

# the NIH Record

FILE COPY

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

December 4, 1963  
Vol. XV, No. 24

NATIONAL INSTITUTES OF HEALTH  
PUBLIC HEALTH SERVICE

## Nirenberg to Give The NIH Lecture Tonight at 8:15

Marshall W. Nirenberg, Ph.D., Chief of the Section on Biochemical Genetics, Laboratory of Clinical Biochemistry, National Heart Institute, will present the 24th National Institutes of Health Lecture tonight (December 4) at 8:15 p.m. in the Clinical Center auditorium. Dr. Nirenberg, 36, will speak "On the Nature of the RNA Code."



Following is Dr. Nirenberg's abstract of his lecture:

"Characteristics of messenger RNA and RNA codewords have been studied by using synthetic and natural messenger RNA preparations to direct cell-free protein synthesis.

"Data obtained by many laboratories will be reviewed which pertain to the nature of the code and to the current status of the codeword dictionary.

"Codeword composition, specificity, efficiency, and degeneracy, as (See NIH LECTURE, Page 8)



The late President, John Fitzgerald Kennedy, will be remembered by employees of the National Institutes of Health for his intense interest in improving the public health through medical research. Just a year ago this week, President Kennedy, Mrs. Kennedy, and Vice President Johnson were pictured as they took part in the presentation of the first international awards for achievement in the attack on mental retardation.—Photo by Sam Silverman.

## Blood Bank Obtains Rare Blood for Use In Successful Open Heart Surgery Here

By Elsie Fahrenthold

Clinical Center Blood Bank physicians and Heart Institute surgeons successfully coordinated their efforts recently to surmount serious problems in helping a CC patient with rheumatic heart disease.

It was determined that an open-heart operation, which requires approximately 20 pints of blood, would be needed to correct four defects in the patient's heart—mitral stenosis and mitral regurgitation, plus

aortic stenosis and aortic regurgitation.

However, the patient, a man in his late forties, was found to have not only the very rare I-negative blood type but also to have anti-I antibody.

Radio-isotope studies demonstrated that this antibody was capable of destroying I-positive cells *in vivo*. Of 39,000 donors checked, only five were found who lacked this blood factor and could possibly serve as donors for the patient.

### Phones Milwaukee

Dr. Paul J. Schmidt, Director of the CC Blood Bank, then called the Registry of Rare Donors operated by the American Association of Blood Banks in Milwaukee. The names of three donors were obtained and their local blood banks were requested to collect blood from them.

Two brothers, John and Gordon Fidge, who live in Windsor, N. Dak., were among the eligible donors. (See RARE BLOOD, Page 8)

crease in the rusting and corroding of trucks and equipment used on the reservation.

On the sidewalks, the problem is to avoid use of salt in such quantity that it may be carried into the buildings, where door frames and flooring can be corroded.

On the walks a highly refined thermal melting agent is used to keep "walk-in" salts to a minimum.

But melting agents become less effective when the temperature (See ICE AND SNOW, Page 6)

## Milford Myers and His Maintenance Men Are Ready to Combat the Ice and Snow

Winter weather, if not here, could be just around the corner, bringing the inevitable ice and snow. This poses problems for the Grounds Maintenance Section.

In clearing ice from the streets and roads rock salt and calcium chloride are commonly used. This But Grounds Maintenance has been using a corrosion inhibitor with all salts for the past three years.

This inhibitor has a high affinity for metal and coats the metal with a thin invisible shield that is only slightly less than 100 percent effective. This coating lasts for several days, thereby protecting NIH cars from salt picked up elsewhere.

Milford D. Myers, Chief of the Grounds Maintenance Section, says that in the three years since they have started using the material there has been a spectacular de-

## Drs. Felix, Bond Receive Coveted Salmon Award

Dr. Robert H. Felix, Director of the National Institute of Mental Health, and Dr. Earl D. Bond, Institute of the Pennsylvania Hospital, Philadelphia, have been selected to receive the coveted Salmon Medal for their outstanding contributions to science and humanity.



Dr. Felix

The medals will be awarded to Dr. Felix and Dr. Bond at the New York Academy of Medicine in New York tomorrow evening, December 5, at the Thomas W. Salmon Lecture.

Although these lectures have been sponsored annually by the Salmon Committee on Psychiatry and Mental Hygiene since it was founded in 1931, the medals have been awarded infrequently. Only two have been awarded in the past 30 years, the first to Dr. Adolf Meyer, outstanding American psychiatrist, and the other to Dr. Joseph Moore, one of the discoverers of the spirochete of syphilis in the brain of paralytics.

### Dr. Elkes Is Lecturer

This year's Salmon lecturer is Dr. Joel Elkes, former Chief, Clinical Neuropharmacology Research Center, NIMH, at St. Elizabeths Hospital, who is now Henry Phipps Professor of Psychiatry at the Johns Hopkins University School of Medicine and Psychiatrist-in-Chief at Johns Hopkins Hospital, Baltimore. Dr. Elkes' subject will be "Chemistry, Awareness and the Imagination."

The Salmon Medal is the most recent of many honors conferred upon Dr. Felix during his 30 years of service with the U.S. Public Health Service. Among his other awards are the annual Nolan D. C. Lewis Award, the 1963 Edward A. Strecker Medal, and the 1961 Rockefeller Public Service Award.

Dr. Felix, a Past President of the American Psychiatrist Association, became Director of NIMH in 1949.

# the NIH Record

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

NIH Record Office.....Bldg. 31, Rm. 4B13. Phone: 49-62125

Editor ..... E. Kenneth Stabler

Assistant Editor ..... George J. Mannina

## Staff Correspondents

Junith Van Deusen, NCI; Tony Anastasi, NHI; Bryson Fleeer, NIAID; Mary Anne Gates, NIAMD; Bob Callahan, NIDR; Bill Kleven, NIMH; Joseph Harrington, NINDB; Elsie Fahrenthold, CC; Faye Heil, DBS; Mike Canning, NIGMS; Herbert Nichols, DRFR; Dick Turlington, DRG; Bob Walters, DRS; Marianne Scoville, OAM; Dorothy Jeanne Davis, NICHD.

The NIH Record reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policy of the paper and the Department of Health, Education, and Welfare.

## Data on FY '63 Grants For Research Projects, Facilities Issued by PHS

Two publications—Part I and Part III—of a 5-part series on research and related grants awarded in Fiscal Year 1963 were published recently by the Public Health Service.

Detailed information on the nature, distribution, and amounts of the 15,939 research grants, totaling \$449.7 million, awarded in Fiscal 1963 is provided in a 580-page tabulation entitled, Public Health Service Grants and Awards, Fiscal Year 1963, Part I—Research Projects.

These grants for research projects in universities, medical schools, and other non-profit institutions support studies aimed at major diseases and other public health problems as well as the discovery of fundamental knowledge in the biomedical sciences.

