the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH

Seggel, Stadtman Win Departmental Awards

Two NIH employees—Richard L. Seggel and Dr. Earl R. Stadtman—received Distinguished Service Awards for their outstanding contributions at the Departmental Honor Awards Ceremony held last Friday (April 10). The awards were presented by HEW Secretary Robert H. Finch.

Mr. Seggel, Associate Director for Administration, NIH, was cited for "his exceptional administrative skill and outstanding, progressive leadership of management programs at the National Institutes of Health."

Dr. Stadtman, chief of the Laboratory of Biochemistry, National Heart and Lung Institute, was recognized for his "distinguished contributions to an understanding of the complex enzyme control systems that regulate major metabolic pathways and for consistently providing key discoveries in his field."

The Distinguished Service Award is presented by HEW to employees whose services and achievements deserve the highest recognition.

Secretary Finch also cited two other NIH employees who, during

Dr. Stadtman

Mr. Seggel

the past year, received awards for their scientific achievements.

They are: Dr. James R. Slagle, chief, Heuristics Laboratory, Division of Computer Research and Technology—named one of the Ten Outstanding Young Men of 1969 by U.S. Jaycees.

Dr. Margaret Pittman, chief, Laboratory of Bacterial Products, Division of Biologics Standards—received a Federal Woman's Award.

The Secretary also presented Distinguished Service Awards to two National Institute of Mental Health scientists who are on the reservation:

Dr. Robert A. Cohen, director,

(See AWARDS, Page 8)

Preliminary Studies Show Camptothecin May Be Useful for Treatment of Cancer

Dr. Saul Schepartz (left) and Dr Harry Wood, NCI, examine a camptotheca tree, source of a new drug which the Institute is testing.

A new drug called camptothecin that may be useful against advanced cancer of the intestine and rectum was described by National Cancer Institute scientists at the 61st annual meeting of the American Association for Cancer Research in Philadelphia, Pa., on April 9.

The findings, although preliminary, are especially important because cancers of the intestine and rectum strike 75,000 Americans each year and cause more deaths than any type of cancer except lung cancer.

Drs. Jeffrey A. Gottlieb, Anthony M. Guarino, Vincent T. Oliverio, and Jerome B. Block reported on results of administering camptothecin to 17 adults with various types of far advanced cancer treated at the NCI's Baltimore Cancer Research Center.

In each case the new drug, developed in Government-sponsored studies, and taken from extracts obtained from a Chinese tree, was given because the patients no longer responded to conventional treatment.

Study Establishes Dosage

Dr. Gottlieb reported that the 17 patients, 9 of whom had advanced cancer of the intestine and rectum, were treated in a phase I or dose-establishing study in which the drug was given intravenously in a saline solution, in dosages from one-half to 10 milligrams per kilogram of body weight, usually at intervals of 2 weeks or more.

(See CAMPTOTHECIN, Page 7)

Dr. Langley Joins NLM As Associate Director

Dr. Leroy L. Langley has been named associate director for Extramural Programs at the National Library of Medicine.

Since 1964 Dr. Langley has served as chief of the Training Grants and Awards Branch in the National Heart and Lung Institute's Extramural Programs.

He succeeds David F. Kefauver, now deputy assistant director for Extramural Programs and Behavioral Sciences with the National Institute of Mental Health.

Dr. Langley received his bachelor's degree in Physiology at UCLA in 1938, an M.A. from Stanford University, and his doctorate in 1942 from Yale University, where he continued as an honorary research fellow and assistant for one year.

He then completed 3 years of military service as a Lieutenant in the Navy Hospital Service Corps in 1946. Eight years later, he earned a law degree from the Birmingham School of Law in Alabama.

From 1946 to 1948 Dr. Langley

(See DR. LANGLEY, Page 5)

Prof. Seymour Benzer To Deliver NIH Lecture On Wednesday, April 22

Dr. Seymour Benzer, Professor of Biology at the California Institute of Technology, will deliver the NIH Lecture on Wednesday, April 22, at 8:15 p.m., in the Jack Masur Auditorium of the Clinical Center.

His subject will be "Genetic Dissection of Visual Behavior in Drosophila."

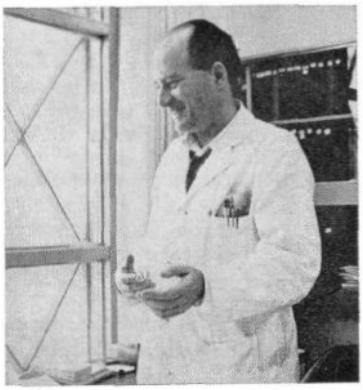
Dr. Benzer is internationally known for his research on the molecular biology of viruses and in the field of molecular genetics, especially the role of genes as determinants of nervous system structure and function and their resulting influence on patterns of behavior.

Instinctive behavior patterns can be exceedingly complex. For example, genetic information imprinted into the circuitry of the brain enables fledgling birds undertaking their first migration to perform feats of navigation that would tax trained mariners or aviators armed with compasses, sextants, and star maps.

Similarly, genetic information enables certain spiders to construct webs that in symmetry, form, and function would challenge the ingenuity and artistry of a skilled engineer or architect.

Dr. Benzer is currently exploring genetic determinants of behavior in drosophila, the common

(See PROF. BENZER, Page 4)



The eminent Cal Tech professor is known for his research on the molecular biology of viruses. Presently, Dr. Benzer is exploring genetic behavior in drosophila, the common fruit fly.

the NIH Record

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NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4
Sundays—3:55 p.m.

