Dr. Kenneth Cole Has Silver and Gold Medal Named in His Honor

Dr. Kenneth S. Cole, internationally known NINDS scientist who is widely considered to be the "father of membrane biophysics," has had a silver and gold medal named in his honor.

The medal will be given annually by the Membrane Section of the Biophysical Society. It will go to scientists making an outstanding contribution to the study of cell membranes.

Gets Honorary Medal

Dr. Cole was presented with an honorary medal at the Biophysical Society meeting held in Columbus, Ohio, by Dr. Walter Woodbury, a University of Washington (Seattle) biophysicist who organized the Society's Section on Membranes 4 years ago.

The first recipient of the Cole award, Dr. David E. Goldman, professor of biophysics at the Medical College of Pennsylvania, received the medal at the same ceremony.

Dr. Goldman is credited with devising an equation which is vital to membrane research.

Honored 3 Times

The Cole award is one of three major honors bestowed on Dr. Cole within a year. In November 1972, he was formally admitted as a Foreign Member of the Royal Society of London at its 312th anniversary meeting. Only a few Americans have received this honor.

In January of this year, a book was dedicated to him entitled (See COLE MEDAL, Page 11)

In the Oval Office of the White House, President Nixon meets with HEW Secretary Caspar W. Weinberger, the newly-appointed NIH Director Dr. Robert W. Berliner, Deputy Secretary for Health Dr. Charles C. Edwards, and Associate Director to the Domestic Council James H. Cavanaugh following Dr. Stone's swearing-in ceremony.

Dr. Berliner Is Named Yale Medical School Dean; Honored by Alma Mater and College of Wisconsin

Dr. Robert W. Berliner, NIH Deputy Director for Science, recently received honorary doctor of science degrees during commencement exercises at Yale University and the Medical College of Wisconsin.

At Yale University, his alma mater, on June 4, Dr. Berliner was praised for developing his own technology "for observing the transport of chemical substances across the membranes of living cells."

The citation also notes his creation of "elegant models, of great precision, which permit us to understand the mechanisms in kidney disease."

For this outstanding contribution and in appreciation of his role as "the Nation's leading statesman in biomedical science," Yale conferred the honorary degree upon Dr. Berliner.

Earlier, on May 27, the Medical College of Wisconsin presented the honorary doctor of science degree to Dr. Berliner "for his contributions to renal physiology, his role as teacher and research scientist, and his expert guidance as a research administrator."

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Helen Lucye Is Retiring; With DDH for 21 Years

Dr. Weisskopf to Give Holiday Safety Message On Thursday, June 28

Update Form Designating Order of Beneficiaries

Information Staffers Win 3 'Blue Pencil' Awards; Record' Gets 1st Place

Helen Sheary Lucye, a public health advisor in the Division of Dental Health, BHME, is retiring after a 21-year career with the division.

Much of Mrs. Lucye's work with health education in the public schools of her home town, Shamin, Pa.

In her spare time, Mrs. Lucye devoted herself to keep dental hygiene projects running smoothly and to promote public health awareness.

Mrs. Lucye participated in dental research studies in the use of topical fluorides in several states.

Helen Sheary Lucye, a public health advisor in the Division of Dental Health, BHME, is retiring after a 21-year career with the division.

No Stranger to NIH

No stranger to NIH, Dr. Weisskopf spent 8 years as chief of HEW's Federal Employee Health Service, and served with the National Library of Medicine the last 5 years prior to his retirement.

Since his retirement, he has given much time and effort to promoting safety on the highway.

bound patient.

Prior to Federal employment, Mrs. Lucye was a dental hygiene instructor in private practice and a dental health educator in the public schools of her home town, Shamin, Pa.

For 2 years, 1957-59, she was an associate professor at the School of Dental Hygiene, Broome Technical Community College, Binghamton, N.Y.

Mrs. Lucye received a certificate from the School of Oral Hygiene, Temple University, and earned a B.S. from Bloomsburg (Pa.) State College.

Winners of the first R & W Camera Club—"NIH Record" Photography Contest were presented with gift certificates by L. D. Weiford, Jr., R & W manager (left), and Joanie Gonsou, R & W treasurer (right). The Recreation and Welfare Association donated the prizes which were won by (I to r): Drs. Gary Pock, Richard Buswell, Ted Colburn, and Raymond Chen. Aurora Reich was unable to attend the ceremony.

"Must I designate a beneficiary to make sure my survivors will receive any benefits to which they are entitled should I die while Federally employed?"

The answer to this question is generally "No," says the Employee Relations and Recognition Branch, OPM.

Usually, the payable order for the regular and optional Federal Employees Group Life Insurance, Civil Service Commission retirement, and unpaid compensation—which includes unused annual leave, salary, unmolested checks, travel, awards—is:

Pay Order Explained

1) Widow or widower.
2) If neither of the above, to the child or children, in equal shares, with the share of any deceased child distributed among the descendants of that child.
3) If none of the above, to the parents in equal shares or the entire amount to the surviving parent.
4) If none of the above, to the executor or administrator of the estate.
5) If none of the above, to the next of kin as determined under the laws of the state in which the employee was domiciled.

Forms in Personnel Offices

A beneficiary on retirement or death fund is for lump-sum benefit purposes only.

Employees who wish to depart from the order of precedence or to change a previous designation should secure a "Designation of Beneficiary" form from their B/D personnel office.

Learning without thinking is useless. Thinking without learning is dangerous.—Confucius.

The Federal Editors Association presented "Blue Pencil" awards in three categories to NIH information staff members at its tenth annual awards banquet on June 5.

The NIH Record was awarded first place in its "Newsletter or House organ" category.

Booklist Cited

James Augustine, who was editor of the Technical Publication issued by the Division of Research Resources, entitled Private Research Centers: A Scientific Resource, won Honorable Mention.