### 1,268 in U. S.

They were made to 1,268 institutions in the United States and 382 institutions in 52 other countries.

Part III is a State-by-State tabulation of the \$239.9 million in PHS grants awarded in Fiscal 1963 for construction of research, hospital and related health facilities.

This tabulation contains a brief description of each project, the amount of the Federal grant, and the grant totals for each State.

Of the \$239.9 million awarded for this purpose, \$188.6 million was for construction of hospital and related medical facilities. The remainder—\$51.3 million—went for expansion of laboratory space in universities and other institutions sponsoring biomedical research.

## Chamber Music Series Begins Here Friday

The Recreation and Welfare Association of NIH will present three programs of chamber music for its Fifth Annual Concert Series.

In each program, members of a basic string quartet will be joined by other artists to perform seldom heard chamber music compositions, including interesting works for unusual combinations of instruments.

The first concert, to be presented Friday, December 6, at 8:30 p.m. in the Clinical Center auditorium, will feature Mark Ellsworth and Nancy Ellsworth, violins; Joyce Rogor, viola; Jean Robbins, cello; and Earnest Harrison, oboe.

### Program Given

Chamber music to be heard at this first concert includes the Oboe Quartet by Mozart, Dvorak's Terzetto for Two Violins and Viola, Haydn's Quartet in G Major, and Kurt Roger's Pastorale.

Admission is by ticket only. Tickets are \$1 for adults and are available at the Film Desks in Building 10 and the Westwood Building and the R&W office in Building 31. Children under 12 and CC patients will be admitted free of charge but tickets must be obtained for them. Tickets for CC patients are available from the CC Patients Activities Section.

The two other concerts in the series will be presented on February 14 and April 10.

Both publications may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., at a cost of \$1.50 and 30 cents per copy, respectively, for Part I and Part III. Limited free copies of each are available from the Information Of-

(See GRANTS SERIES, Page 7)

## Mailing Service, Provided by R&W Assn., Does Much for Many Without Profit

The R&W Mailing Service maintained at NIH on the B1 level of the Clinical Center provides a valuable service available to the approximately 8,300 employees here on the reservation.

Staffed by two efficient and constantly busy young women, its versatile performance includes: 1) the sale of domestic regular and airmail stamps, 2) the weighing, stamping and (if requested) insuring of packages; 3) the sale of commemorative stamps and plate blocks primarily to NIH stamp collectors; and 4) the sale of money orders.

Of those who avail themselves of these services, perhaps few realize it is a subsidized operation conducted by the Recreation and Welfare Association of NIH.

Of the \$9,000 put up annually by R&W to sponsor the Mailing Service, approximately \$4,000 is recovered from the sale of money orders and insurance on packages.

### Xmas Stamp Available

Interviewed at their office recently, Helene Beall and Edna Wilson pointed out that last year they sold more than 100,000 of the 1962 Christmas stamp alone. The bright, beautifully designed 1963 Christmas stamp, they said, will go on sale here the first of December.

Sale of commemorative stamps has reached the proportion of 10,000 of the recent 8-cent Amelia Earhart issue. The R&W Mailing Service makes no profit from the sale of stamps, not even on providing the coveted plate blocks to collectors. The stamps are sold at face value. Approximately 200 NIH plate-block collectors are served with each issue that comes from the press.

Every month, the Service weighs, stamps and insures approximately

## AMS Hears Dr. Zubrod Discuss Acute Leukemia

Dr. C. Gordon Zubrod, Director of Intramural Research of the National Cancer Institute, a featured speaker at the recent 70th Annual Meeting of the Association of Military Surgeons, gave the annual lecture sponsored by the sustaining members of the association.

He outlined the problems involved in the treatment of acute leukemia, described the progress made in recent years, and explained the work of the NCI's Acute Leukemia Task Force.

Dr. Zubrod cited the Task Force, of which he is chairman, as "one example of our attempt to achieve some balance in the rapid, yet safe, translation of new research findings to the sick."

He discussed in some detail the Task Force's efforts in both drug treatment and supportive care, which includes the techniques of platelet and granulocyte replacement.

200 packages. Many times the packages are not properly wrapped and tied, and the two workers spend much time in making these packages secure for mailing.

"When the packages go out from here," Mrs. Beall said, "we do not want them stopped elsewhere on the basis that they're held together only with scotch tape when more thorough fastening is required by postal regulations."

The only money made on the transactions involving packages comes from the small fee charged for private insurance.

The principal income to the Service is through the sale of Nationwide money orders. During 1963 the lowest number of money orders sold in any one month was 1,547 in September. The high month this year was January, with 2,558 money orders sold.

### Payday Sales Heavy

Mrs. Beall said that more than \$500 worth of postage is sold on an average payday, and during any one "payday week" approximately 600 books of stamps are sold.

An appealing feature of the Service is that provided to the children who are Clinical Center patients. "Those little children love the bright new stamps that are being issued now," Mrs. Beall exclaimed.

She has the children come after 2 p.m. daily, when the line usually will be short and the little patients won't have long to wait for service.

Then she and her co-worker spend time talking with the children about all the new stamps available, their colors and design and denominations, and whatever news they glean from assiduous reading of the stamp columns of the newspapers.

## Ernest Witebsky Gives Jules Freund Lecture

Dr. Ernest Witebsky, Head of the Department of Bacteriology and Immunology, Buffalo School of Medicine of the State University of New York, delivered the Third Annual Jules Freund Memorial Lecture in the Clinical Center auditorium on October 7. His subject was "Autosensitization in Animals and Man."

The Jules Freund Memorial Lecture is presented annually in honor of the late Dr. Jules Freund, the first Chief of the Laboratory of Immunology, National Institute of Allergy and Infectious Diseases.

## RARE BLOOD

(Continued from Page 1)

ors. Windsor is a small isolated community with one telephone and the Blood Bank staff worked diligently for several hours to contact the men.

"By the sheerest coincidence and good fortune," Dr. Sam T. Gibson, National Director of the Red Cross Blood Program said, "a bloodmobile from the Red Cross center in St. Paul had a visit scheduled November 20 in Wahpeton, N. Dak., about 150 miles from Windsor and the only county in North Dakota covered by the St. Paul Blood Program."

### Brothers Donate

Arrangements were made through the St. Paul Center to have the Fidge brothers drive to Wahpeton and donate. A Red Cross volunteer rushed the blood to Fargo, N. Dak., from which it was flown to St. Paul, Minn., and placed aboard a plane for Washington.



Rare blood flown from North Dakota is received at the Clinical Center at 11:30 p.m., November 20, by Miss Kathleen Dahle, CC Blood Bank medical technologist, to be processed and held for a patient who underwent open-heart surgery the following day. Helen L. Lynn, D. C. Red Cross volunteer, brought the blood from National Airport.—ARC photo by Jack Shere.

