

the **NIH** Record

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

April 1, 1969
Vol. XXI, No. 7

NATIONAL INSTITUTES OF HEALTH

Dr. Robert Bucher Named BEMT Deputy Director For Institution Programs

The appointment of Dr. Robert M. Bucher, Dean of the Temple University School of Medicine, as Deputy Director for Institutional Development of the Bureau of Health Professions Education and Manpower Training, has been announced by Dr. Robert Q. Marston, Director of NIH.

As Deputy Director for Institutional Development, Dr. Bucher will serve as principal advisor to Dr. Leonard D. Fenninger, Bureau Director, for programs of support to institutions engaged in biomedical research and the education and training of personnel in the health occupations.

Assumes Post in July

He will assume his new position in July.

For the past 10 years, Dr. Bucher has been Dean of the Temple University School of Medicine, where he received his M.D. degree in 1944.

Prior to that he was associate professor of Surgery and then associate dean at the medical school.

Dr. Bucher has also served NIH as Special Consultant to the Regional Medical Programs and as a member and chairman of the Heart

(See DR. BUCHER, Page 7)

NIDR Scientists Report on Developments At Meeting of Internat'l Dental Ass'n

New developments in dental research were reported at the late March meeting of the International Association for Dental Research, held in Houston, Tex.



The experiments of Dr. Larson and her associates showed that germfree rats will develop tooth decay if infected with suitable bacteria.

Dr. Ringler Is Appointed Deputy Director of NHI

Dr. Robert L. Ringler has been named Deputy Director of the National Heart Institute. Dr. Theodore Cooper, Director of NHI, announced the appointment.

Dr. Ringler will assist in the direction and coordination of the Institute's cardiovascular research programs.

He has been a member of NHI since 1961. He came here as a scientist administrator in the Heart Institute's Extramural Programs.

In 1962 he was named chief of the Program Projects Branch, NHI Extramural Programs.

In 1966 Dr. Ringler was appointed head of the Task Force on Cardiovascular Research Centers and in 1967 was named chief, Institutional Research Programs.

Before coming to NIH, Dr. Ringler served as a senior research associate with the Edsel B. Ford Institute for Medical Research, Henry Ford Hospital, Detroit. Prior to that he was assistant Professor of Biochemistry from Michigan State University.

Papers given by scientists from the National Institute of Dental Research and grant-supported researchers discussed dental caries, periodontal disease, congenital anomalies, tooth transplantations, and x-ray therapy.

Dr. A. A. Rizzo, NIDR, reported that bacterial endotoxins may play a role in the progression of periodontal disease.

He described animal studies showing that once gums are damaged, small concentrations (100 micrograms per milliliter) of endotoxin can cause serious, sustained inflammation like that in periodontal disease.

Dr. Rizzo worked with Dr. S. E. Berglund on these studies.

Dr. A. J. Steffek, American Dental Association research associate working at NIDR, reported that a group of chemicals, if given to rats at specific times in pregnancy, will cause cleft palate in many of their offspring.

A year ago Dr. Steffek found that the lathyrogen, beta-aminopropionitrile (BAPN), produced many birth defects in rats, including cleft palate.

This year Dr. Steffek, Dr. C. T. G. King, and Carol Ann Watkins tried giving other lathyrogenic compounds (D-penicillamine, aminoacetoneitrile, and semicarbazide) in various doses to pregnant rats during palatal development.

They found that all three drugs resulted in a high percentage of offspring with cleft palates.

(See DENTAL DEVELOPMENTS, Page 8)

NIH Record Schedules Move To Building 31 Next Week

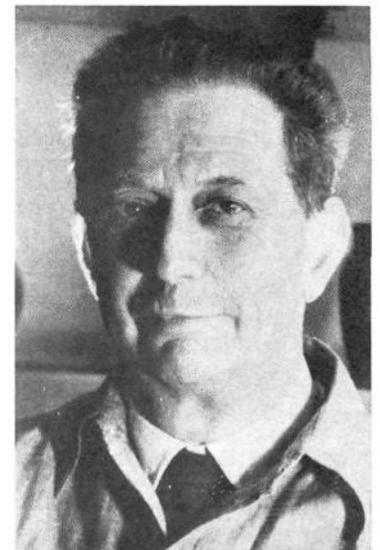
The Publications and Reports Branch, Office of Information, OD, is scheduled to move next week into new, permanent quarters in Room 2B03, Building 31.

The *NIH Record* and the *NIH Calendar of Events* also will be located there. Telephone extensions for the Branch, the *Record*, and the *Calendar of Events* will remain unchanged.

Dr. Lwoff to Give 18th Dyer Lecture At NIH on April 9

Dr. André Lwoff, awarded a 1965 Nobel prize for his work in molecular biology and viral latency, will deliver the 18th annual Dyer Lecture on Wednesday, April 9.

His discussion, "Viral and Cellular Interactions: the Mechanisms of Action of Supraoptimal Temperature on the Development of Polio-



virus," will be presented at 8:15 p.m. in the Clinical Center auditorium.

Dr. Lwoff will describe his recent experiments on the mechanism by which poliovirus replication is blocked at higher than optimal temperatures.

Dr. Lwoff will describe his recent experiments on the mechanism by which poliovirus replication is blocked at higher than optimal temperatures.

Virus action on the cell and supraoptimal temperature combine to release a nuclease from cell lysosomes that destroys the viral RNA and consequently blocks virus development.

The French Nobelist spent much of his career with the Pasteur Institute, Paris, where he was chief, Department of Microbic Physiology since 1959. He also has served as

(See DR. LWOFF, Page 5)



The appointment of Dr. Robert M. Farrier as Acting Director of the Clinical Center has been announced by Dr. Robert Q. Marston, NIH Director. In this capacity Dr. Farrier assumes the hospital administration responsibilities formerly carried out by the late Dr. Jack Masur, Clinical Center Director until his death on March 8.

the NIH Record

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NIH Record Office Bldg. 36, Rm. 1C-18. Phone: 49-62125

Editor Frances W. Davis
Assistant Editor Fay Leviero

Staff Correspondents

Tony Anastasi, DRS; Bari Attis, NINDS; Lloyd Blevins, NICHD; Thomas Bowers, CC; George Bragaw, NHI; Katie Broberg, NIAMD; Lawrence Chamblee and Florence Foelak, BEMT; Jan Clagett, FIC; Gladys Ganley, DCRT; Sue Hannon, NIDR; Marjorie Hoagland, NIMH; Sheila Jacobs, NCI; Elizabeth Y. James, NIEHS; John P. Kelly, NLM; Marion Oakleaf, DRG; Faye Peterson, DBS; Richard Schroder, ADA; Jane Shure, NIAID; Wanda Wardell, NIGMS.

NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4
Sundays—3:55 p.m.

April 6 and April 13

Dr. Alfred M. Sadler, Jr.
and Blair L. Sadler, NIH
Subject: Medical and Legal
Aspects of Organ Transplants

Radio

DISCUSSION: NIH

WGMS, AM-570—FM Stereo
103.5—Friday evenings—
About 9:15 p.m.

April 4

Dr. William E. Matory,
Howard University Medical
School, DPM Contract
Subject: Continuing Education
for Practicing Physicians

April 11

Dr. Herbert Swerdlow,
chief, Dental Services
Branch, NIDR
Subject: Dental Services in
NIDR Research

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

Graduate Program Moves

The offices of the NIH Graduate Program, the Foundation Bookstore, and the administrator for Group Hospitalization for the Association of Visiting Fellows has moved to Rm. 2-B-23, Bldg. 31.

Office hours are 9 a.m. to 4 p.m. daily. For further information call Ext. 66371.

DRS Invites Bids for 818-Car Garage

The nagging parking problem, which plagues us all almost everywhere, is also evident here at NIH. But don't despair. Buckle up your safety belts and keep circling the reservation, for help is on the way.

The Division of Research Services advises that invitations have been issued for construction bids for an 818-car multilevel parking facility to be constructed in the southwest corner of the reservation adjacent to Old Georgetown Road.

Open-Type Structure

The garage will consist of 274,716 square feet on four levels built of reinforced concrete. It will be an open-type structure with internal ramps to provide access between floors, and will cost about \$1,380,000.

Construction is scheduled to begin early this summer with estimated completion about one year later.

The facility will provide parking for employees in the recently completed laboratory buildings for

Dr. Parsegian's 'Employee Suggestion' Receives Award; Lauds NIH Bibliography

Dr. Adrian Parsegian, a research physicist in the Physical Sciences Laboratory of the Division of Computer Research and Technology, has won an Employee Suggestion Award.

Dr. Parsegian, who came to NIH in September, 1967, suggested that a copy of the NIH Scientific Directory and annual Bibliography be made available to all persons concerned with research immediately upon their arrival here.

Cites Own Experience

"I was lucky to have a friend show it to me; perhaps others don't come across the Bibliography so easily," said Dr. Parsegian.

He considered that the Directory Bibliography "... gives an excellent summary of work going on and people active in various areas.

"It is a major task for a research person recently come to NIH to learn of the many scientific projects under way here ... anything that can hasten this process will save valuable time..."



Dr. Parsegian is doing research on intermolecular forces acting in the cell membrane, and is also teaching a course on that subject.

Dr. Parsegian stated.

The NIH Directory Bibliography is published each spring. It contains listings of current scientific and other key personnel by Institute or Division and by laboratory or branch.

Visiting scientists and guest workers who will be at NIH a year or more are included.

Full reference to scientific papers published during the previous year are given; authors are listed in an alphabetical cross-referenced index.

Background Noted

Dr. Parsegian worked at the Communications Biophysics Laboratory of the Massachusetts Institute of Technology in 1961, studied at the Weizmann Institute in Rehovoth, Israel during 1962-64, and worked at the Hansen Biophysics Laboratory, Stanford University, in the summer of 1965.

He was employed by the Department of Chemistry, MIT, from 1965 until he came to DCRT.

He is presently engaged in research on intermolecular forces acting in the cell membrane.

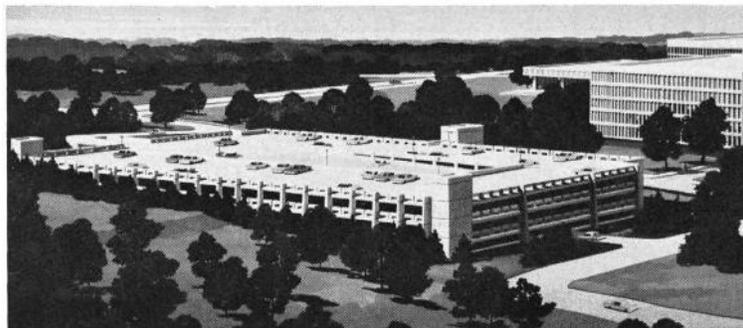
Dr. Parsegian has started an 8-lecture course at DCRT on "Forces in Cell Membranes." The course will introduce biologists to the physicist's view of the membrane.

Latest Participants in NIH Visiting Scientists Program Listed Here

3/3—Dr. Friedrich J. Wiebel, W. Germany, Chemistry Branch. Sponsor: Dr. Harry V. Gelboin, NCI, Auburn Bldg., Rm. 107.

3/9—Dr. Pedro N. Rudomin, Mexico, Laboratory of Neural Control. Sponsor: Dr. Karl Frank, NINDS, Bldg. 10, Rm. 3D47.

3/17—Dr. Yonosuke Kobatake, Japan, Laboratory of Neurobiology. Sponsor: Dr. Ichiji Tasaki, NIMH, Bldg. 10, Rm. B2A25.



Architect's drawing of 4-level parking facility at southwest corner of NIH reservation, adjacent to Old Georgetown Road and Lincoln Street.

NIH Biomedical Research Pamphlet Analyzes Need For Future Manpower

The Nation's needs for biomedical research manpower are expected to increase from the 1965 level of 64,000 professional workers to 150,000 by 1985, according to a recently issued NIH report.

The publication, *Biomedical Research Manpower for the Eighties*, is Report No. 11 in the series, *Resources for Medical Research*.

The report focuses on the forces that may shape the future course of biomedical research: scientific needs and opportunities; the manpower to exploit these opportunities, and provision of the necessary resources.

It also analyzes the chief factors influencing the growth of biomedical research. The report further indicates the probable proportion of the health dollar allocated for biomedical research in 1975.

Copies of Report No. 11 are available at \$1.25 a copy from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

Award to Dr. McClure For Basic Oral Research To Benefit CC Patients

Dr. Frank J. McClure, Advisor to the Director of the National Institute of Dental Research, received the Award for Basic Research in Oral Therapeutics from the International Association for Dental Research.

The award was presented to Dr. McClure at the association's annual meeting in Houston, Tex., March 20-23.

Dr. McClure revealed that, thanks to the \$1,000 stipend of this award, there will be more "Pictures for Patients." He is donating this sum to a program at the Clinical Center where original paintings and reproductions are made available for the patients' enjoyment.

Known for his research on the effects of fluoride in caries control, he has also studied heat processing of foods and the role of lysine in experimental caries.

More recently, his research has encompassed the role of phosphates in the control of caries.