Charles G. Shinn also received Honorable Mention as producer of a Slide Presentation, "The DRS Story."

A record-breaking number of entries—representing various forms of Federal government communications media throughout the country—were submitted this year.
James G. Hill, Man of Many 'Firsts,' Named Mid-Career Fellow at Princeton

The first employee of the National Eye Institute will soon be the first NIH participant in an educational program for mid-career public officials at Princeton University.

James G. Hill, executive officer of NEI, has been selected as a Mid-Career Fellow in the Woodrow Wilson School of Public and International Affairs at Princeton for the coming academic year.

The non-degree program at the University is aimed at improving public service through educational development and advancing the professions of public officials at mid-career levels.

Each prospective Fellow makes a formal application to Princeton, discussing his career, accomplishments, future plans, and how the fellowship could contribute to those plans.

The applicant's agency and department must endorse the application, but final selection is made by Princeton.

For the 1973-74 academic year, 14 Fellows—all in Federal service—have been admitted. In addition to Mr. Hill, two other HEW employees were selected.

The year in residence includes course work, writing, and research as well as seminars and workshops.

Designs Own Program

"With the aid of a senior faculty advisor, each Fellow designs an individualized program that can range from total course work to writing a book," Mr. Hill explained.

As for his own plans, he said, "Primarily I want to write about what I've been doing for the past 10 years. In that writing I expect to emphasize behavior of people in an organized setting and how their behavior relates to the development of an organization, such as NEI."

Mr. Hill's special vantage for studying the development of NEI is that he has been at the Institute since its inception.

He said he wants to contrast his own observations with the latest theories on people's behavior in groups. In this connection, he plans to take social psychology courses.

Some Theories Work

"I want to see why some theories work and others fail," Mr. Hill explained. "For instance, is it more important to hire key personnel who can get along with one another or who are technically competent?"

"In a scientific setting such as NIH, where emphasis is placed on scientific ability and accomplishments, the greatest organizational problems usually arise in the area of how people interact with others."

Mr. Hill hopes, after two semesters at Princeton, to return to work at HEW in the health field.

He also hopes to attend a seminar on Delivery and Financing of Health Care and take courses in economics.

Mr. Hill's plans for the future are not definite, but he emphasized, "I would like to assume a position of greater responsibility, one that will make use of my experience plus additional knowledge gained at Princeton."

Mr. Hill said he would like to return to the health field within HEW. He has a strong interest in national health insurance and might like to become involved in that area.

Asked how he felt about leaving NIH and returning to academic life, Mr. Hill explained, "It is easier for me to leave because NIH is far more like a university than other parts of HEW. But it may be harder to return."

Before coming to NEI, Mr. Hill worked at the National Library of Medicine as budget officer, financial management officer, and assistant executive officer. He also served as a grants and management specialist in the National Cancer Institute after completing the NIH Management Intern Program in 1964.

Previously, he served as a lieutenant in the U.S. Navy.

Mr. Hill graduated from Syracuse University in 1958 with an A.B. in English. He has taken graduate courses in public administration at both American and George Washington Universities.

An exhibit on Medicine of the Civil War is being shown in the main lobby of the National Library of Medicine through Sept. 28. The exhibit includes numerous photographs and drawings providing documentary evidence of the extreme problems faced by medical personnel during the Civil War. Also on display are surgeons' reports, bones fractured by musket fire, field surgical kits, and trephining instruments.

Premiers for Optional FEGLI Life Insurance Reduced for All Ages

Premium rates for employees covered by $10,000 optional life insurance under the Federal Employees' Group Life Insurance Program have been reduced.

This reduction, announced by the Civil Service Commission, will be reflected in July 31 pay checks.

The old and new premium rates for optional life insurance, based on the employee's age group, are:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Present New</th>
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<tr>
<td>Under age 35</td>
<td>$1.50</td>
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<tr>
<td>35 to 39</td>
<td>1.70</td>
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<td>40 to 44</td>
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<td>55 to 59</td>
<td>7.50</td>
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<td>60 and over</td>
<td>9.00</td>
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An employee who declined regular and/or optional life insurance may cancel his waiver and become insured at any time if the waiver has been in force for at least one year, if the employee is under age 50, and if he furnishes satisfactory evidence of good health.

B/1/D personnel offices will answer questions on regular and optional life insurance.

Safety Tips for NIH

Good laboratory practices for persons using radioisotopes lead to safe conditions. Some helpful hints whenever possible:

1) Never pipet by mouth.
2) No smoking or eating permitted in the work area.
3) Gloves and laboratory coat are required when using radioisotopes.
4) Prescribed personnel monitors must be worn.
5) Hands, shoes, and clothing should be frequently monitored.
6) Work with radioactive materials in an approved hood or glove box, unless the safety of working on an open bench can be demonstrated.

More Helpful Hints

7) Radioisotope work should be conducted in an impervious tray or pan, lined with absorbent paper.
8) Utilize shielding and distance whenever possible.
9) Dispose of liquid and solid radioactive waste in the approved containers provided.
10) Refrigerators containing isotopes shall not be used for storing food.
11) Monitor radioisotope work areas at least once daily for contamination and make notation of this survey in laboratory records.
12) Thoroughly wash hands after manipulating isotopes, before eating or smoking, and on completion of work.
13) Maintain records of receipt, use, transfer, and disposal of radioactive materials.
14) Report accidental inhalation, ingestion, injury of spills to your supervisor and the Radiation Safety Office.
15) Review pertinent safety practices frequently, especially before using a new radionuclide.

For further information or assistance, contact the Radiation Safety Section, Ext. 65774.
Organization Changes of NIAID Reflect Institute’s New Alignment of Duties

Several organizational changes within the National Institute of Allergy and Infectious Diseases have been announced by its Director, Dr. Dorland J. Davis. Dr. Howard A. Minners has been appointed associate director for Collaborative Research. He will administer the branches of the Collaborative Research program—Infectious Disease, Research Resources and Transplantation Immunology—formerly the responsibility of Dr. John R. Seal, the Institute's scientific director.

