of basic scientific work on problems related to nerve impulse transmission."

Progress toward control of German measles was also cited by Dr. Marston as an example of NIH capability to utilize resources rapidly for general benefit, noting the "quite encouraging results" of recent tests of the experimental ru-

Dr. W. P. Rowe Named Chief of Laboratory of Viral Diseases, NIAID

Dr. Wallace Prescott Rowe has been named chief of the Laboratory of Viral Diseases, National Institute of Allergy and Infectious Diseases.

A member of the NIAID scientific staff since 1952, Dr. Rowe succeeds Dr. Robert J. Huebner, who recently joined the staff of the National Cancer Institute.

Dr. Rowe will continue his duties as head of the Laboratory's viral oncology section, which uses laboratory animal model systems to develop means of detecting and characterizing the tumorigenic viruses, to study their natural history and to learn the mechanisms of tumor development.

The Laboratory also contains a section on cellular virology, where investigations center on biological, biochemical, and biophysical research into viruses and viral diseases, and antiviral substances and defense mechanisms.

Helps Identify Adenoviruses

Dr. Rowe was a member of the NIAID laboratory team which first identified and characterized the virus group now known as adenoviruses.

His demonstration of these new viral agents in human adenoids by an original method revealed a number of previously unsuspected viruses in human tissue.

Dr. Rowe's studies in recent years have centered on viruses which cause cancer in laboratory animals, and on hybrid viruses formed by oncogenic (tumor-causing) and nononcogenic viruses.

bella vaccine.

"We feel fairly confident that by 1970, when the next German measles epidemic is expected," Dr. Marston said, "a safe and effective vaccine will be available."

"Think for a moment of the implications of this advance," he continued. "Almost everyone in this room had as a child the normal childhood diseases—mumps, measles, German measles, whooping cough—and perhaps scarlet fever, rheumatic fever, diphtheria and poliomyelitis. In the 1970's all of these childhood diseases should have disappeared in America."

Dr. Marston declared the United States' lead in medical science "is not accidental" but is "a consequence of visionary, spirited and tireless efforts."

"We have a grave responsibility to foster the present apparatus for research and education in science," he said. "If we continue to build now—and we cannot afford to fail in this—we can look forward to accelerated payoffs in the decade ahead."

Johnson, Cohen, Speak at White House Celebration for NHI 20th Anniversary

President Johnson lauds NHI for its progress against cardiovascular diseases, and cites future challenges. At the table near the lectern are (l to r): DHEW Secretary Wilbur J. Cohen, Dr. Robert Q. Marston, NIH Director; Dr. Robert W. Berliner, Director of NIH Laboratories and Clinics, and Dr. Theodore Cooper, NHI Director.—Photos by Jerry Hecht, NIMH.

Approximately 170 people met with President Johnson in the East Room of the White House on Thursday, Nov. 4, to commemorate the 20th anniversary of the National Heart Institute.

DHEW Secretary Wilbur J. Cohen introduced Rep. Claude D. Pepper and Sen. Lister Hill, who fought for legislation that subsequently became the National Heart Act. It was this Act that called for the establishment of NHI.

Secretary Cohen then introduced Mrs. Mary Lasker who was instrumental in mobilizing public support for this legislation.

NIH Directors, Heart Council members, and top-level NHI staff members were also introduced.

Secretary Cohen then cited the growth of the Heart Institute programs since it received its first appropriation in 1950.

Dr. Robert Q. Marston, NIH Director, briefly reviewed some of the major research areas in which Heart Institute scientists and grantees have made important contributions.

Dr. Robert W. Berliner, Director of NIH Laboratories and Clinics, cited examples of research progress in hypertension, congenital heart disease, and angina pectoris.

He referred to Heart Institute intramural research in which find-

ings of intramural scientists culminated in methods for treating hypertension, parkinsonism ("shaking palsy") and angina pectoris.