Dr. McClure retired as chief of the Laboratory of Biochemistry, NIDR, in 1966 after 30 years service with the PHS, and is presently writing a history of fluoridation.

An honorary member of the American Dental Association, he was awarded the HEW "Superior Service Award" in 1955.

WOMEN AT NIH

'Ole' for NLM's Senior Scientific Editor, Dr. Halegua, Dentist From Montevideo

The transformation from dentist to senior scientific editor at the National Library of Medicine is unusual—but more so when the dentist is a lady and the lady is from Montevideo, Uruguay.

Dr. Raquel S. Halegua came to NLM in 1964 as a representative of the American Dental Association. Her specific duties were to develop a dental vocabulary that would be added to the Library's Medical Subject Headings, and to produce, with NLM's MEDLARS, the *Index Dental Literature*. MEDLARS is short for the euphonious name of Medical Literature Analysis and Retrieval System.

In March 1966, Dr. Halegua joined the MeSH group of the Bibliographic Services Division.

A year later, she assumed her present position; she is responsible for copy clearance before publication of such MEDLARS products as *Index Medicus*, recurring bibliographies, and literature searches.

She also participates in workshops for users of the system.

When asked what attracted her



Dr. Halegua defines her role of editor as an expansion from dentistry—it includes the entire biomedical field with emphasis on communications.

to this type of career, Dr. Halegua explained that it provided a delightful balance between her interest in books and working with learned people in an interesting environment.

Dr. Halegua feels that as editor she is in touch with the latest developments in science. Her role is an expansion from dentistry, now it includes the whole biomedical field, with emphasis on biomedical communications.

Dr. Halegua received her D.D.S. degree at the University of the Republic, Montevideo. A year before she had married Alfredo Halegua, a sculptor whom she met back in her college days while vacationing at Punta del Este. Two years later, in 1959, the Haleguas came to the United States.

Dr. Paul MacLean Gives Three Hincks Lectures

Dr. Paul D. MacLean, National Institute of Mental Health, recently delivered the Clarence Hincks Memorial Lectures at Queen's University, Kingston, Ontario.

Dr. MacLean is chief of the Section on Limbic Integration and Behavior, Laboratory of Neurophysiology, NIMH.

Dr. MacLean's three memorial lectures were entitled "Man's Reptilian and Limbic Inheritance," "Man's Limbic Brain and the Psychoses," and "New Trends in Man's Evolution."

The Hincks Lectureship was established in 1965 by the Ontario Mental Health Foundation. It is named in honor of the man called "the father of the Canadian mental health movement" who for many years headed the Canadian Mental Health Association.

Each year the Foundation sponsors the lecture series with one of the Ontario medical schools.

Bank's Night Depository 'Handy' for Personnel

The Bank of Bethesda in the Clinical Center, Bldg. 10, will be enlarging its quarters soon.

However, until additional space is added to its present site, Margaret Mathis, bank manager, suggests using the Night Depository installed for the convenience of NIH depositors.

Checks are also accepted for "deposit only" when sent directly from the payroll office to the main office of the Bank of Bethesda. Arrangements for this may be made with I/D timekeepers who have the necessary forms to be filled out for this transaction.

Safe deposit boxes in a number of sizes have also been installed at the bank for the convenience of NIH personnel.

NIAID Lab Asks Volunteers With Colds to Assist Study

NIAID's Laboratory of Infectious Diseases requires the help of employees who have "common colds" for its ongoing study.

They are asked to contribute samplings of nasal secretions plus two blood samples, one at the start of the illness and one 3 weeks later. Participants receive \$2 for each blood sample.

Appointments — scheduled early if possible — may be made by calling Sara Kelly or Harvey James, Ext. 65811, preferably within the first 3 days of infection.

NIH Scientists to Attend April FASEB Meetings

Approximately 85 scientists from NIH are presenting papers at the 53rd annual meeting of the Federation of American Societies for Experimental Biology being held in Atlantic City, N. J., April 13-18.

Dr. Robert W. Berliner, NIH Deputy Director for Science, heads the group from NIH who will be participating in one of the largest scientific conventions held anywhere in the world. FASEB expects a registration this year of 22,000.

The featured speaker at the FASEB General Session on "Experimental Studies in Tumor Immunology" on Tuesday evening, April 15, will be Dr. George Klein, Department of Tumor Biology of the Karolinska Institute, Stockholm, Sweden.

During the 5 days of this meeting of experimental biologists from the U. S. and many foreign countries, 310 sessions plus many less formal evening meetings are scheduled.

At these sessions, investigators will report the results of their most recent work in fields such as heart disease, cancer therapy, organ transplantation, autoimmune disease, human and animal nutrition, and drugs affecting human behavior.

Dr. Halegua's interests go far beyond dentistry and scientific editing. They encompass the theatre and the ballet as well as sculpture, painting, and music.

Their house is filled with her husband's sculpture, paintings, and murals. There are also works by other artists.

Dr. Halegua's two "beautiful" alley cats bask in this atmosphere.



Anna E. Dougherty, assistant chief of the NIH Library since 1959, has contributed to a 5-volume series of books, "The Literatures of the World in English Translation." Two volumes, on Greek and Latin literature and on Slavic literature, were recently published.

Dr. Shannon to Address Lab Animal Symposium

Dr. James A. Shannon, former NIH Director, now special advisor to the President of the National Academy of Sciences, will speak at the international laboratory animal symposium to be held at the Shoreham Hotel, in Washington, D. C., April 8-11.

The conference is cosponsored by the International Committee on Laboratory Animals and the Institute of Laboratory Animal Resources of the National Academy of Sciences-National Research Council.

Support for the conference is provided in part by NIH's Animal Resources Branch of the Division of Research Resources.

The conference theme will be based on "Defining the Laboratory Animal in the Search for Health."

Aspects of current research on laboratory animals will be discussed including the influence of environment on the behavior of animals, efforts to breed standardized laboratory animal strains, and techniques for developing germfree animals.

Scientists Present Paper

Dr. Carl T. Hansen and William J. McEleney, of the Division of Research Services, are presenting a paper titled "Strain and Season Differences in the Reproductive Performance of Inbred Strains of Mice, Rats, and Guinea Pigs."

The organizing committee for the symposium includes four NIH representatives. They are: Dr. William Gay, NIGMS, chairman of the Program Committee; Samuel M. Poiley, NCI, chairman of the Registration Committee who is also in charge of the Cancer Chemotherapy National Service Center exhibit; Dr. Thomas Cameron, NCI, Committee for Special Events, and Dr. Carl Miller, DBS, who is on the Registration Committee.