On arrival at National Airport the blood was picked up by Helen L. Lynn, a D. C. Red Cross Chapter volunteer, and delivered to the Clinical Center.

Donors in Boston and Chicago also donated, and a fifth unit was taken from the patient himself.

Realizing that it would be impossible to collect enough I-negative blood to support open-heart surgery, it was elected to temporarily deactivate the patient's anti-I antibody on the day before open-heart surgery and perform the operation with I-positive blood, a procedure that is known to have been used only once before—in England.

This was done and the few units of I-negative blood which had been obtained were saved for transfusion during the post-operative period if needed to correct anemia.

The operation, performed by Dr. A. Glenn Morrow, Chief of the NHI Surgery Branch, was success-

## New Home of Blood Bank Is Open to Visitors on Dec. 12

NIH employees, relatives and friends of CC patients, and other interested individuals are invited to inspect the facilities of the new Clinical Center Blood Bank on the first floor of the surgical wing on Blood Donor Day, Thursday, December 12.

Dr. Paul J. Schmidt, Director of the Blood Bank, and members of his staff will be on hand from 10 a.m. to 2 p.m. to welcome visitors.

Blood bank officials in the Washington area have been invited to participate in the activities, including the following representatives of the American Red Cross: Dr. Sam T. Gibson, National Director, Red Cross Blood Program; Dr. Raymond O. Dart, Director of the Washington Regional Red Cross Blood Center; and Lt. Gen. Lewis B. Hershey, Chairman of the Montgomery County Chapter, ARC.

### Visitors Will Observe

Visitors will have an opportunity to observe the blood donor program in action. They will see how blood and blood products are processed and will learn more about the ways in which physicians are able to utilize blood to save and prolong lives previously considered beyond help.

For example, one-third of the CC Blood Bank's blood supplies are used for open-heart operations that could not have been performed 10 years ago.

Another important service of the Blood Bank is to provide CC patients with huge amounts of fresh blood and blood products to control not only leukemia but also other neoplastic diseases.

A feature of Blood Donor Day will be the presentation of certificates by Dr. James A. Shannon,

ful. Both the mitral valve and the aortic valve were replaced with ball-type prostheses.

Because of the unique communications and viewing facilities of the new surgical wing, it was possible for members of the Blood Bank staff to confer directly with NHI surgeons throughout the operation, thus coordinating the skills of the physicians monitoring the hematological problems.

Dr. Schmidt explains that the rarity of the donors eligible to donate blood for this patient is not related so much to the rarity of the blood itself, but to the rarity of known available donors.

He points out that within the NIH employee population of 10,000, statistically there should be at least one I-negative donor.

Consequently it is hoped that all NIH employees will have their blood typed. The Division of Biological Standards, in cooperation with the CC Blood Bank, will offer them such an opportunity in January 1964 when a new program will be inaugurated.



Dr. Paul J. Schmidt, Director of the CC Blood Bank, shows Peggy Alexander (center) and Linda DeFalco, Blood Bank receptionists, two new publications that will be available for distribution on Blood Donor Day, Dec. 12.—Photo by Jerry Hecht.

NIH Director, to those who have donated blood regularly since the Blood Bank opened in 1953. Recognition will also be given to donors who have contributed unusually large quantities of blood.

The first CC Blood Bank donor, Robert D. Murrill of the Health Research Facilities Branch, DRFR, has contributed 26 pints of blood since September 3, 1953.

Mr. Murrill began his "donor career" at the age of 18 while he was still in school. His friends refer to him as a "walking blood bank" because he is so frequently cross-matched and on call to give blood to a critically ill CC patient when his type A-positive blood is needed.

### Gains 30 Pounds

Asked if any particular incident had stimulated his loyalty to the blood donor program, Mr. Murrill said, "No, I just think it is the right thing to do." Then he added, "It certainly hasn't hurt me—I've gained 30 pounds over the past 10 years."

NIH investigators depend on the Blood Bank to supply blood for their research projects designed to develop new and more effective methods for the treatment of chronic and fatal diseases.

Dr. C. Gordon Zubrod, Director of NCI's Intramural Research Program, recently reported on "dramatic results that are being obtained from the use of blood platelets to prevent massive hemorrhages that formerly killed one out of three acute leukemia patients."

He also reported that NCI is working closely with the Blood Bank in the use of a system to take two pints of blood from a donor

## Low Temperatures Aid Ability of Some Drugs To Enter Brain Tissue

Scientists of the National Institute of Neurological Diseases and Blindness have demonstrated an extraordinary rate of deposition of drugs in the brain tissues under cerebral hypothermia.

Some drugs, normally unable to enter the brain, at low temperatures apparently pass through the blood-brain barrier and appear in brain tissues, suggesting that other substances usually excluded from the brain may also enter brain tissues when temperature is drastically lowered.

The tests were performed with 36 healthy monkeys and used drugs chosen for pharmacological significance, chemical difference, and dissimilar tendencies for deposition in the brain under normal conditions.

Brain temperatures were lowered to 25° C. or below for approximately 30 minutes by packing the head in ice.

### Findings Cited

Under these conditions, it was found that the relative amount of d-tubocurarine and dimethyl penicillin found in the brain far exceeded that found at normal temperatures.

Presumably, at low temperatures the blood-brain barrier is affected, if not temporarily inactivated. Animals treated at low temperature with standard dosage of d-tubocurarine never recovered their motor powers after rewarming and showed persistent seizure patterns.

Those subjected to low brain temperature without medication showed no persistent damage after rewarming. And those receiving the drug without cooling, spontaneously recovered motor powers and the electro-encephalograms returned to normal within three hours.

These studies by Dr. Maitland Baldwin, Dr. Robert Farrier, Frances MacDonald, R.N., and Dr. A. K. Ommaya of the Surgical Neurology Branch, NINDB, were reported in the *Journal of Neurosurgery*.

twice a week and spin off the platelets and white cells; then returning the plasma and red cells to the donor.

On a very limited scale, physicians are using blood from patients with chronic leukemia to treat patients with acute leukemia. Thus, Dr. Zubrod explained, an attempt has been made to transfuse blood from one patient to another.

In six out of 10 patients on which it was tried, the transfusions plus drug therapy have cured the severe and previously invariably fatal bacterial infection which frequently accompanies leukemia.

## Parasitologists' Society Names Martin Young of NIAID President-Elect

Dr. Martin D. Young, Associate Director for Extramural Programs, National Institute of Allergy and Infectious Diseases, was named President Elect of the American Society of Parasitologists at its annual meeting in Chicago November 7.

Dr. Young, whose term will begin in the fall of 1964, will succeed Dr. Raymond Cable of Purdue University.