Dr. Theodore Cooper, NHI Director, discussed the challenges faced by the Heart Institute during the next 20 years.

He described current and future approaches to the Nation's leading health problems—atherosclerotic heart disease and the acute heart attack—which claims over half of the more than one-half million Americans.

He also mentioned NHI programs, such as the Artificial Heart-Myocardial Infarction Program, aimed at improving all phases of diagnosis, treatment, and patient care for victims of acute heart attacks.

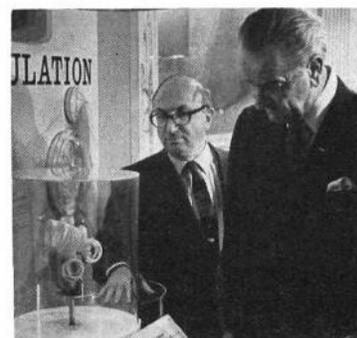
Memorabilia Given President

Secretary Cohen presented the President with a booklet which gives a history of the Institute, and an album of color photographs depicting the growth of NHI appropriations and programs.

President Johnson praised the efforts of legislators and the American people whose concerted action made possible the creation of NHI.

He singled out for praise, former President Harry S. Truman who signed the legislation dealing with the NHI, Rep. Pepper and Sen. Hill who saw this legislation safely through the Congress, and Mrs. Mary Lasker who "lobbied" on behalf of the National Heart Act and other health and welfare legislation.

The President cited challenges faced by NHI in the year to come, and charged all those present with the task of increasing public awareness of cardiovascular diseases.



The President and Secretary Cohen study the prototype of a Kolff air-driven total heart replacement. This model has been used experimentally in calves.

William McGraw, NHI, Retires After 15 Years

William McGraw, Sr., will retire at the end of this month after 15 years with the National Heart Institute. He is being honored today at a party given by friends and co-workers.

Known to nearly everyone in Building 31, the Westwood Building, and wherever his messenger rounds carry him, Mr. McGraw always has a pocket full of small change, 6-cent stamps and a copy of the daily newspaper for friends along his route.

Is Boxing, Baseball Fan

A history buff, Mr. McGraw can entertain for hours, telling stories about Wyatt Earp or the showdown at OK Corral. He is also a veritable encyclopedia where boxing and baseball are concerned.

Mr. McGraw came to the Heart Institute in 1953 as a laboratory animal caretaker while he was still farming near Cedar Grove, Md. In 1954 he retired from farming and became a messenger and later a clerk in the Heart Institute.

Born in Middleburg, Va., in 1898, Mr. McGraw spent most of his youth on a farm near Rockville. As a young man, he moved to San Diego where he worked for United Cigar Stores and married Mabel Vincent in 1925. In 1927 he



William McGraw, a history buff, plans to continue his study of the Old West in retirement.

moved back to Maryland and began farming.

Mr. McGraw now plans to retire to his home in Damascus, Md., and continue with his hobbies of following the Senators and studying the history of the Old West.

Institute's Name Changed

Under legislation recently enacted (PL 90-639), the name of the National Institute of Neurological Diseases and Blindness has been changed to the National Institute of Neurological Diseases and Stroke.

NIAID Announces Expanded Pneumococcal Pneumonia Vaccine Development Program



Dr. Robert Austrian, University of Pennsylvania School of Medicine (left), and Dr. Edwin M. Lerner II, NIAID, were participants at a press briefing held last week at NIH.

In a day when *antibiotic* and *penicillin* are very much household words, there are still an estimated 25,000 to 50,000 deaths a year from bacterial pneumonia.

In an effort to eliminate this needless scourge of the elderly and the chronically-ill, the National Institute of Allergy and Infectious Diseases announced an expanded pneumococcal pneumonia vaccine development program at a press briefing held here last week.

As a part of the expanded effort, Dr. Dorland J. Davis, NIAID Director, recently announced the award of contracts covering studies to determine the incidence of pneumonia in high-risk groups, the prevalence of various types of pneumonia, and the production and evaluation of new vaccines.