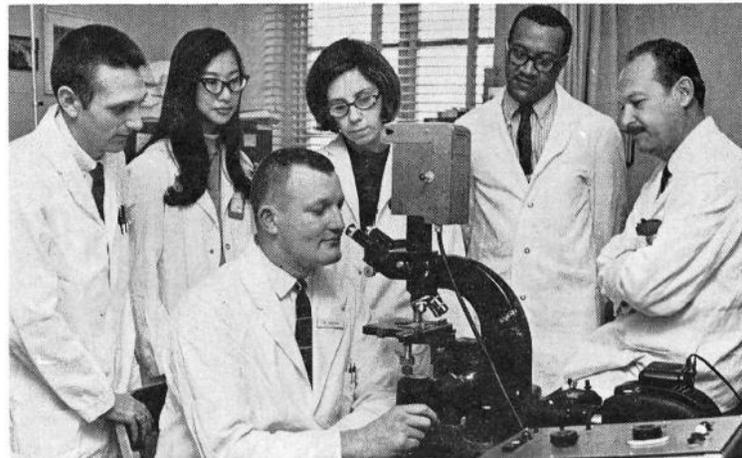
Information on registration may be obtained by calling area code 202-961-1692. Registration will start on Monday, April 7, at 1 p.m., at the Shoreham, and continue through the following days of the symposium.

Blood Bank at CC Reports 3 Join 'Gallon Donor Club'

The Clinical Center Blood Bank reports that three donors have joined the "Gallon Donor Club." They are: Dr. Robert S. Adelstein, NHI; Flora A. Miller, NIDR, and Gerald C. Princler, NCI.

More blood is needed. Make an appointment to donate now. Call the Blood Bank, Ext. 64506.

Investigators Suggest Infectious Agent Is Associated With Osteogenic Sarcoma



The NCI research team involved in the investigation of a possible infectious agent in bone cancer are (l to r): Emile Trahan, Carole Yee, Dr. Donald L. Morton, who is seated at the microscope, Jo Anne Marrone, Kenneth Cooke, and Dr. Richard Malmgren.

Investigators at the National Cancer Institute have found evidence that indicates some type of infectious agent may be associated with the type of bone cancer known as osteogenic sarcoma.

They do not know whether the agent is an incidental passenger or is related to the cancer's cause.

Dr. Donald L. Morton and Dr. Richard A. Malmgren of NCI reported their research in a recent issue of *Science*.

They worked with blood serum and tumor tissue from four patients, and with blood serum from 14 members of their immediate families, from 4 close friends of one patient, and from 25 blood-bank donors who were unrelated to the patients and had had no contact with them.

Each patient's blood serum reacted (that is, showed that it had antibodies) with tissue from his own tumor and with that from each of the other three patients' tumors.

This indicated that the same or a similar agent in each tumor had caused the antibodies to form.

Further, 85 percent of the sam-

ples of serum from relatives reacted with the tumor tissues, and 91 percent of the samples of serum from the four friends reacted.

This indicated that not only was the agent the same but suggested that it may also be infectious.

Twenty-nine percent of the serums from normal blood-bank donors reacted.

This was significantly lower than the percentages of other serums that reacted with the tissues.

However, it was high enough to suggest that the infectious agent may produce low-grade infections that do not result in recognizable disease.

Viruses are known to be able to cause a variety of animal cancers. In 1966, scientific investigators reported that they had isolated a virus that caused osteosarcomas in mice.

As far back as 1935, it was suggested that because this type of bone cancer had developed in three members of a family simultaneously, an infectious agent could be associated with the disease in some manner.

A genetic origin was also suggested because several members of one family were affected with the disease.

In this study genetic origin was eliminated because serums from unrelated individuals demonstrated a high incidence of osteosarcoma antibodies.

While the two NCI investigators stated that it remains to be determined whether an infectious agent caused the cancer or was merely incidental to it, they thought that attempts should now be made to isolate a viral agent from this neoplasm.



Tecolia Brown, biological laboratory technician, NIDR, receives an award from Dr. Richard C. Greulich, the Dental Institute's Director of Intramural Research, for her design of a stainless steel animal feeder to be used in suspended guinea pig cages. No comparable feeder has been available commercially.

Dr. Janet W. Hartley Honored for Outstanding Scientific Achievement

Dr. Janet W. Hartley of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, is one of six area residents recently honored for outstanding scientific achievement by the Washington Academy of Sciences.

A microbiologist, Dr. Hartley has been with NIH since 1953.

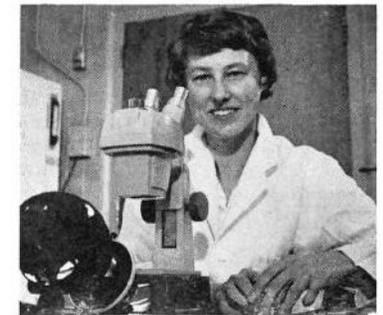
Presently she is working with LID chief, Dr. Wallace P. Rowe and Dr. Robert J. Huebner, chief, Viral Carcinogenesis Branch, National Cancer Institute.

The investigators are studying murine leukemia viruses.

Dr. Hartley was honored at the 70th annual dinner meeting of the Academy. The meeting was held in the John Wesley Powell Auditorium of the Cosmos Club, with Dr. Huebner presenting the award.

The Academy's awards program was initiated in 1939 to recognize young scientists of the area for "noteworthy discovery, accomplishment, or publication."

Dr. Hartley and Dr. Rowe are working to establish sensitive virus isolation procedures for various



Dr. Hartley is working with other scientists to establish virus isolation procedures for strains of the murine leukemia viruses.

strains of the murine leukemia viruses.

They hope to learn more about the natural history of infection and further characteristics of the viruses.

The recognition of these factors is important to learning more about the relationship of viruses to human leukemia.

It is hoped that the procedures will contribute to a better understanding of the interaction of virus-host factors which determine the development of leukemia.

Others honored at the dinner were: Charles R. Gunn, Goddard Space Flight Center, engineering sciences; Marilyn E. Jacox and Dolphus E. Milligan, National Bureau of Standards, physical sciences; Joseph Auslander, University of Maryland, mathematics, and Kelso B. Morris, Howard University, for the teaching of science.

Council Members Discuss Govt. Training Program For Medical Students



Dr. Cornely (r) stressed the developing of health care techniques consistent with the needs of recipients. Dr. Lynch presided at the meeting.

A proposed Government summer training program for medical students was among the major issues discussed by the Council of Federal Medical Directors for Occupational Health at a recent meeting in the Clinical Center.

Dr. John M. Lynch, Council president and chief of the NIH Employee Health Service, acted as moderator.