Dr. Young

As President Elect Dr. Young will become the fifth NIAID scientist to serve the American Society of Parasitologists as its chief presiding officer. Dr. Willard H. Wright, Dr. Cornelius B. Philip, the late Dr. E. B. Cram, and Dr. Justin M. Andrews, Director of NIAID, served the society as president in 1950, 1953, 1956, and 1961, respectively.

### Serves Previously

When Dr. Young begins his term it will mark the third time he has acted in an official capacity to serve the society. He was a councilor from 1947 to 1950, and a member of its Editorial Board from 1951 to 1954.

During his 26 years as a parasitologist Dr. Young has been distinguished for his studies in malaria. He recently documented cases of resistance of certain strains of malaria parasites to antimalarials chloroquine and amodiaquine, which have been among the most effective drugs to suppress and cure malaria.

Earlier this year Dr. Young received the Darling Foundation Medal and Prize for his outstanding contributions to research in malaria. The medal and prize are awarded intermittently by the World Health Organization in memory of Dr. Samuel T. Darling who was a U. S. member of the League of Nations Malaria Commission and the first Vice President of the American Society of Parasitologists.

### Other Research Noted

Other areas of Dr. Young's work concern studies of intestinal parasites with emphasis on the epidemiology and therapy of parasitic diseases in institutional populations.

A native of Georgia, Dr. Young joined the staff of NIH in 1937 and has been a member of the Public Health Service Commissioned Corps since 1944.

He received an M.S. degree from Emory University in 1932 and his Sc.D. from Johns Hopkins Univer-

## New Program Returns Mental Patients To Homes in Months, Center Reports

Striking results of a new program to return mental patients to their homes within a few months were released recently by the National Institute of Mental Health.

Two-thirds of the seriously ill patients have been successfully restored to a useful place in society, according to scientists at the Psychiatric Research Center, St. Elizabeths Hospital, Washington, D. C.

A 44-page brochure entitled "A Comprehensive Psychiatric Center," by Dr. Fritz A. Freyhan, Director of Clinical Studies at the center, and Dr. Julia A. Mayo, Chief of Clinical Social Service, describes the new program.

The Center, set up two years ago on the grounds of St. Elizabeths Hospital by NIMH, practices some of the new ideas in psychiatric care which were included in newly enacted community mental health center legislation.

### Key Features Cited

The Center's two key features are a broad range of services—within reasonable distance from the patient's home—including a hospital, a day hospital, a clinic, and a home service; and a flexible system of moving the patient from one type of treatment to another, depending upon his progress.

In addition, from the first day of the patient's admission, his family is helped to prepare for his return home. The Center explains the patient's condition to the family, and offers information and reassurance. Ninety percent of the families readily take these patients back.

The Center keeps in touch with the patient and his family after his return home to provide periodic check-ups and to help prevent relapses.

### Project Reported

A technical account of the project in a recent issue of *The American Journal of Psychiatry* by Dr. Freyhan and Dr. Mayo reports that 84 percent of the 124 patients in the study were living successfully in the community. Two-thirds of these have required no further hospitalization.

About half the patients make use of the clinic on the first floor of the Center after discharge from the hospital, just as heart patients, diabetics, or other chronically ill persons periodically seek medical attention. Patients may see a psychiatrist, psychologist, or social worker.

About six percent of the discharged patients attend the Day Hospital in the Center from 9 a.m. until 4 p.m. for six to eight weeks, while living at home. They receive

society in 1937. Emory University conferred an honorary Sc.D. upon him in June of this year in recognition of his contributions to world health.

occupational training, group therapy, and some individual therapy, as well.

The concept behind the project, the authors explain, is a wide range of psychiatric treatment in the patient's own community, which can be prescribed at a single point of contact. The help will be tailored to the patient's particular needs.

According to the President's special message on mental illness and mental retardation, a national program of similar mental health centers will make it possible to reduce the number of patients now under custodial care by 50 percent or more in a decade or two.

### 800,000 in Hospitals

There are about 800,000 mental patients receiving care in U. S. hospitals today. About half the patients now in State mental hospitals have been there 10 years or more.

Psychiatrists and other leaders in mental health may request copies of the brochure by writing Dr. Freyhan's office: Rm. 523, William A. White Building, St. Elizabeths Hospital, Washington, D. C.

## Vaccine Study Findings Represent Advance in Common Cold Control

National Institute of Allergy and Infectious Diseases investigators have found that naturally acquired antibody to rhinovirus 353 prevents infection following challenge.

The incidence of upper respiratory illness following rhinovirus infection of prisoner volunteers was found to be inversely related to the level of pre-existing serum neutralizing antibody in the subjects.

This was demonstrated for naturally acquired antibody to rhinovirus 353 and also for vaccine-induced antibody to ECHO-28 virus.

The experimental demonstration of efficacy of a vaccine against one member of the large family of rhinoviruses represents a preliminary, but important, advance in the ultimate control of common colds.

These findings were reported in the *Journal of the American Medical Association* by Dr. Maurice A. Mufson, Dr. William M. Ludwig, Harvey D. James, Jr., Lloyd W. Gauld, Judith A. Rourke, and Dr. Robert M. Chanock, all from the Laboratory of Infectious Diseases, NIAID, and Dr. Jacob C. Hopler, Abbott Laboratories.

## Dr. Don Eyles Receives Posthumous Award for Meritorious Service

Mrs. Don E. Eyles, widow of the late Public Health Service Scientist Director, Dr. Don E. Eyles, received a Meritorious Service Medal awarded posthumously to her husband November 15 by Dr. Luther L. Terry, Surgeon General of the Public Health Service.

Dr. Justin M. Andrews, Director of the National Institute of Allergy and Infectious Diseases, presented the medal and accompanying citation.

In presenting the medal to Mrs.



Mrs. Don E. Eyles accepts the PHS Meritorious Service Medal awarded posthumously to her husband, Dr. Justin M. Andrews, NIAID Director, who made the presentation in behalf of Surgeon General Terry, holding the accompanying citation.—Photo by Sam Silverman.

Eyles, Dr. Andrews said, "The careful and painstaking investigations of Dr. Eyles have made the tropical world a safer place in which to live. I am pleased and honored to convey to you for the Surgeon General the Meritorious Service Medal in recognition of the outstanding achievements of your husband."

Dr. Eyles, who had served the Public Health Service for 24 years, died of a heart attack on October 4 in Penang, Malaya. He was in Malaya as Chief of the Far East Research Project of NIAID's Laboratory of Parasite Chemotherapy.

At the time of his death, Dr. Eyles, accompanied by his wife, and two of their three children, was returning here prior to retirement. He had planned to join the Institute of International Medicine at the University of Maryland School of Medicine in Baltimore after retirement, which would have been effective December 1.

A report of Dr. Eyles' death and career appeared in the October 22 issue of the *Record*.