In addition, the Collaborative program will include the Geographic Medicine Branch which Dr. Minners headed since 1968. Dr. Seal will continue to direct the Institute’s intramural research programs. He will also plan and coordinate joint intramural and collaborative research programs, particularly those related to influenza and hepatitis.

Dr. Minners came to NIH in 1966 as special assistant to the Director, recently elected Director-General Designate of the World Health Organization, made an unexpected appearance at the conference. His extemporaneous comments emphasized that, given proper organization and utilization, present-day knowledge and technology are sufficient to provide good health care to all the world’s populations.

Office of International Research. Prior to his NIH assignment, he had been chief of the Flight Medicine Branch, Medical Research and Operations Directorate, NASA Manned Spacecraft Center, Houston, Tex., and a flight surgeon for the astronauts.

Dr. Robert J. Byrne, who has been with NIH since 1965, has been named assistant associate director for Collaborative Research. Dr. Early S. Beck, the new chief of the Geographic Medicine Branch, previously headed the U.S.-Japan Cooperative Medical Science Program. He has been with NIH since 1965 and with NIAID since 1966. The Geographic Medicine Branch administers the U.S.-Japan Program, International Centers for Medical Research Program, and associated international activities.

Dr. George J. Galasso, named chief of the Infectious Disease Branch, was formerly the acting chief. He was an NIH Grants Associate from 1968 to 1969, when he joined the NIAID staff.

Dr. John E. Nutter came to the Institute as chief of the Research Resources Branch last fall. Before his appointment he was Immunology Project Director at the Armed Forces Radiobiology Research Institute.

Dr. Donald E. Kayhoe has been chief of the Transplantation Immunology Branch since 1966. He originally joined the NIAID in 1955, but since then also served with the Georgetown Univ. Hospital and National Cancer Institute.

The U.S. Environmental Diseases Panel of the U.S.-Japan Cooperative Medical Science Program held its first meeting recently at NIH. Panel members attending were (l to r): Dr. Norton Nelson, New York University Medical Center; Dr. Arno Motulsky, University of Washington School of Medicine, Seattle; Dr. Frederick J. de Serres, panel chairman, NIEHS; Dr. Warren W. Nichols, Institute for Medical Research, Camden, N.J., and Dr. Robert W. Miller, NCI. The seventh panel established by the cooperative program aims at developing better methods for detecting chemical pollutants that could cause cancer or genetic changes and at evaluating existing methodology.

During their visit to NIEHS, Dr. Yevgeniya Korenevskaya (l), Deputy Science Director, Institute of General and Communal Medicine; Dr. Lidija Dubinina, researcher, Institute of General Genetics, and Academician Dubinin, Director of the Institute of General Genetics of the Academy of Sciences of the U.S.S.R., attended several environmental discussions.
National Institute of Dental Research
Twenty-fifth Anniversary 1948–1973

Dental Studies Assist Several Other Fields Of Science, Medicine

NIDR studies have opened other areas of biomedical research and contributed to further knowledge in several fields. Examples are:

- Fluoride has been shown to be essential for life in trace quantities. Studies of fluoride metabolism in humans should improve therapy for osteoporotic (bone-thinning) conditions.
- Methods developed for testing the safety of solid, liquid, or gaseous substances used in dentistry should improve the safety of such substances used elsewhere in the body.
- Knowledge of mechanisms of the disappearance of bone and other connective tissues in periodontal disease may help explain tissue loss in various inflammatory, rheumatic, and collagen diseases.
- Studies of ways to stimulate growth of new bone should help not only patients with periodontal disease, but also orthopedic and trauma cases.
- Research in pain control applies to all branches of medicine. One example: pain from pressure and pain from temperature have different mechanisms and require different therapies.
- Studies of the evolution of bacteria show some of the heritable molecular changes that separate disease-causing forms from harmless relatives, and may well lead to better control of bacterial disease.
- Investigations of genetic factors in such problems as clefting, faulty enamel, saliva, and collagen defects, throw light on other heritable human diseases such as deafness and Marfan’s syndrome.
- Research into persistent infectiousness of complexes of the herpes simplex virus with antibody have led to better understanding of mechanisms by which slow viruses operate. This research links viral effects with parts of the immune system and possibly with other diseases such as rheumatoid arthritis, diabetes, and cancer.
- Knowledge that the oral mucosa reflects inner disturbances of the body should aid in their diagnosis.
- Saliva is sometimes used as a diagnostic aid in digitalis toxicity, certain adrenal gland tumors, and in the detection of hereditary differences.

Efforts of Many Scientific Disciplines May Help Solve Oral Disease Problems

It has been said that “the mouth is an even tougher environment than outer space.” Because of their complexity, oral problems must be attacked through a comprehensive program of laboratory, clinical, field, and epidemiological studies in such areas as developmental biology, genetics, microbiology, virology, materials science, and geographic pathology.

Today the studies of over 30 scientific disciplines are contributing to information on how to treat and prevent disease.

The National Institute of Dental Research is the chief instrument of support for such studies. Major program activities are concerned with dental caries (tooth decay); periodontal (gum) disease; problems of growth and development, especially cleft lip and palate and malocclusion, and a variety of oral lesions affecting the tongue, cheeks, and lips.

Other areas of emphasis include the development of improved restorative materials, including successful tooth implants, and the control of oral pain.

Congress Authorizes NIDR

NIDR was authorized by the 89th Congress through Public Law 755, which was approved June 24, 1948. However, at first, a lack of trained investigators handicapped the institute.

The development of necessary manpower was spurred by the establishment in 1958 of a grant program for graduate research training in disciplines fundamental to dental research.

Through this program, hundreds of dental scientists have been trained in dental, medical, graduate schools, and in other research institutions throughout the country.