The Council is composed of 46 physicians in the Metropolitan Washington area. They are responsible for directing occupational health programs in major Federal departments and agencies.

Reviewed Program

Dr. Lynch briefly reviewed the mechanisms of a summer intern program for medical students.

The program is designed to acquaint more students with Government health projects.

Dr. Paul B. Cornely, chairman, Department of Community Health Practice, College of Medicine, Howard University, was guest speaker.

He explained Howard University student involvement in community and public health activities. He cited graduate and post graduate summer activities that include student assignments with local health departments.

Dr. Cornely said that in the past few years students have been going to different parts of the country to participate in OEO's Project Head Start.

The University is planning student participation programs that will include health services for poverty-level families.

Dr. Cornely commented on the value of existing Federal employee health units and their contribution toward improving the health of disadvantaged youths while em-

DR. LWOFF

(Continued from Page 1)

a professor of Microbiology at the Sorbonne.

Recently he became Director of the French Institute of Cancer Research (Institut de Recherches Scientifiques Sur le Cancer).

Dr. Lwoff holds degrees of Doctor of Medicine and Doctor of Natural Science, he is the author of numerous textbooks, reviews, and journal articles.

As a result of his work with the French underground during World War II, he was awarded the Medal of the Resistance. He is an Officer of the Legion of Honor.

In 1965 he shared the Nobel Prize with his colleagues, Drs. Francois Jacob and Jacques Monod for their demonstrations of mechanisms of cell replication, protein synthesis, and viral synthesis.

While studying the action of viruses that infect bacterial cells (bacteriophage), Dr. Lwoff was able to elucidate the phenomena of latency and lysogenesis.

Latent viruses, which lie dormant until activated by some factor such as ultraviolet irradiation—as Dr. Lwoff demonstrated in one of his classic experiments—may be involved in a number of disease processes.

The National Institute of Arthritis and Metabolic Diseases, sponsor of the current Dyer Lecture, is studying the possible role of infectious organisms in the development of rheumatoid arthritis.

The Dyer Lectureship was established in 1950 to honor Dr. Rolla E. Dyer on his retirement as Director of NIH.

The lectureship is administered by NIH and awarded annually to a scientist who has made an outstanding contribution to medical and biomedical research.

employed by the Government.

For many youngsters 16 to 21 years old medical attention received in the health unit may have been their first exposure to adequate health care. This may establish patterns for meeting future health needs, Dr. Cornely said.

Dr. Cornely's suggestions will be studied by the Council's Committee on Medical Education headed by Dr. George Mishtowt, Medical Director, Department of State.

A new Council policy on cigarette smoking in Federal buildings also received attention.

Since the Council had previously endorsed the Surgeon General's report 5 years ago, no further position has been announced.

It was decided to postpone issuing a statement pending the outcome of recommendations. They will be submitted at a later date by a newly formed Council committee on preventive medicine.

Edwin Thompson Retires, Here 33 Years Now Has Time to Cultivate His Garden

Edwin Thompson of the Laboratory of Physical Biology, National Institute of Arthritis and Metabolic Diseases, retired last month after more than 33 years with NIH.

Mr. Thompson began his career early in 1915 as a medical technician. He trained in tissue and hematology laboratory techniques at the old Providence Hospital.

The white-haired Mr. Thompson cast a backward glance at his career with NIH and its forerunner, the Hygienic Laboratory.

"For 29 years now I've been working in Bldg. 2, moving only once—from the third to the first floor. When I first came Bldgs. 1 and 2 were the only ones here, Mr. Thompson said. "It's breathtaking the way the place has grown."

Mr. Thompson worked primarily in measuring the activity of enzymes in blood.

His wife Edna worked in the lab



Mr. Thompson offers cake to his wife, Edna, at his retirement party. Dr. John Buck, chief, Laboratory of Physical Biology, is in the background.

with him for 24 years. She has moved to the Laboratory of Experimental Pathology, and will continue working there.

Mr. Thompson plans to devote full time to the care of their greenhouse, and noted that the grounds at NIH have "improved considerably" over the years.

Between the period of training at Providence, and his working with the Hygienic Laboratory in 1936, he evaluated samples from

Dr. Levy, NHI, to Speak At Cardiac Symposium

Dr. Robert I. Levy, head of the National Heart Institute's Section on Lipoproteins, Molecular Diseases Branch, will be one of the featured speakers at the Montgomery County Heart Association's 1969 Cardiac Symposium, May 21.

The symposium will be held from 9 a.m. to 4:30 p.m. at the Washingtonian Motel in Gaithersburg, Md.

Dr. Levy will discuss "Blood Lipids and Lipid Transport Disorders."

For further information telephone the association 657-8878.

patients with suspected diphtheria and typhoid for the Maryland State Health Department in Baltimore. This was followed by more than 2 years in the military service.

He also spent 10 years at Georgetown University Hospital. In addition, he took courses in bacteriology and microscopy at George Washington Medical School and chemistry at the Naval Medical Center.

Mr. Thompson, who remembers NIH when there were more parking spaces than cars and only one road leading into the reservation, said it was "a great satisfaction to work here for so many years. In fact it was an education in itself."

Dr. Lieberman Receives Myrtle Wreath Award For Medical Leadership

Dr. James Lieberman, Associate Director for Audiovisual-Telecommunications, National Library of Medicine, has received Hadassah's Myrtle Wreath Award for leadership in the field of medical education and communication. Dr. Lieberman is also Director of the National Medical Audiovisual Center, NLM.

He was cited by the Atlanta Chapter of Hadassah for his work in advancing the progress of medicine and the allied sciences.

Certificate Conferred

At a recent ceremony in Atlanta's new Memorial Arts Center, Hadassah presented Dr. Lieberman with the Wall of Healing Award, a certificate representing a permanent plaque bearing Dr. Lieberman's name. This plaque will be inscribed on the site of the Hebrew University-Hadassah Hospital in Jerusalem.

The certificate is conferred on all recipients winning the Myrtle Wreath Award.

In recent years this award has been presented to Dr. James A. Shannon, Senator Margaret Chase Smith, Dr. Margaret Mead, and Dr. James Bryant Conant.

The National Medical Audiovisual Center was also honored for its efforts in aiding scientific disciplines in many parts of the world.

DHEW has established a volunteer community service program for its employees in the Washington, D.C. area; approximately 225 people have been placed in voluntary agencies.

Enzyme Ribonuclease Artificially Created From Chemicals in Lab for First Time

With support from NIH, a team of Rockefeller University scientists headed by a National Institute of Arthritis and Metabolic Diseases grantee, Dr. Robert B. Merrifield, has synthesized the enzyme ribonuclease.