## Drs. Livingston, Brown And Pahl Appointed To DRFR Positions

Three appointments within the Division of Research Facilities and Resources have been announced by Dr. Frederick L. Stone, Chief of the Division.

Dr. Robert B. Livingston has been named Associate Division Chief in charge of program development; Dr. J. Harold Upton Brown was appointed Assistant Chief for Operations; and Dr. Herbert P. Pahl was named Chief of the Special Research Resources Branch.

Dr. Livingston's new assignment is in addition to his present position as Chief of the Division's General Research Support Grants Pro-



Dr. Livingston



Dr. Pahl



Dr. Brown

gram, until such time as a new Branch Chief can be appointed.

Born in Boston, Mass., Dr. Livingston completed his work for the A.B. and M.D. degrees at Stanford University.

After 18 months training in internal medicine, he entered the Navy Medical Corps as a reserve officer. Later he taught physiology at Yale, psychiatry at Harvard Medical School, and anatomy and physiology at the new University of California School of Medicine, Los Angeles.

### Joins NIH

He was a full professor in 1956 when he joined NIH and served as Scientific Director of NIMH and NINDB for four years, and as Chief of the Laboratory of Neurobiology, NIMH, for two years.

Dr. Brown, former Chief of the Special Research Resources Branch, came to NIH in 1960 from Emory University, Atlanta, Ga.; where he was Professor of Physiology and had served as Acting Head of the department.

A native of Nixon, Tex., he received his B.S. degree from the Southwest Texas State College, San Marcos, in 1939, and the Ph.D. degree in biochemistry from Rutgers University, New Brunswick, N.J. in 1948.

While at Rutgers he held a Swope Fellowship from 1946 to

## Threat of Curtailment of Services Spurs Gifts to Patients' Welfare Fund

The Clinical Center Social Work Department says contributions have begun to come in to the Patients' Welfare Fund since publication in the last issue of the *Record* of a feature story reporting the possible curtailment or elimination of many services due to lack of sufficient financial support.

The \$46.20 received in small amounts during the first few days came from persons both on and off the reservation. The Budget Section of the National Institute of Mental Health canvassed its members and donated the money as a contribution of the group.

### Letter Received

Another was received from the wife of a former Clinical Center patient, who wrote:

"The enclosed check is not merely a modest response to your appeal in the November 20 issue of the *Record*, it is also an inadequate but most sincere token of my gratitude for the superb care and many kindnesses to my late husband . . . while he was a patient at the Clinical Center some seven years ago.

"The tender, loving care which was also extended to me helped me maintain my equilibrium, to say the very least. I hope you are able to help many others."

The Christmas Season, with its spirit of sharing and giving, is an appropriate and opportune time to remember the less fortunate. Donations may be sent to the Patients' Welfare Fund in Rm. 1N250, Building 10.

1948 and was awarded a Fulbright Fellowship to the University of Rangoon in Burma. Dr. Brown is the author of "Basic Endocrinology" and editor of "Physiology of Man in Space."

Dr. Pahl, former Assistant Branch Chief, is a native of Camden, N.J. He attended Virginia Military Institute, received the B.A. degree in 1950 with honors at Swarthmore College and took his masters degree and doctorate work at the University of Michigan. He was awarded the Ph.D. in 1955.

From 1954 to 1957 he was a National Cancer Institute postdoctoral Fellow at the Sloan Kettering Institute.

He came to NIH in 1960 from Vanderbilt University where he was Assistant Professor of Biochemistry. From 1944 to 1947 he served with the United States Air Force.

There's nothing wrong with teenagers that trying to reason with them won't aggravate.—Franklin P. Jones in *The Wall Street Journal*.

## National Association for Mental Health Tours NIMH Labs, Hears Felix Speak

Squirrel monkeys, one-way observation windows, behavioral graphs, and the thin red lines drawn by an EEG machine were viewed with interest here November 19 by almost 100 members of the National Association for Mental Health.

The tour of NIMH laboratories in the Clinical Center was an opening feature of the annual meeting of the organization, held at the Sheraton-Park Hotel.

On the following day, the association heard Dr. Robert H. Felix, Director of NIMH and keynote speaker, deliver an optimistic forecast on care for the mentally ill.

### Increase Reported

Since 1950, Dr. Felix said, the Nation has doubled its number of psychiatrists and tripled its supply of clinical psychologists. The number of trained professionals in the mental health field, he predicted, will grow from 45,000 in 1960 to about 85,000 by 1970.

Yet, he cautioned, mental health legislation recently enacted into law now poses a challenge to communities to "develop a broad range of mental health services to prevent the mental illnesses, to diagnose them promptly, to treat them effectively, and to rehabilitate those who have suffered. . . ."

Representing their own communities' awakening interest in mental health, the NAMH conferees visited five projects.

In the Laboratory of Neurophysiology, they became absorbed in a talk by Dr. Paul D. MacLean, Chief of the Section on Limbic Integration and Behavior, who displayed his atlas of the monkey's brain and microscope slides of

brain tissue. After viewing a group of caged squirrel monkeys, they heard Dr. Kenneth L. Casey on procedures for tapping the animals' brains electrically.

At the laboratory of Dr. Frederick Snyder, Chief of the Section on Psychophysiology of Sleep in the Adult Psychiatry Branch, they watched an EEG machine record the eye movements, brain waves, pulse and respiration rates of a resting subject. Dr. Paul Verdone explained application of the work to clues concerning the sleep and dream patterns of normal and ill patients.

### Other Areas Visited

In Ward East, they saw Dr. William E. Bunney, Section on Psychosomatic Medicine, Adult Psychiatry Branch, display graphs illustrating the correlations between biochemical and behavioral data concerning depressed patients.

At the Laboratory of Psychology, they met Dr. Nancy Bayley, Chief of the Section on Early Development, who spoke briefly of her work in observing the behavior patterns of children from one to 2½ years old.

In Building T-4, Elaine Deipenbrock of the Child Research Branch described the Married Couples Study, and Mary Waldrop reviewed the nursery school child research program.

## Milton W. Skolaut Wins Award for Leadership

Milton W. Skolaut, Chief of the Clinical Center Pharmacy Department and President of the American Society of Hospital Pharmacists, received the Geigy Leadership Award November 6 "for his outstanding leadership in the field of hospital pharmacy and for his personal achievement and exemplary direction of the CC Pharmacy Department. . . ."

The award, a custom-made polished brass mortar and pestle, was presented informally by Jack Shotsberger, General Sales Manager of the Geigy Pharmaceutical Company, during the 70th Annual Meeting of the Association of Military Surgeons.

Prior to his election as President of the American Society of Hospital Pharmacists, 1963-64, Mr. Skolaut participated in programs at most of the society's annual meetings and institutes on hospital pharmacy, and served as its Vice President in 1955-56.