Dentistry Deficit Persists

The fellowship program, dating back to when the Institute was founded, was also greatly strengthened.

Even so, the early gaps have not been bridged entirely. Dentistry’s late start in training and research has contributed to a deficit which persists to this day.

In the United States, there is only one dental researcher behind every 44 dentists, as compared with one investigator in biomedical research to back every 7 physicians.

A notably successful effort in attracting outstanding scientists in fields not previously involved in dental research has been the special grant program, established in 1967, to support a limited number of dental research centers in universities.

The participation of biological, physical, and social science specialists in the study of oral health problems comes from the interaction of the centers with the research and educational programs of the parent universities, and from collaboration with other institutions.

Five such centers are now in operation at the Universities of Alabama, Michigan, North Carolina, Pennsylvania, and Washington.

Although about 80 percent of the Institute’s total appropriations are spent for extramural research and training activities, the intramural staff has played a crucial role in advancing dental knowledge.

The Institute’s productivity over the years, much of it in fundamental disciplines, such as biochemistry and microbiology, has...
Proper way upper and lower teeth
is one new approach to meet the
problems of malocclusion—the
improper way upper and lower teeth
meet.

An NIDR grantee at the Uni-
versity of Michigan Dental School
has a series of some 15,000 skull
profiles X-rays taken over a period
of years of growth.

He and his research team have
developed a combination of statis-
tics, mathematical models, and elec-
tronic technology to convert these
X-rays to x-y coordinate maps of
the skull and jaws.

The models or maps are auto-
matically converted into punch
cards or transferred via telephone
lines into the memory bank of a
computer.

This combination of dental
science and computer technology
has produced the first statistically reli-
able pattern of human skull and jaw
growth.

From the data bank, the re-
searcher or clinician can quickly
extract many thousands of meas-
urements and growth changes.

They form the basis for diagnos-
ing, monitoring, and treating den-
tal and facial problems.

With this method, an orthodon-
tist or a dental student can see the
changing growth pattern of nor-
mal and abnormal cases in minutes
instead of waiting years for the
same events to unfold in his prac-
tice.

Other NIDR-supported orthodon-
tic advances include a better un-
derstanding of forces from lips
and tongue that tend to push teeth
or control the position of teeth
naturally, improved materials for
appliance therapy, and better ce-
ments for attaching appliances to
teeth.

(See COMPUTERS, Page 8)
The modern facilities available to NIDR scientists today contrast with the Institute's earlier years when a group of determined investigators discovered that fluoride in drinking water protects against dental caries. In 1937 two scientists were at work on this project in Grand Rapids, Mich., one of the first cities to fluoridate its water system. In the foreground is Dr. Francis A. Arnold, Jr., later an NIDR Director, and Dr. Philip Jay, then a member of the University of Michigan Dental Faculty.

Fluoride—A Serendipitous Event Sweeps Across U.S.

Millions of children help themselves to better oral health every day by simply drinking fluoridated water. This boon to preventive dentistry may be described as serendipity—a fortunate accidental discovery.

The story which began almost three-quarters of a century ago, combines mystery and adventure stretching from the fluoride-laden lava beds of Italy's Mount Vesuvius to areas in the western United States.

It is a tale of hunting for the cause of a problem, and finding an answer to a more serious one—dental caries.

The problem was mottling or staining of teeth. This country first experienced this health concern in Grand Rapids, Mich. After Dr. Arnold and his co-workers had examined the black teeth of emigrants embarking for America, they then focused on the Neapolitan coastal resort where the condition was observed.

But dark teeth also troubled many in America. To find a solution to this dental health problem, PHS in 1951 established the Dental Hygiene Unit, headed by Dr. H. Trendley Dean, later named the first Director of the National Institute of Dental Research.

Researchers examined thousands of children in many areas of the U.S. where mottled enamel was prevalent. Their findings showed clearly that the severity of mottling was directly related to the concentration of naturally occurring fluoride in the water, which ranged up to 10 parts per million (ppm) or more.

As the amount of fluoride decreased, the numbers of people affected and the severity of mottling became progressively less.

It was also noticed that there was less decay in those areas where mottling was prevalent. Eventually, the connecting link between mottling and tooth decay became discernible.

Examinations of over 7,000 children in 21 cities showed that those in areas with as little as 1 ppm natural or added fluoride in water had far less tooth decay than those living in non-fluoride areas.

In 1946, the fluoride level of water in Grand Rapids, Mich.; Newburgh, N.Y.; and Brantford, Ontario, Canada, was raised to 1 ppm, and long-term studies were initiated to monitor the effects of this measure.

A report showed that children in Grand Rapids had 60 percent less decay than those in the nearby control city of Muskegon.
SUCROSE
(Continued from Page 1)

on the enamel crowns.

Still other bacteria probably account for decay in the pits and fissures. There, plaque is not needed because the small cracks shelter the bacteria from the cleansing actions of saliva, drinks, and the toothbrush.

Now it is also generally accepted that a triad of factors is necessary for the development of caries: a susceptible tooth, the presence of caries-causing bacteria, and a decay-producing diet rich in carbohydrates, notably sucrose—table sugar.

These factors must interact at one and the same time. Since it is unlikely that a "magic bullet" will be developed against tooth decay, attempts are being made to depress all these factors to a minimum.

The primary function of fluoride is to strengthen the enamel of the tooth against dissolution by acid produced when the bacteria ferment carbohydrates. Investigators are seeking other trace elements that inhibit caries production.

In addition, dental scientists are looking for sugar substitutes, as well as food additives that may counteract the cariogenic effect of sugar.

Other studies seek to develop and test new antibacterial agents that suppress the growth of caries-inducing bacteria, reduce their products, or prevent their adhesion to the teeth.