This enzyme breaks down ribonucleic acid, the living cell's carrier of genetic information, after it has served its purpose.

The laboratory feat was achieved almost simultaneously by a team of chemists at the Merck Sharp & Dohme Research Laboratories.

Methods Developed

Proceeding independently, each team developed separate methods of accomplishing their task and announced their findings at a joint press conference last month.

The synthesis of ribonuclease, or RNase, marks the first time that an enzyme has been artificially created from chemicals in the laboratory.

The finding will permit further probing of the mechanism of action of RNase and should point the way toward synthesis of larger, more complex enzymes.

Ultimately, it may even be possible to control certain hereditary metabolic diseases resulting from a specific enzyme deficiency by replacing the missing enzyme.

Disorders such as phenylketonuria (PKU), certain types of anemia and other blood diseases, and, perhaps, some forms of diabetes, may respond to such therapy.

At the present time several enzymes are being used to treat leukemia and to curb tooth decay.

Enzymes act to make possible and speed up the thousands of biochemical changes that continuously take place within the living organism.

Jobs Limited

Each enzyme has a very specific and very limited job to perform. Without enzymes there would be no life.

They are directly involved in food digestion, tissue building, DNA replication, blood cell replacement, protein synthesis, and the conversion of chemical energy into kinetic energy which is responsible for movement and muscular activity.

The first clue to the structure of RNase was provided by Dr. Christian B. Anfinsen of NIAMD's Laboratory of Chemical Biology, who demonstrated that the enzyme is comprised of a single polypeptide chain.

The complete chemical structure of RNase was subsequently elucidated by Dr. C. Hirs, Dr. W. Stein and Dr. S. Moore at the Rockefeller Institute and by Dr. Anfinsen and his colleagues at NIH.

All known enzymes are proteins made up of a number of amino

Dr. Herman, DRS, Cited For Noted Achievements In Health Sciences Field

Dr. Lloyd G. Herman, Division of Research Services, has been certified as a Founder Diplomate in the American Intersociety Academy for Certification of Sanitarians.



Dr. Herman

With DRS since 1958, Dr. Herman established a surveillance program in air and surface sampling techniques for the Clinical Center. These techniques have now become standard in many hospitals and food production plants.

The author of numerous articles on sanitation, Dr. Herman also has lectured extensively at PHS training seminars on "The Microbiology of the Environment."

Dr. Herman first specialized in problems of sanitation and microbial contamination in the Laboratory of Hygiene in Ottawa, Canada.

acids linked together in intricate fashions to form polypeptide chains.

Dr. Merrifield and his associates were faced with the herculean task of linking together 124 amino acids in precisely the proper order, then folding the resultant lengthy chain into the proper three-dimensional structure of RNase.

Relatively Small

This particular enzyme was selected because it is relatively small and because its complete three-dimensional structure was deciphered two years ago by a team of scientists at Roswell Park Memorial Institute, Buffalo, New York, which was headed by another NIAMD grantee, Dr. David Harker.

The Rockefeller University team accomplished its task by utilizing a technique known as solid phase peptide synthesis, while the pharmaceutical investigators used a technique known as the carboxyanhydride or NCA method.

The results, however, were identical—the first catalytically active protein for which the chemical structure can be written.

The Academy cited Dr. Herman, a bacteriologist in the Environmental Services Branch of DRS, for outstanding achievements, leadership, and professional practice in the health sciences field.

With DRS since

Dr. Earl Stadtman, NHI, Given Hillebrand Award

Dr. Earl Reese Stadtman, chief of the Laboratory of Biochemistry, the National Heart Institute, is the 41st winner of the Hillebrand Award of the Washington Section of the American Chemical Society.

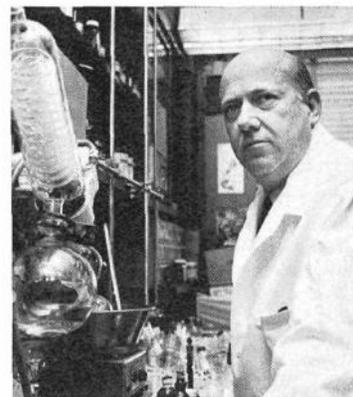
Dr. Stadtman, a recognized figure in the field of enzyme chemistry, was honored at the 767th meeting of the society on March 13.

The award is presented annually to an outstanding chemist. Past recipients include such scientists as Vincent du Vigneaud, Marshall Nirenberg, Leon Heppel, C. S. Hudson, and J. I. Hoffman.

The biochemist was cited for his unique studies of enzyme control mechanisms and for his development of an integrated theory to explain how at least four different control systems regulate a myriad of chemical reactions occurring simultaneously within any given cell of the body at any given time.

These highly fundamental studies of cellular metabolism are of great importance to the understanding of how constant balance is maintained between processes that lead to the breakdown of food stuffs to yield energy and building blocks on the one hand, and to the processes by which these building blocks are assembled to more complex substances and cell constituents on the other hand. This regulation is of utmost importance to the economy of single cells.

Since abnormalities in single



Dr. Stadtman was cited for his unique studies of enzyme control mechanisms.

cells can have profound effects on the welfare of a whole organism, such knowledge is of basic importance in understanding the life process in health and disease.

Dr. Stadtman received his B.S. and Ph.D. at the University of California. He has been with NHI since 1950.

His awards include the Paul-Lewis Award in Enzyme Chemistry of the American Chemical Society in 1952; the Honorary Medallion of the Society DeChemie

Dr. Togba, Director of Liberian Medical Center, In U.S. for 14 Weeks

Dr. Joseph N. Togba, Executive Director of the Liberian National Medical Center and former Director of Health for Liberia, recently arrived in the United States for a 14-week visit.



Dr. Togba

Dr. Togba's itinerary is being coordinated by the Foreign Students Education Branch of the Division of Manpower Educational Services, Bureau of Health Professions Education and Manpower Training.

During his visit, Dr. Togba's program will include consultation and discussions on medical center administration and paramedical training.

He will also approve bids for equipment for the Medical Center, which consists of a 400-bed complex and a paramedical training institute.

Includes Three Institutions

The Center includes three institutions: the John F. Kennedy Memorial Hospital, the Maternity Center Hospital, and the Tubman Institute of Medical Arts.

The Government of Liberia and the Agency for International Development have provided some \$8 million in capital funds and technical services, and in operating costs for the John F. Kennedy Memorial Medical Center.

Dr. Togba, a native of Liberia, received his doctorate in medicine from Meharry Medical College and his master's degree in public health from the Harvard School of Public Health.