Seeks Polyvalent Vaccine

Ultimate goal of the pneumococcal pneumonia vaccine program is development of a polyvalent vaccine, a single preparation effective against a number of the pneumonia-causing bacteria.

Initially, however, 12 separate vaccines will be prepared, tested in animals for safety and efficacy and then in human volunteers. Widespread clinical trials will follow.

Dr. Edwin M. Lerner II, NIAID coordinator for the pneumonia vaccine effort, reported that widescale surveillance programs will record the 1968-69 incidence of pneumonia.

He anticipated that initial batches of vaccine should be ready for safety testing within the next year, and predicted early clinical trials in selected high-risk population groups by the fall of 1969, with field trials possible a year or two later.

Dr. Robert Austrian of the University of Pennsylvania School of Medicine at Philadelphia, who discussed the preliminary surveys made under contract with the In-

stitute, will direct and coordinate the surveillance of patients in hospitals across the country to determine which strains are most prevalent and in what populations vaccines will be most effective.

A total of almost 500,000 persons will be surveyed by participating investigators. Working with Dr. Austrian's group will be researchers at Dorothea Dix Hospital, Raleigh, N. C.; Coney Island Hospital, N. Y.; Harvard University Health Center, Cambridge, Mass.; Permanente Medical Group, San Francisco, Calif.; Washington County Hospital, Hagerstown, Md.; and Cushing Hospital, Framingham, Mass.

New Serological Tests Sought

Dr. Thomas Grayston of the University of Washington will conduct a surveillance program of some 100,000 pneumonia patients in Seattle area hospitals and at the Puget Sound Group Health Clinic. Dr. Grayston's group also is working to develop new serological tests to aid in the diagnosis of pneumonia.

Plans also are underway to include the Navajo Indian Health Area in Arizona and New Mexico, since pneumonia is a major cause of illness and death in the Indian populations.

With the increase in the segment of our population over age 50, the need for a pneumococcal vaccine has become more apparent.

It is anticipated that an effective vaccine administered to appropriate high-risk groups should drastically reduce the incidence and deaths from pneumonia, and effect

a possible saving of \$50 to \$100 million per year in hospitalization and Medicare costs.

Current NIAID contracts for the pneumococcal vaccine production and surveillance total approximately \$500,000.

The pneumococcal pneumonia vaccine undertaking is a part of NIAID's Vaccine Development Program, established in 1962 to develop experimental vaccines against acute respiratory diseases and German measles through contracts with pharmaceutical companies, university medical centers, and private research groups.

Contract Awarded

A contract was recently awarded to Eli Lilly Company, Indianapolis, Ind., for the production of experimental vaccines against 12 types of pneumococci.

Field trials of whole bacteria pneumococcal vaccine in persons 50 years old and older, reported in 1947, indicated a 90 percent reduction of infection and the presence of bacteria in the blood.

Another vaccine, consisting of purified pneumococcal capsular polysaccharides, developed during World War II and shown to be highly effective, was abandoned with the advent of potent antibiotic drugs which were expected to control such infections.

Engineering Unit Starts Season With Gift to Patient Welfare Fund

For the fourth consecutive year, the Clinical Center Engineering Unit, Plant Engineering Branch of the Division of Research Services, has made the first "Davis Plan" contribution of the Christmas season to the NIH Patient Welfare Fund.

With 56 employees in the Unit contributing \$250.26—the largest ever—a poster extending Christmas greetings to all and a list of contributors' signatures were placed on a bulletin board.

Under the "Davis Plan," money normally spent for Christmas cards is contributed to an office pool and donated to the Patient Welfare Fund.



Unit Head Laurence E. Northcutt places a Season's Greetings poster on bulletin board. To the left is a list containing signatures of the 56 employees who donated to the NIH Patient Welfare Fund.