Plastic Seals Fissures
An outstanding accomplishment, under further research, is the development of an adhesive plastic which suppresses the growth of fissures of the chewing surfaces of the teeth.

The avoidance of sweet snacks, meticulous home care, including brushing and daily plaque removal with dental floss or tape, and periodontal visits to the dentist can help prevent tooth decay.

However, many people do not have the motivation to follow the necessary regimen. For this reason, a major research aim is the development of simpler, less demanding means of keeping the mouth free of oral disease.

Dr. Geoffrey F. Walker, whose work in computer-assisted orthodontics at the University of Michigan is NIDR-supported, operates a digitizer, the key device for converting profile skull X-rays into the skull outline maps which are stored in the computer's memory and on punch cards. After they are fed into the computer, the outlines can be reproduced at any time as well as analyzed and evaluated in comparison with other skulls.

COMPUTERS
(Continued from Page 6)

Also, an occlusal treatment has been developed to force the use of the underdeveloped side of the mouth when there is a severe growth imbalance.

The appliance apparently causes those muscles on the small side to develop, resulting in improved symmetry of the face without restriction to surgery.

While orthodontists may not agree as to which cases are severe enough to warrant treatment or on the criteria for therapy, they agree that malocclusion appears to be an increasing health problem and there is a growing demand for treatment.

In the United States, about one-third of school-age children suffer from malocclusion severe enough to require orthodontic treatment. It is estimated that at present over $600 million is spent a year for orthodontic treatment for a small fraction of this group.

CAUSES OF GUM DISEASE EXPLAINED
(Continued from Page 6)

Studies of enzymes have focused particularly on collagenase and hyaluronidase, both demonstrated for the first time in human gingival tissue by NIDR scientists.

One degrades collagen, the chief protein in connective tissue, while the other breaks down hyaluronic acid, the gel-like ground substance present between collagen fibers in connective tissues.

NIDR grantees have recently shown that levels of prostaglandins—hormones or hormonelike substances—in human periodontal tissues are increased in periodontal disease.

Several antibiotic pastes will prevent plaque accumulations and gingivitis.

A mouthrinse containing chlorhexidine is being tested in Europe. It can reduce plaque and inflammation but has shortcomings.

These deficiencies must be surmounted before the rinses can be recommended for wide-scale use.

Team Approach To Cleft Research Helps
Diagnostic, Surgical, Speech Techniques

Thousands of facially disfigured people—victims of birth defects—a "gnome curtain" planning to expand its oral-facial

It may be significant that blood vessel patterns in mouse embryos whose cleft palates were caused by treating their mothers with cortisone are smaller, more uneven, and more primitive than the symmetric, adult-type pattern which develops in normal mice 24 hours before palatal closure.

Further studies to determine whether tranquilizers and other drugs that affect muscles contribute to clefting show that different species react differently to various drugs, and no conclusions can be drawn for humans.

Other studies at the cellular level try to discover whether fluid retention and certain drugs upset the work of energy-converting enzymes during pregnancy and contribute to animal clefting.

Too little thyroxin, vitamin imbalance, stress, toxoplasmosis, and viral infections are some factors suspected of contributing to clefting.

A new and very different type of research attempts to investigate how those with a cleft or a speech defect are affected, and the effect on their parents and associates.

To help the mothers, group therapy sessions were held by a cleft palate center. The mothers helped each other work out feelings on the birth of a child with a defect and were better able to cope with their problems.

The success of these sessions led to the development of a 6-month program to train the mothers as paraprofessional group leaders who now lead about five group sessions a year. Each session runs 8 weeks and is carefully supervised.

Oral Medicine Lab to Focus
On Herpes Simplex Studies
A new Laboratory of Oral Medicine has been created at NIDR. The lab will focus on research leading to treatment and ultimate prevention of herpes simplex infections.

NIDR research shows that protection against herpes and probably other recurring viruses depend on three body functions: the ability to make antibodies, the ability to make and activate the complete set of complement enzymes, and the ability to activate and attract leukocytes to infection sites.

NIDR and the National Cancer Institute are collaborating on a program to increase information on oral cancer, its prevention, early diagnosis, and better therapy.
Chinese Journalists Visit NIH, Tour Clinical Center


Their trip is being sponsored by the American Society of Newspaper Editors.

The group was greeted by Dr. Charles C. Edwards, HEW Assistant Secretary for Health, and Dr. Robert S. Stone, NIH Director.

Much of their visit was spent touring the Clinical Center, where they watched an open-heart operation by Dr. Andrew G. Morrow, chief of the Surgery Branch, National Heart and Lung Institute.

Later the delegates visited the CC Surgical Wing. Some used field glasses for a closer look; several photographed the procedure.

**DR. BERLINER**

(Continued from Page 1)

Kidney and Electrolyte Metabolism, NHLI. He later served as Director of Intramural Research for that Institute and was named Director of Laboratories and Clinics for NIH in 1968.

Commenting on Dr. Berliner's announcement, Dr. Stone said:

"I have long known and admired Dr. Berliner as one of America's most distinguished scientists and science-administrators. For all-too-brief a time, I have been associated with him as a colleague at NIH. In his 23 years of service here he has contributed greatly to the excellence and stability of this institution, traditions which we must maintain.

"In his new position, which is one of the foremost in American medicine, I know that Dr. Berliner will continue as a leader."

**Zelda Knowles to Retire After 31 Years' Service**

Zelda D. Knowles, a translator in the NIH Library, Division of Research Services, is retiring on June 29 after more than 31 years of Federal service.

A graduate of the University of Illinois, Miss Knowles taught French and Latin before becoming a translator in the Office of Censorship during World War II.

After the war she served in the Department of Agriculture before joining the staff of the NIH Translating Service in August 1947.

Except for the period 1957-61, when she was part of the NIH Russian Scientific Translation Program, Miss Knowles has assisted countless NIH scientists by translating foreign language literature related to their research projects.