Biologique (Paris), 1955; the Honorary Medallion of the University of Pisa, 1966; the National Institutes of Health Lecture, 1966; the Washington Academy of Sciences Award in Biological Chemistry, 1957; the Superior Service Award of the U. S. Department of Health, Education, and Welfare, 1968, and the Burroughs Wellcome Lecture Series, Massachusetts General Hospital, 1968.

He is on the faculties of the Department of Microbiology at the Graduate School of the University of Maryland and the Department of Biology at Johns Hopkins University.

The Department of Health, Education, and Welfare has the largest budget of all the domestic Cabinet Departments of the United States Government.

DR. BUCHER*(Continued from Page 1)*

Program Project Committee.

He is a member of the Executive Council of the Association of American Medical Colleges.

Dr. Bucher received his bachelor's degree from the University of Pennsylvania.

From 1946 to 1948 he served in the Army Medical Corps, holding the rank of Captain.

He is a member of the Alpha Omega Alpha, an undergraduate medical honor society, and of the Phi Chi medical fraternity.

Dr. Bucher is a Fellow of the American College of Surgeons and a member of a number of other scientific and professional associations.



Dr. Bucher will bring extensive academic experience to his new job as principal advisor for BEMT educational and training programs.

Dr. Arnold Pratt Holds Seminar on Computers In Biomedical Sciences

Dr. Arnold W. Pratt, Director of the Division of Computer Research and Technology, conducted a seminar March 28 on "The Application of Computer Technology to the Biomedical Sciences."

Illustrations Included

Dr. Pratt's discussion of automatic data processing in support of advances in the biomedical sciences included illustrations from current DCRT programs.

He described plans for implementing a communications network to provide NIH staff members with direct computer services from their offices and laboratories.

The Information Systems Seminar Series, sponsored by the Office of Management Systems, Office of the Secretary, DHEW, has been active for the past 2 years. It keeps DHEW's information pro-

BEMT to Sponsor Education Programs For Physicians in S.F. Area, Howard U.

"It is the best Federal dollar ever spent." The quote is from a physician on the west coast who is taking part in a continuing education program for practicing physicians.

The project is supported by the Division of Physician Manpower, Bureau of Health Professions Education and Manpower Training.

The program is conducted by the University of California's San Francisco Medical Center in conjunction with the California Medical Society and the American Academy of General Practice.

Faculty Travels

Medical Center faculty travel to community hospitals and impart their own special knowledge and experience to physicians who cannot leave their patients to attend seminars in distant locations.

In 1968, in the San Francisco area, several newborn infants were saved because of new transfusion techniques for Rh blood factor incompatibilities. A year earlier these techniques were not locally available.

This and other medical techniques and improved diagnostic methods have been attributed to the program.

Howard University will also develop a program of continuing medical education for 25 graduates of its Medical School.

These graduates, living in Maryland, Virginia, and the District of Columbia, are not to be affiliated with a community hospital.

Needs to Be Determined

This project, also sponsored by BEMT's Division of Physician Manpower, will use medical professors from Howard University.

They will determine the educational needs and interests of the medical school graduates, and help them with diagnostic and therapeutic methods.

Also, workshops will be conducted in physicians' offices on laboratory procedures that can be performed there.

The medical school graduates will attend patient care clinics at the university hospital. Through lectures, seminars, and journal articles the latest medical information will be disseminated.

Dr. William E. Matory, chairman, Committee on Continuing Education, Howard University Medical School, is the project director.

cessing community informed of the latest developments in the field, and also of the work being carried out by its various agencies.

Dan Lahn is coordinator for the seminars. Personnel interested in being placed on the mailing list for future seminar announcements, should call Mr. Lahn, Code 13, Ext. 24245.

Division of Physician Manpower,

Dr. John W. Daly Named Head of NIAMD Section On Pharmacodynamics

Dr. John W. Daly will head the new Section on Pharmacodynamics, Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases. He was formerly with the Laboratory's Section on Metabolites.

Dr. G. Donald Whedon, NIAMD Director announced the establishment of the section.

The Section on Pharmacodynamics will conduct studies on the interactions of model compounds and drugs involved in the action of biogenic amines, amino acids, and peptide hormones.

Areas of Emphasis Noted

Attention will be focused on biosynthesis, translocation, storage, release, mode of action and metabolism.

Dr. Daly is a graduate of Oregon State College. He received his Ph.D. from Stanford University in 1958, and has been with the Laboratory of Chemistry, NIAMD, since that year.

Dr. Daly was instrumental in isolating and determining the structure of a cardioactive venom from the kokoa frog, considered the most toxic venom known. The action of this venom provides insights into the basic biochemical mechanisms of nerve transmission.



Dorothy E. Reese, R. N., chief of the Construction Grants Section, Division of Nursing, Bureau of Health Professions Education and Manpower Training, has been appointed by the Chancellor of the Department of Higher Education of New Jersey to serve on the recently created Nursing Education Advisory Committee, which will consider approaches for improved resources for nursing education.

Dr. Combs Branch Chief In NICHD's Center for Population Research

The appointment of Dr. Jerry W. Combs as chief of the Behavioral Sciences Branch, Center for Population Research, National Institute of Child Health and Human Development, has been announced by Dr. Gerald D. LaVeck, NICHD Director.



Dr. Combs

Dr. Combs, a sociologist, comes to his new position from the Bureau of the Census, Foreign Demographic Analysis Division, where he has been chief of the European Branch since 1957.

Dr. Combs will supervise a contract program in the social and behavioral aspects of population research.

This program involves research contracts in such areas as demography, sociology, psychology, economics and political science topics related to population.

Research will include the motivation for the use of contraception, attitudes toward family size, and the health, welfare, and social consequences of population change.

Dr. Combs received the B.A. degree *summa cum laude* from Presbyterian College, Clinton, S.C., in 1934, the M.A. degree in 1948 from the University of Tennessee, and the Ph.D. degree from Columbia University in 1954.

Dr. Combs served 4 years in the U.S. Army. Later he joined the Sociology Department at Emory University.

From 1953 to 1957, he was chief of the Officer Manpower Section, Manpower Research Branch, Air Force Personnel Training Center at Maxwell Air Force Base and Lackland Air Force Base.

4 New Members Named To NIAID Adv. Council

Four new members have been appointed to the National Advisory Allergy and Infectious Diseases Council. The appointments were announced by NIAID Director, Dr. Dorland J. Davis.

The new advisors are: Dr. Elisha Atkins, professor of Medicine at Yale University School of Medicine; Dr. Thomas F. Paine, Jr., chief of the Department of Medicine, Nashville Metropolitan General Hospital.

Also, William H. White, president of *Family Health*, who, previously, was executive editor of *Medical World News*, and Theodore Wiprud, special assistant to the executive vice president of Medical Service of the District of Columbia.