Author of many articles in the field of hospital pharmacy, Mr. Skolaut joined the PHS Commissioned



Milton W. Skolaut, Chief of the CC Pharmacy Department (left), accepts the Geigy Leadership Award from Jack Shotsberger, General Sales Manager of the Geigy Pharmaceutical Co.

Corps in 1949 and now holds the rank of Pharmacist Director. He was appointed to his present position when the Clinical Center opened in 1953.

## Heart Studies Indicate How Hydroxyproline of Collagen Is Derived

National Heart Institute studies indicate that the hydroxyproline of collagen is derived from the addition of molecular oxygen to proline residues of a proline-rich polypeptide of considerable size.

The hydroxylation step apparently occurs during, or perhaps after, the assembly of the protein chains of the collagen molecule on the RNA template.

Hydroxyproline is an important amino acid constituent of collagen, the major protein of connective tissue. However, free hydroxyproline is not used to any appreciable extent in collagen synthesis.

Instead the hydroxyproline is formed through the addition of molecular oxygen to another amino acid, proline, at some point during collagen synthesis.

### Uses Cell-Free System

Using a cell-free system (derived from chick embryo) that hydroxylates proline and also synthesizes collagen, Dr. B. Peterkofsky and Dr. Sidney Udenfriend of the Laboratory of Clinical Biochemistry, NHI, have studied the mechanism and site of hydroxyproline formation during collagen synthesis.

When the system was incubated for two hours with proline labelled with carbon-14, the scientists noted that most of the proline was rapidly incorporated into polypeptides during the first 30 minutes.

It was only after this "lag period" that any significant amounts of hydroxyproline were formed. The hydroxyproline arising during the next 90 minutes was always found in the microsomal fraction of the system.

### Anaerobic Conditions Studied

To gain further information on the locus and time course of hydroxyproline formation, the effects of anaerobic conditions and of added inhibitors at various stages of incubation were studied.

Anaerobic conditions inhibited collagen hydroxyproline formation only when imposed during the last 90 minutes of incubation.

Puromycin and ribonuclease, which interfere with the transfer of amino acids to messenger RNA, the template for protein synthesis, inhibited collagen hydroxyproline formation only when added during the first 30 minutes of incubation.

Thus, these observations suggest that during the 30-minute "lag period" the hydroxyproline precursor, a proline-rich polypeptide, was being assembled and moved to the relative safety of the microsomes.

Thereafter, through the action of an enzyme, molecular oxygen was



These seven Clinical Center staff members are pictured after receiving cash awards November 19. Group awards for a Special Act or Service went to members (three each) of the CC Information Office and the Special Events Section "for teamwork which produced outstanding coverage of the dedication of the new surgical wing, and for superb handling of the dedication activities while maintaining normal day-to-day operations without additional staff." Mary Jones of the CC Preadmissions Unit (standing, left) received an award for Sustained Superior Performance during the past 3½ years as Correspondence Clerk. The awards were presented by Dr. Jack Masur, CC Director. Seated, from left: Elsie Fahrendold, CC Information Officer; Dorothy Horlander, Chief, Special Events Section. Standing: Mrs. Jones, Margaret Caswell, Information Office; Claudette Pifer, Special Events; Nettie Burdette, Information Office; and Mary Calley, Special Events.—Photo by Jerry Hecht.

## Dr. John Dalton Named To Advisory Committee

Dr. John C. Dalton, Executive Secretary of the Metabolism Study Section, Division of Research Grants, has accepted an additional assignment as Executive Secretary for the newly formed Advisory Committee on Applied Physiology.

The new committee will review applications for support of studies of the physiology of work and exercise, studies on the physiological effects of various environmental factors on animals and man, and other proposals not falling within the provinces of existing reviewing groups.

A former Associate Professor of Biology at the University of Buffalo, Dr. Dalton has been in his present post since July 1962.

added to certain of the proline residues of the polypeptide to form the hydroxyproline of collagen.

This step apparently occurs late in collagen synthesis, perhaps after the protein chains of the enzyme have been assembled.

The proline residues acted upon by the oxidase may well be specifically determined by the sequence of amino acids surrounding them in the protein chain.

These findings were reported in Biochemical and Biophysical Research Communications.

## ICE AND SNOW

(Continued from Page 1)

drops below 20°. Sand then has to be used. At NIH the use of sand is kept at a minimum to reduce "walk-in" sand in the buildings.

As far as the snow is concerned, Mr. Myers hopes there won't be too much. Ten miles of sidewalk, eight miles of road, and 38 acres of parking lots require time to clear. And some areas have a priority to permit delivery of needed supplies. This means that some parking lots are last to be cleared.

Mr. Myers also hopes employees will cooperate this winter by not abandoning their cars on the reservation. Abandoned vehicles really slow down the clearing operations, he said.

## Dr. Gilliam III, Would Like To Hear From NIH Friends

Dr. Alexander G. Gilliam, who left NCI's Epidemiology Section in 1960 and retired from the Public Health Service, is ill at home and would be glad to hear from his friends at NIH.

His address is 606 West 40th Street, Baltimore, Md., and his telephone number is Belmont 5-1487. Dr. Gilliam is on the faculty of Johns Hopkins University.

## Findings Show Humoral Factor Responsible for Influence of Thymus

Findings by the National Cancer Institute and the National Institute of Allergy and Infectious Diseases indicate that implantation of thymic tissue in cell-tight chambers reverses the effects of thymectomy on mouse lymphoid development and restores susceptibility to LCM virus.

The thymus, once thought to have no function, is now known to be the progenitor of the lymphoid system, which performs a vital role in immune reactions to foreign tissue and disease-causing organisms.

Evidence that a humoral factor (a fluid) is responsible for the influence of the thymus has been reported by NCI and NIAID scientists.

### Effects of Thymectomy Listed

As other researchers have shown, removal of the thymus from newborn mice causes deterioration of the lymphoid organs (i. e., spleen, lymph nodes) and depletion of lymphocytes in the blood, suppresses the animals' immune reactivity, and, in some cases, stunts their growth.

These effects of thymectomy can be reversed by subcutaneous implantation of thymic tissue, or, as the NCI researchers demonstrated, by intraperitoneal implantation of thymic tissue in diffusion chambers, the pores of which are too small for passage of cells.

The NCI-NIAID team has shown that susceptibility to lymphocytic choriomeningitis (LCM) virus, which some mice lose as a result of thymectomy, can be restored by implantation of thymus-containing diffusion chambers.

The effect of LCM virus, which ordinarily causes a severe and rapidly fatal inflammation of the nervous system, appears to depend on a hyperimmune reaction, which does not occur in thymectomized animals.

### Passes Through Pores

To explain the efficacy of the thymus-containing diffusion chambers, the researchers suggest that a product of the implanted tissue passed through the pores of the chambers and triggered a lymphoid response to the LCM virus. The size of the pores would indicate that the product was humoral rather than cellular.