**Soviet Science Writers Briefed on Health Topics During Exchange Visit**

Five Soviet science writers—among the most influential journalists in the USSR—were briefed by Dr. Robert S. Stone, NIH Director, and other HEW scientists on a visit to NIH on June 1.

The journalists' visit here was part of a 2-week swing across the country arranged by the Council for the Advancement of Science Writing.

Their trip was the second part of a two-way exchange of journalists which began last winter when six U.S. writers visited the USSR.

Joining Dr. Stone in greeting the writers and explaining health-related problems and progress were: Dr. Milo D. Leavitt, Jr., FIC; Dr. Anthony M. Bruno, NCI, and Dr. Ruth J. Hegyeli, NHLI. Also, Dr. William Payne, NIEHS; Dr. Jack H.U. Brown, HSMHA, and Dr. Lloyd Tepper, FDA.

The writers and their affiliations were: Yaroslav K. Golovanov, Young Communist League; Mikhail Rebyov, Red Star; Bronislav Koltovoi, Izvestia; Oleg Kuprin, Knowledge-Strength; Lev Koshelev, International Commission, Union of Journalists of the USSR, and Nikolai G. Shartae, Tass News Agency.

**Dr. Benjamin Receives J.D. Lane Award**

Dr. R. S. Benjamin, surgeon and clinical associate at the Baltimore Cancer Research Center, National Cancer Institute, recently received the J.D. Lane Award for the best scientific paper given by a junior investigator.

The award, which includes a plaque and a $200 prize, was presented at the 8th Combined Annual Meeting of the U.S.P.H.S.

Dr. Benjamin receives congratulations from Dr. Zwemer on winning the J.D. Lane Award for the best paper presented by a junior investigator.

Clinical Society and the Commissioned Officers Association, held last month in Phoenix, Ariz.

The title of Dr. Benjamin's winning paper was Adryamicin Chemotherapy—Clinical and Pharmacological Correlation. Drs. P. H. Wierinik and N. R. Bachur of BCRC collaborated with Dr. Benjamin.

Dr. Frank L. Zwemer, of the Phoenix Indian Medical Center and the newly-elected president of the Clinical Society, presented the award to Dr. Benjamin.

Some 600 members and guests turned out for the meeting, which featured more than 300 scientific papers, many presented by NIH investigators.

Dr. Herbert Sober of NIAMDD Elected to American Academy

Dr. Herbert A. Sober, chief of the Laboratory of Nutrition and Endocrinology in the National Institute of Arthritis, Metabolism, and Digestive Diseases, was recently elected to membership in the American Academy of Arts and Sciences at its 193rd annual meeting in Boston.

The Academy, the second oldest learned society in the United States, was founded by John Adams to establish a society "of men of genius and learning" to cultivate and diffuse the arts and sciences.

**Dr. Pronove, Fisher Retire From Federal Service**

Drs. Pacita Pronove and Wilton Fisher retired from Federal service in May.

Dr. Pronove has been a scientist administrator with the Division of Research Grants since 1961. She served as executive secretary of the Neurology A Study Section until 1964 when she became executive secretary of the Child Health and Human Development Program Project Committee, Research Grants Review Branch in DBP.

Later Dr. Pronove became executive secretary of General Medicine B Study Section where she remained until early this year when she joined the Division's Institutional Relations Branch.

Dr. Fisher, a PHS Commissioned Officer, began his Federal career with the U.S. Public Health Service in 1948.

He joined NIH as assistant to the chief of DRG in 1962, and the following year was appointed executive secretary of the General Medi-
Research on Acupuncture Technique to Determine Extent of Pain Relief

Federal funding for research to assess the pain-relieving capabilities of acupuncture has been awarded by the National Institute of General Medical Sciences, to be supported at a rate of $48,511 for the first year with future support to be determined at the end of each fiscal year.

Acupuncture is an ancient form of Chinese medicine in which fine needles are inserted in the body at strategic points to treat disease, relieve pain, or serve as an anesthetic during surgery.

NIGMS is coordinating acupuncture research activity for NIH and the Federal Government.

Volunteers Recruited

Physicians and scientists at the University of Missouri School of Medicine, will compare the analgesic qualities of acupuncture anesthesia with those of standard pain-relieving drugs and hypoanesthesia.

The research team under Dr. George A. Ulett, professor of psychiatry, has recruited two small groups of volunteers for their studies. The first consists of healthy students from the St. Louis area between 18 and 35.

The second group is made up of patients suffering chronic and continuing pain from osteoarthritis, migraine headaches, "phantom limb" pain, and pain from spinal cord damage or injuries to peripheral nerves.

The healthy volunteers will be subjected to a series of uninjurious experimental pain stimuli and will be given acupuncture anesthesia and pain-relieving drugs. The patients already in pain also will be given acupuncture anesthesia and analgesic drugs.

In both groups of volunteers, degrees of pain will be assessed by measuring changes in brain waves, heart rate and pulse, and by observing other discernible responses to pain. Each volunteer also will be asked to evaluate the degree of his pain by assigning it a number on a low-to-high numerical scale.

$2.9 Million Grant Awarded by NIEHS To Establish 7th Environmental Center

The Mount Sinai School of Medicine has been awarded a grant of approximately $2.9 million to establish the seventh Environmental Health Sciences Research Center.

Awarded by the National Institute of Environmental Health Sciences, the Mount Sinai Center in Research Triangle Park, N.C., will begin operations on the next 5 years. The new Center will be headed by Dr. Irving J. Selikoff, professor of community medicine, who has been director of the Mount Sinai Center and has done research on asbestos as a disease-causing agent for several years.

"The Mount Sinai group has already developed much fundamental knowledge needed to protect man against hazardous substances in the environment," Dr. David P. Rail, NIEHS Director, commented.