Dental Developments

(Continued from Page 1)

Dr. Howard A. Bladen, Jr., NIDR, told delegates that certain bacteria, usually considered harmless inhabitants of the mouth, may contribute to the problem of periodontal disease.

Studies have shown that gram-positive filamentous rods can attach themselves to tooth surfaces where they form a deposit called plaque.

This type of bacterial plaque is closely correlated with gum disease.

Dr. Bladen also demonstrated in the test tube that *Veillonella*, a natural inhabitant of the mouth, may contribute to plaque formation.

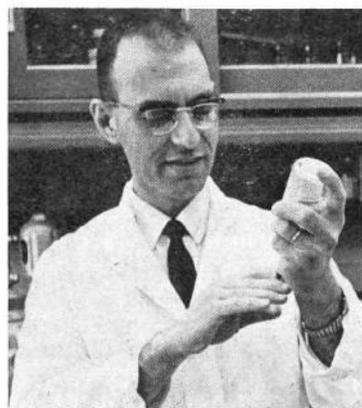
This organism could be harmful because it produces an endotoxin which can destroy tissue.

Dr. R. J. Fitzgerald, University of Miami, reported on studies which he had conducted at NIDR with Dr. Rachel H. Larson and D. B. Fitzgerald.

Their experiments with germ-free rats showed that so-called resistant rats will develop tooth decay if they become infected with suitable bacteria.

The researchers also showed that interactions among normal mouth organisms can reduce the decay potential of specific bacteria.

Dr. Fitzgerald stated that the strain of Black rat at NIDR was once thought to be genetically resistant to decay because it seldom



At the meeting Dr. Rizzo reported that bacterial endotoxins may be a factor in the progression of periodontal disease.

develops caries in the smooth surfaces of teeth.

The same high-sugar diet fed to the Black rat strain quickly leads to severe decay in the Osborne-Mendel rat.

However, loss of this "resistance" when Black rats are inoculated with feces from, or caged with, caries-active OM rats, indicates that they merely lack the necessary bacterial infection.

Thus, it is apparent that not only are specific bacteria necessary for decay, but that when in competition with other bacteria, their



A light moment at the Printing and Reproduction Plant when Dr. Robert Q. Marston, NIH Director, tours central services areas. Observing Joe Wither- spoon, Plant Office Services Branch, Office of Administrative Services, at an envelope-inserting machine are (from left): Dr. Marston; Fred Caponiti, chief, Printing and Reproduction Section, POSB; James B. Davis, Director, OAS; Donald R. Cushing, chief, POSB; Ray Walls, POSB, and Richard L. Seggel, Associate Director for Administration.

potential for harm may be lessened.

Another study reported by L. L. Taylor, NIDR, showed that, although x-ray therapy stimulates salivary glands to make more amylase (a starch-digesting enzyme formerly called ptyalin), it does not change an individual's amylase pattern.

Mr. Taylor conducted this research with two associates from NIDR, Drs. R. O. Wolf and K. Brace.

Exhibit on Genetic Code At NLM Features Work Of NIH Nobel Laureate

A new exhibit, "The Genetic Code . . . and How It Works," at the National Library of Medicine centers around the work of Nobel Laureate Dr. Marshall W. Nirenberg, National Heart Institute.

The first Federal scientist to be awarded the Nobel Prize, Dr. Nirenberg was honored for his work on breaking the genetic code.

Excerpts from notebooks and papers relating to early experiments by Dr. Nirenberg and his associates which defined the relationship of nucleotide bases to amino acids are displayed.

Also on display in the lobby of the Library is the citation awarded to Dr. Nirenberg by the King of Sweden in Stockholm on Dec. 10, 1968.

A three-dimensional hemoglobin model, constructed by Dr. Makio Murayama, National Institute of Arthritis and Metabolic Diseases, and color photographs delineating the replication of the DNA (deoxyribonucleic acid) molecule are included in the exhibit.

Short film clips to illustrate how

Advisory Cancer Council Issues Progress Report

The National Advisory Cancer Council believes that rapid gains against cancer through the sophisticated approaches of modern biomedical science will require a nationwide network of centers combining research, medical education, and patient care.

The Council's view is given in an illustrated report, *Progress Against Cancer 1969*.

This is the third report on research and efforts to control cancer through prevention, diagnosis, and treatment. The scientists and medical experts who make up the council advise on research and training policies and programs of NCI.

Less than two dozen institutions approach the cancer center ideal, the report explains. "Others need to be provided and so distributed throughout the country that the advancements attained in the medical management of malignant diseases will become available to people everywhere as rapidly as possible," it states.

Progress Against Cancer 1969 is devoted mainly to a review of progress in drug treatment.

Treatment of cancer with a combination of drugs is credited with the principal gains against leukemia. A regimen of four-drug treatment has also been most ef-

fective against Hodgkin's disease.

Early or localized cases respond well to intensive radiation. Less success has been achieved in drug treatment of the slower growing "solid" tumors, the report states.

Progress Against Cancer 1969 can be purchased at \$1.50 a copy from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

New Processing System May Enable Scientists To Photograph Molecules

An improved picture processing system that may one day allow scientists to photograph tiny molecules, and even atoms, within living cells will be developed under a grant from NIH.

The grant went to the Jet Propulsion Laboratory of the California Institute of Technology.

They will develop an automatic picture processing system that can be linked with an x-ray machine, electron microscope, or an optical microscope to provide enhanced x-ray photos or micrographs.

The JPL applied computer techniques to improve pictures of the moon and Mars taken by NASA's Ranger, Surveyor, and Mars spacecraft.

This system can sharpen images and eliminate distortions and imperfections from the camera or electronics equipment aboard the space vehicles.

The pictures are processed by converting the light and dark points that comprise the photograph into numbers.

For example, zero might represent white and the number 255 represent black, with shades of gray shown by numbers in between.

As many as one million points per square inch of film can be singled out in this way.

A computer is then programmed to manipulate these numbers to enhance the quality of the photograph.

When these techniques are adapted to biomedical research, it is believed they will sharpen photographs finely enough to enable man to view an atom for the first time.

For studying x-rays, the JPL techniques will make possible accurate comparison of pictures taken several days apart by eliminating unwanted detail and leaving a single photograph showing only the changes that have occurred.

Early or localized cases respond well to intensive radiation. Less success has been achieved in drug treatment of the slower growing "solid" tumors, the report states.

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The exhibit is open to the public through June 27 during the Library's regular hours: Monday through Friday, 8:30 a.m. to 9 p.m.; Saturday, 8:30 a.m. to 5 p.m.