The work was reported in Science by Drs. Raphael H. Levey, Nathan Trainin and Lloyd W. Law, all of NCI, and Drs. Paul H. Black and Wallace P. Rowe, NIAID.

A preliminary report appeared in the Journal of the National Cancer Institute in which Drs. Levey, Trainin, and Law first presented evidence for the production of a humoral factor by the thymus.

## Five NIAID Investigators Report Second Example Of Zoonotic Malaria

Investigators of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases have been able to transmit to man a second species of simian malaria.

This particular parasite (quartan type) of New World monkeys never before had been shown to cause infection in man.

Human volunteers were bitten by *Anopheles freeborni* mosquitoes which had fed on a spider monkey with an infection naturally acquired in Panama.

### Identity Confirmed

The infection in the volunteers has been passed back to the monkey and to additional volunteers, thus confirming the identity and infectivity of the parasite.

This second example of zoonotic malaria is of special interest because of the possible importance of this type of zoonosis to world-wide efforts to eradicate malaria.

The study, which was presented at the meeting of the American Society of Parasitologists in Chicago, November 6-8, was reported in *Science* by Dr. Peter Contacos, Dr. Joseph Lunn, Dr. G. Robert Coatney, John W. Kilpatrick and Frances E. Jones.

## GRANTS SERIES

(Continued from Page 2)

Office, Division of Research Grants, Westwood Building, Bethesda, Md.

Parts II and IV, listing grants for training and health services, respectively, and Part V, summarizing the other four tabulations, will be published shortly.

A detailed accounting of the \$161.3 million awarded in Fiscal 1962 for advanced training in the medical and biological sciences is provided in a new publication—Public Health Service Grants and Awards, Fiscal Year 1962 Funds, Part II.

The publication, which lists training grants, research fellowships, traineeships, and research career awards, is the second of a series of five on Fiscal 1962 PHS awards.

Parts I, III, and IV of this series, contain complete listings of grants made in support of research projects, construction of research and hospital facilities, and health services, respectively, already have been published.

Part V, to be published later, will present supplementary summaries of all grant and award programs by type, amount, State, and recipient institution.

Copies of PHS Publication No. 964, Part II, costing \$1 each, may



NICHD Director, Robert A. Aldrich, shares a humorous moment with six members of the Institute's Office of Program Analysis who had just received a group award. Left to right: Anna Kretzing, Frances Lee, Arline Ludwig, Lillian Freedman, Nancy Jack, Edna Scruggs.—Photo by Jerry Hecht.

## NICHD Staff Members Receive Group Award

Six members of the Office of Program Analysis, National Institute of Child Health and Human Development, received a group cash award of \$645 on November 21, at a ceremony in the office of the Institute Director, Dr. Robert A. Aldrich. The award was presented for exceptional work performed by the group during March-May of this year.

The recipients were Office Chief Lillian R. Freedman, Nancy Jack, Arline Ludwig (recently transferred to the NIGMS), Anna Kretzing, Edna Scruggs and Frances Lee.

### Transfer Speeded

The group was cited for doing an outstanding job, enabling the Institute to meet fiscal and program deadlines essential for the transfer of various grants' programs concerned with child health and human development, from other NIH components to the NICHD.

Miss Freedman's work was singled out for special mention: "Miss Freedman's role . . . was a key one. During this period, she was involved in recruitment and staffing efforts in connection with expanding her unit. She also participated with . . . scientific staff in . . . screening . . . research grants, and worked closely with the . . . staff member who screened training grants."

The work of the program analysis group and other NICHD personnel was commended on Friday, November 22 at a special Pre-Thanksgiving, Post-Council Celebration Luncheon held at a nearby restaurant.

be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. Single copies may be obtained from the Information Office, Division of Research Grants, Westwood Building, Bethesda, Md., 20014.

Men never gossip; they merely investigate rumors.—The Washington Post.

## Dr. Cunningham Named Scientist Administrator With NIGMS Branch

Dr. Raymond W. Cunningham has been appointed Scientist Administrator with the Research Training Grants Branch of the National Institute of General Medical Sciences.

In this position he will serve as Program Executive and Head of the Section of Biochemical Sciences Program, which includes training programs in biochemistry, nutrition, medicinal chemistry, toxicology, and clinical and basic pharmacology.

Dr. Cunningham came to NIGMS from the Division of Research Facilities and Resources where he served since December 1962 as Assistant Chief of the General Research Support Branch. Prior to this he was for two years Executive Secretary to the Pharmacology and Pathology Training Committees, Division of General Medical Sciences.

### Native of Nebraska

From 1943 to 1960, Dr. Cunningham held various research and administrative positions with the American Cyanamid Company, Pearl River, N.Y.

A native of Oakdale, Nebr., Dr. Cunningham received an M.S. degree in 1931 from the University of Nebraska and a Ph.D. degree in Pharmacology from the University of Minnesota in 1936. He was a recipient of the Shevlin Fellowship in Medicine (basic science) at the University of Minnesota Medical School in 1934 and 1935.

The author of more than 30 scientific articles dealing with anesthetic and analgesic agents, Dr. Cunningham is a member of the American Society for Pharmacology and Experimental Therapeutics, the American Association for the Advancement of Science, and the New York Academy of Sciences.

Teenage son to father: "May I have the keys to our status symbol"—Reader's Digest from Future.

## DBS Laboratory Chief, Dr. George A. Hottle, Retires as PHS Officer

Dr. George A. Hottle, Chief of the Laboratory of Viral Immunology, Division of Biologics Standards, retired from the Public Health Service on November 30, after more than 17 years with NIH as a Public Health Service Officer.

Dr. Hottle entered the Service in 1946 as an immunochemist with the National Microbiological Institute, NIH, after serving four years in the U. S. Army.



Dr. Hottle

He transferred from the Laboratory of Infectious Diseases to the Laboratory of Biologics Control within the Microbiological Institute in 1949, and in 1958 was appointed Assistant Chief of the Laboratory of Viral Products, DBS. Two years later, he was made Chief of the Laboratory of Viral Immunology.

Dr. Hottle is the author of many scientific papers on viral vaccines, primarily rabies and poliomyelitis vaccines. During the past 14 years he has worked on the development of control tests for the safety and potency of both live and inactivated poliomyelitis vaccines.

### Gets California Post

An expert on bacterial toxins and viral vaccines, Dr. Hottle will continue his work at the University of California in Oakland. He has been appointed to head the Division of Bacteriology, Naval Biological Laboratory, School of Public Health, at the University.

A native of Easton, Pa., Dr. Hottle received his B.S. degree in chemistry in 1932 from Lehigh University, Bethlehem, Pa.; his M.S. from the same university in 1937; and his Ph.D. in bacteriology from the University of Pennsylvania in 1942.