Plan Many Studies

"We expect much new valuable research from them, and it is for this reason that Mount Sinai has been chosen for the seventh Center supported by the NIEHS for research on multifaceted environmental health problems.

Center personnel will study a wide spectrum of environmental agents and combinations of agents that contribute to the development of heart and lung diseases and cancer. Research on asbestos-related disease will be given high priority.

"According to Dr. Rail, asbestos is now a general urban environmental problem, not merely an occupational hazard for certain industrial groups.

"The air of large cities is almost always contaminated with asbestos fibers, and these fibers are present in the lungs of all persons who grow up in large cities.

Asbestos-related diseases take several decades to develop, often 20 to 35 years, which heightens the concern about present exposure of large populations from fibers continually released into the air as a result of brake lining wear and installation and use of insulation in industrial buildings, among other urban sources.

Effects Discussed

Little is known of the effects of such prolonged low-level exposure, Dr. Rail said. However, it is known that some 40 percent of workers heavily exposed to asbestos eventually die of diseases related to the exposure. Lungs of the victims develop fine scars—a condition called asbestosis.

As the disease develops, scar tissue restricts air passages and limits oxygen absorption and carbon dioxide removal. In addition, about 7 percent of workers directly exposed to asbestos develop a rare, lethal form of cancer on the surface of the lungs or abdominal cavity called mesothelioma.

A still larger number, about 20 percent, develop carcinoma of the lung. Cigarette smoking aggravates this type of cancer which is eight times more common in asbestos workers who have been exposed to asbestos.

Another 5 percent die of otherwise unexpected gastrointestinal cancer.

Fact Sheets Published By Nat’l Eye Institute

Seven fact sheets, each describing a common visual condition or cause of blindness, are now available from the National Eye Institute.

The fact sheets are:

- **Glaucoma**—a disease characterized by loss of visual function associated with increased pressure within the eye and subsequent damage to the optic nerve.
- **Diabetic Retinopathy**—stemming from diabetes, this disturbance in the blood vessels of the retina, the light-sensitive tissue at the back of the eye, can cause blindness.
- **Corneal Disease**—often very painful disorders which affect the transparent membrane at the front of the eye.
- **Retinal Degeneration**—a common cause of visual disability among the elderly that affects a small part of the retina called the macula which is responsible for fine reading vision.
- **Refractive Errors**—near-sightedness, farsightedness, and other conditions that can usually be corrected with glasses or contact lenses.
- **Retinitis Pigmentosa**—an inherited disease involving progressive loss of peripheral vision beginning in childhood or adolescence.
- **Macular Degeneration**—a separation of the layers of the retina that can cause permanent impairment of vision.

Each fact sheet is written for the general public and describes the condition, its cause (if known), treatment (if available), and current research.

Single copies of any or all of the fact sheets are available free from the Office of Information, National Eye Institute, NIH, Bethesda, Md. 20014.

The pamphlets may also be purchased in quantity from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for 15 cents each postpaid, or five cents at the GPO bookstore.
Richard Seggel Joins NAS Inst. of Medicine

Richard L. Seggel, HEW Deputy Assistant Secretary for Program Operations, will leave Federal service at the end of June to join the Institute of Medicine of the National Academy of Sciences.

Mr. Seggel will assist in the development of the Institute's new program of fellowships in health policy established under a grant from the Robert Wood Johnson Foundation, and will also participate in Institute studies of health policy.

Began Career in 1940

Beginning his Federal career in 1940, Mr. Seggel served with several agencies before joining NIH in 1957 as Executive Officer. After 12 years in this position, he was named NIH Associate Director for Administration. In 1971 he was appointed to the HEW post. Citing Mr. Seggel's work, Dr. Charles C. Edwards, HEW Assistant Secretary for Health, said his "contributions to the Federal Government, to the NIH, and most recently to this office in our efforts to create a single voice for health in HEW, have been many and significant. We shall miss him deeply."

Lois Spencer, a medical technologist in the Hematology Service of the Clinical Pathology Department, retired May 31. Mrs. Spencer came to the Clinical Center in 1955 after 3 years of service in the Fort Myer dispensary.

Dr. Chanock Receives H.T. Ricketts Award

Dr. Robert M. Chanock, National Institute of Allergy and Infectious Diseases, was recently given the Howard Taylor Ricketts Award of the University of Chicago.

Dr. Chanock, who is chief of the Laboratory of Infectious Diseases, was given the prize "in recognition of outstanding accomplishment in the field of medical sciences."

After the presentation, he delivered the Ricketts Lecture on Genetic Manipulation of Viruses and Mycoplasmas with the Aim of Preventing Acute Respiratory Tract Disease.

The Ricketts Award was established in memory of the scientist who demonstrated that Rocky Mountain spotted fever is transmitted to man by ticks. Later, he found the related organism that causes typhus fever. In 1910 he died of that disease.

To Swim or to Sail, That's the Question

Sailing Association Offers Some Answers

Every year an increasing number of Americans go down to the sea—not to swim but to sail. The NIH Sailing Association was created for this purpose, and the fact that its membership list has grown steadily testifies that it is fulfilling its desire.

The NIHSA has helped provide NIH R&D members with ways to sail at reduced cost, and it has helped train sailors how to stay on instead of in the water.

The Association, which meets on the last Thursday of each month, owns four 19-foot Flying Scot day sailors which are available for charter at any time—at cost. That is, the charter fees only cover materials for maintenance.

Qualified members also have access to a variety of cabin boats which range in length from 25 to 60 feet.

Regatta Scheduled

Courses of instruction are offered ranging from classes for the novice (those that cannot tell port from starboard at the outset) to advanced and advanced racing levels.

The Association enters races and regattas held on Chesapeake Bay, and it can arrange charters to many different areas. In addition to the racing sessions that are held every Friday afternoon at Back Creek Marina near Annapolis, a regatta has been scheduled for later in the season.

Each month speakers of special interest are asked to address the Association, and informative, as well as entertaining, movies are often shown on subjects relevant to sailing.

The next meeting of the Sailing Association will be held on Thursday, June 28, at 8 p.m., in Bldg. 30, room 117. It will be a "Chesapeake Bay Evening."

The Boating Administrator of the State of Maryland will speak on Historical and Practical Aspects of Sailboat Cruising on the Chesapeake Bay.

Anyone interested in sailing is invited to attend; guests are also welcome. For further information call Rick Newell, Ext. 64957, or Beth Horigan, 530-7212 (evenings).

COLE MEDAL (Continued From Page 1)

Perspectives in Membrane Biophysics—A Tribute to Kenneth S. Cole

The book contains articles on membrane research by 22 authors—students and friends of Dr. Cole. Articles for the book, edited by Daniel Agin, were collected in 1970 for Dr. Cole's 70th birthday.

The snowy-haired, soft-spoken scientist, who pioneered studies of the electrical properties of nerves and other living cells, organized the NIHSA Laboratory of Biophysics and served as its chief until 1966.

His work here and at Woods Hole, Mass., where he studies the squid's giant nerve axon, has given a tremendous impetus to biophysical studies of the nervous system.

Profs. Hayaishi, Nakai Join Fogarty Scholars

Prof. Osamu Hayaishi and Prof. Junnosuke Nakai, both from Japan, joined the Fogarty International Center's Scholars-in-Residence program early this month.

Prof. Hayaishi, Department of Medical Chemistry, Kyoto University Faculty of Medicine, returned to the reservation on June 8 to resume his scholarship. He was originally a scholar-in-residence during the summer of 1972.

Last October, Prof. Hayaishi received the Order of Culture from the Japanese Government for his achievements in the field of science.

Initiates Symposium

Normally this award is made to persons in an older age group, however, Prof. Hayaishi has the honor of being one of the younger, if not the youngest, to receive it.

During June 11-13, in cooperation with scientists from the National Institute of Arthritis, Metabolism, and Digestive Diseases, Prof. Hayaishi initiated a successful symposium on Poly ADP-Ribose.

He currently resides in Stone House and will be joined by Mrs. Hayaishi in early July. He will participate in the program through August.

Prof. Nakai, professor of anatomy and former dean of the Faculty of Medicine, University of Tokyo, became a Fogarty scholar on June 1.

He is a graduate of the University of Tokyo Medical School and has continued his affiliation there as a faculty member.

Worked at Texas

During 1953-55, Prof. Nakai worked in the Tissue Culture Laboratory of the late Dr. C. M. Pomerat of the University of Texas.

His research interests include the area of neurobiology with emphasis on neuronal synapses.

While a scholar-in-residence, he will collaborate with Dr. Marshall Nirenberg of NIHl, and the staff of the Behavioral Biology Branch, NICHD.

In addition, Prof. Nakai will undertake some writing and will present a number of informal lectures.

He plans to be in residence for 6 months. Prof. Nakai will be joined later by his wife; they will reside in Stone House.
OUTPATIENT RESEARCH

Subjects Remain in 'Natural Environment' While Under Study at Vanderbilt Center

By Jerry Gordon

At 5:20 a.m., the new Ambulatory Patient Research Center at the Vanderbilt University Hospital in Nashville, Tenn., begins to stir. Two doctors are busily engaged in turning on recording machines and sensors, preparing IV's (intravenous lines), and loading syringes in preparation for a research patient scheduled for 5:30 a.m.

Mark Taylor, a 25-year-old "normal"—a volunteer subject of glucose tolerance levels and insulin secretion. His "study" session lasts approximately 1½ hours.

During this time a vein in his right arm is infused with a fluid containing a certain new drug, and then blood is drawn from a vein in his left arm.

After the session is concluded, band-aids are applied to his arm, he puts his shirt and coat on, walks into the division kitchen, is served a hot breakfast, and by 7:30 a.m., he's off and on his way to work.

This is an example of a new technique in biomedical research being evolved at Vanderbilt with subjects who continue daily activities in "their natural environment."

The APRC in Nashville is the first full-fledged outpatient center launched by the General Clinical Research Centers Branch of the Division of Research Resources.

Concept Is Important

It is considered an important concept, and it is the intention of the branch chief, Dr. William R. DeCesare, and his NIH advisory committee, to broaden the scope of research with ambulatory cases in 84 clinical centers operating throughout the country.

Approximately 45 centers now conduct a limited amount of outpatient research. A second outpatient facility has been initiated at the Johns Hopkins GCRC in Baltimore.

"The adjunct of an outpatient facility to the ongoing General Clinical Research Center makes a more efficient and viable clinical research resource," Dr. DeCesare maintains.

"There are certain types of research—chronic diseases, genetics, mental health, clinical pharmacology—that cannot be carried out on a scale commensurate with their importance unless ambulatory patients are studied."

Opening in September 1972 in conjunction with the existing 21-bed inpatient CRS, the combined facility has taken on new dimensions, according to Dr. William W. Lacy, program director.

"I think the trend is towards taking the research out of the wards and into the population environment to find out what causes certain physiological mechanisms to malfunction," he says.

Researchers at Vanderbilt say that the combined status of the center has brought new elements to old studies. The four outpatient procedure rooms on the Medical Center's third floor are constantly used from 5 a.m. until 5:30 p.m.

Another bright plus for ambulatory patient research operation is the reaction of people involved and their willingness to continue, the Vanderbilt investigators report.

"People are much more likely to be volunteers if we can get them in and out quickly with a minimum loss of time," the scientists say.

By scheduling the outpatient either before or after work, they found that the rate of patient compliance has jumped considerably.

In addition to their pharmacology projects, the researchers are working on studies in obesity, postoperative follow-ups, pediatric diseases, epidemiological group analysis, genetic abnormalities, and chronic diseases. The majority of these projects are NIH supported.