Dr. Hottle was a member of the U. S. Immunology Delegation to the Soviet Union under the U.S.-U.S.S.R. Exchange Agreement of 1959. He has served as Vice President of the Washington Academy of Sciences and as Chairman of the D.C. Section of the Society for Experimental Biology and Medicine.

Dr. Hottle is also active in a number of other organizations, including the American Association of Immunologists and the Society of American Bacteriologists. He was made an NIH Fellow in 1946, and is currently a Fellow of the American Academy of Microbiology.

Dr. Hottle and his family will make their home in El Cerrito, Calif., at 727 Gelston Place.

## New Cancer Pamphlets Are Now Available for Distribution, Purchase

Pamphlets designed to give the general public a clearer understanding of three frequently encountered forms of cancer—of the breast, uterus and skin—have been issued by the Public Health Service. They are the first in a revised series of publications dealing with cancer of different body sites.

Prepared by the National Cancer Institute, the group of 10 publications will describe the nature, cause and prevention, detection, diagnosis and treatment of malignant disease. The current state of research on cancer will be covered as well.

The new pamphlet on breast cancer illustrates a medically approved procedure for women to follow in examining their own breasts periodically for the early detection of abnormal conditions that should be reported to a physician.

### Describes Smear Technique

The uterine cancer pamphlet describes the highly reliable "Pap smear" technique for detection of possible malignancy in that area.

Included in the pamphlet on skin cancer is a discussion of preventive measures and a description of abnormal skin conditions that tend to become malignant.

The pamphlets—"Cancer of the Breast" (PHS Publication No. 576), "Cancer of the Uterus" (PHS Publication No. 1057), and "Cancer of the Skin" (PHS Publication No. 378)—are available in single copies from the Research Information Branch, National Cancer Institute, Rm. 10A16, Building 31, Bethesda 14, Md. Phone: 49-64538.

They may be purchased in quantity from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402, at five cents per copy or at the following bulk rates: "Cancer of the Breast" and "Cancer of the Uterus," \$2.75 per 100 copies; "Cancer of the Skin," \$3.25 per 100 copies.

## Surplus Gov't Property Is Available to States

Surplus property for which the Federal Government paid \$98,816,366 was made available to the States for education, public health, and civil defense purposes during July, August, and September by the Department of Health, Education, and Welfare.

Real property accounted for \$6,194,267 and personal property for \$92,622,099.

The totals were contained in the Department's quarterly report to Congress on the surplus property program.

## WHO SAYS THE TEEN-AGERS ARE TENSE?



Pictured in front of the Clinical Center following a recent tour of NIH laboratories are 37 bright-eyed members of the 10th grade biology class from nearby Walt Whitman High School. The science students witnessed a demonstration of the electron microscope in the Laboratory of Viruses, National Institute of Allergy and Infectious Diseases, and heard discussions of current NIH research by leading scientists.—Photo by Bob Pumphrey.

## Patterns in Rhinovirus Illness Found Similar to Common Cold Syndrome

National Institute of Allergy and Infectious Diseases investigators have found that illness associated with rhinovirus infection is not distinguishable from ordinary "common cold" illness.

In the past two years a new group of respiratory viruses, designated rhinoviruses, has been associated with mild upper respiratory disease in adults.

### Marines Studied

Agents of this group were isolated from Marine Corps personnel under surveillance at Camp Lejeune, N. C., from December 1960 to January 1962, and were shown to be associated with mild nonepidemic upper respiratory illness.

Epidemics of upper respiratory disease associated with adenovirus Type 4 and Coxsackie virus Group A, Type 21, occurred in the same population.

The study included 125 rhinovirus-positive patients, 168 adenovirus-positive patients in 1960, 180 adenovirus-positive patients in 1962, 120 patients positive for Coxsackie virus Group A, Type 21, and 194 matched virus-negative patients.

The spectrum of clinical illness reported by the rhinovirus infected

## NIH LECTURE

(Continued from Page 1)

well as the limitations of the available data, will be described."

For his work, Dr. Nirenberg has previously been awarded the 1963 Paul-Lewis Award of the American Chemical Society, the National Academy of Sciences award for molecular biology for 1962, and the 1962 Award for Scientific Achievement for the Biological Sciences from the Washington Academy of Sciences.

patients is similar to the common cold syndrome described by others.

There was no pathognomonic symptom or combination of symptoms that distinguished rhinovirus disease from other mild infections of the upper respiratory tract.

In comparison with the other groups, rhinovirus produced an illness intermediate between the moderately severe disease associated with adenovirus and the mild upper respiratory illness of undetermined etiology.

The report of the study by Drs. B. R. Forsyth (present address LID-NIAID) and H. H. Bloom of the Naval Medical Field Research Laboratory, Camp Lejeune, and Drs. K. M. Johnson and R. M. Chanock of the Laboratory of Infectious Diseases, NIAID, appeared in the New England Journal of Medicine.

## Dental Institute Hears Concept of Formation Of Salivary Structures

By Dana Neimark

In a recent National Institute of Dental Research seminar, Prof. L. C. Junqueira, Chairman of the Department of Histology, Faculty of Medicine, University of Sao Paulo, Brazil, presented a concept of the formation of salivary structures in which the organism's environment is more significant than its position on the evolutionary scale.

Dr. Junqueira took his audience on an evolutionary "tour" from *Pisces* to *Mammalia*, pointing out the relationship of form and function to environment in the salivary structures.

"Certain amphibia," he said, "which belong to a class of vertebrates low on the evolutionary scale, have salivary glands thought to contain both the carbohydrate-digesting amylase and the protein-digesting proteases. Chickens, higher on the evolutionary scale, have salivary glands which produce mainly the enzyme amylase."

### Bats Observed

Within the bat family, differences observed in the salivary glands also strengthen the hypothesis that environment influences physiology. Blood-eating bats produce little if any amylase in their glands, while fruit-eating bats have large quantities of amylase.

Dr. Junqueira pointed out that temporary changes can occur under certain environmental conditions. Stress situations cause adrenalin to increase the glands' permeability to protein.

Commenting on the significance of these findings, Dr. Junqueira explained, "We hope to be able to determine the role that salivary glands play in maintaining the body's physiological balance."

### Research Begun in 1945

Dr. Junqueira, a graduate of the University of Sao Paulo, has been conducting research on the mechanisms of secretion since 1945. He has lectured before international conferences in many parts of the world. This trip to the United States is his fourth. He has been a guest seminar speaker at the NIDR twice.

In addition to his scientific pursuits, Dr. Junqueira is a spear fishing aficionado. He has followed this interest from the North to the South of Brazil and currently holds the Brazilian team championship for bagging four sharks. In his spare time, he raises beef cattle.

Dr. Junqueira, his wife and three children, ages 14, 16, and 19, reside in Sao Paulo where the oldest, following his father's footsteps, attends medical school and the two other children attend high school.