April 19
Dr. Frank W. Hastings, chief, Artificial Heart Program, NHLI
Subject: Artificial Heart Program (Part 2)

April 26
Part 3 of above program

Radio

DISCUSSION: NIH

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

April 17
Dr. Howell O. Archard, chief, Diagnostic Pathology Section, NIDR
Subject: Oral Pathology

April 24
Dr. Sotiros Chaparas, Laboratory of Bacterial Products, DBS
Subject: Diagnosis of Tuberculosis

Interview takes place during intermission, Library of Congress Chamber Music Series.

Dr. Erskine V. Morse Appointed To National Advisory Council

Dr. Erskine V. Morse, Dean, School of Veterinary Science and Medicine, Purdue University, has been appointed to the National Advisory Council on Health Professions Educational Assistance.

Alice M. Laskey Retires From Federal Service

Alice M. Laskey, supervisory scientific reference analyst, Division of Research Grants, is retiring after 40 years in Government service. She is with the Research Documentation Section, Statistics and Analysis Branch.

Before coming to DRG, Miss Laskey was a chemist with the National Institute of Allergy and Infectious Diseases.

In 1963, she left DRG for a period of 2 years to again work for NIAID, and, also, for the National Library of Medicine. She returned to DRG in 1965.

During the war years Miss Laskey served as a Navy Lieutenant Commander.

She is a Fellow, American Association for the Advancement of Science, and past-president, District Chapter, American Women of Science.

Dr. Frank W. McKee, Director, Division of Physician Manpower, BEMT, discusses the physician shortage in a taped interview with Win Clearwater, WGMS, that was broadcast on April 10.

Josephine O'Connor, CC, Retires From Nursing, Plans to Teach, Travel

The 43-year professional nursing career of Josephine I. O'Connor has just ended. Seventeen of those years were spent at NIH—in the Clinical Center.

Miss O'Connor recently retired as chief, Arthritis and Metabolic Diseases Nursing Service.

She came here in 1953 as assistant to the chief of the Nursing Department in the newly established research hospital.

As Chairman of the Civil Service Board of Examiners she evaluated professional nurses recruited for the CC. She also helped obtain essential technical supplies and equipment.

Miss O'Connor has been at the Clinical Center for almost 17 years, but her professional nursing career spans 43 years.

Serves in Baltimore

The year before coming to NIH she was working with patients in the Baltimore PHS Hospital. She was destined to become better acquainted with one of her patients—that patient was Dr. Jack Masur, the late CC Director.

In 1962 she was named to the position which she held until her retirement. This assignment gave her the opportunity to do research as well as continue with nursing duties.

Miss O'Connor earned her R.N. in 1927. She received both her B.S. in Education and M.A. in Nursing Administration from New York University.

Commissioned in 1947

She was commissioned in the USPHS Nurse Corps in 1947, and served in Boston, Seattle, and Baltimore.

Now that she has retired, Miss O'Connor plans to teach part-time, continue her around-the-world travels, and eventually settle in her Vermont home.

Corrected Dates for Movie On Rubella (German Measles)

The corrected dates for the health education movie on Rubella (German measles), sponsored by the Employee Health Service, are: Westwood Building, Conference Room A, Wednesday, April 15, 1, 1:30 and 2 p.m.

Jack Masur Auditorium, Clinical Center, Thursday, April 16, at 11:30 a.m., 12 noon and 12:30 p.m.

Appropriation for Design Of Lister Hill Center Authorized by Congress

An appropriation of $900,000 was authorized by Congress for work on the architectural and engineering design of the Lister Hill Center—the National Library of Medicine's annex.

At the present time, the design calls for a building resembling a tower to be located adjacent to NLM. It will contain about 200,000 gross square feet of space.

In addition to the Lister Hill Center organization, the building will house the offices of Extramural Programs, Specialized Information Services, the Office of Computer and Engineering Services, and some offices of both the Library Operations and the Office of Administrative Management.

The rehabilitation of the NLM building, which has been occupied for 8 years, is also in the planning stage. This restoration will allow for greater expansion of the Library's stacks.

NIH Orchestra to Present Concert Featuring Guitar

The NIH Orchestra will give a concert on Friday, April 24, at 8:30 p.m. in the Clinical Center's Jack Masur Auditorium.

The concert, sponsored by the NIH Recreation and Welfare Association, will be conducted by Mark Ellsworth. Numbers include Wagner's overture to *Die Meistersinger*, Haydn's Symphony No. 100 in G, and Enesco's First Rumanian Rhapsody.

Fantasia para un Gentilhombre for guitar and orchestra composed by the contemporary Spanish musician Joaquin Rodrigo, will also be performed. Richard Blankenship will be the guitar soloist.

Mr. Blankenship, a student at the Peabody Conservatory, teaches guitar at the Ellsworth Studios in Bethesda.

Admission to the concert is free; tickets are not required. CC patients, and NIH personnel and their families and friends are invited to attend.

Summer Aid Program Assists Young People To Acquire Job Skills

NIH employees are busy preparing for the 1970 Federal Summer Employment Program for Youth—better known as the Summer Aid Program.

This program helps financially deprived young people acquire job skills in 8-12 weeks of on-the-job training. It also provides 4 hours a week of special training in work-related skills and courses.

This year NIH plans to hire approximately 500 Summer Aids. At least half of these Aids will come from poverty areas in the District of Columbia.

Recruiters will visit District schools, churches, recreation centers, and community organizations—primarily in the Cardozo area—to provide information about the NIH program and how to apply.

For many Aids the NIH job will be their first work experience.

For this reason supervisors have been selected because of their desire to participate in the program and their abilities to provide stimulating training that will challenge and interest the Aids.

George Pace (right), HEW coordinator for the Summer Aid Program, and Frank Williams (2nd from right), NIH recruiter, explain the NIH Summer Aid Program to an interested student at Cardozo High School.

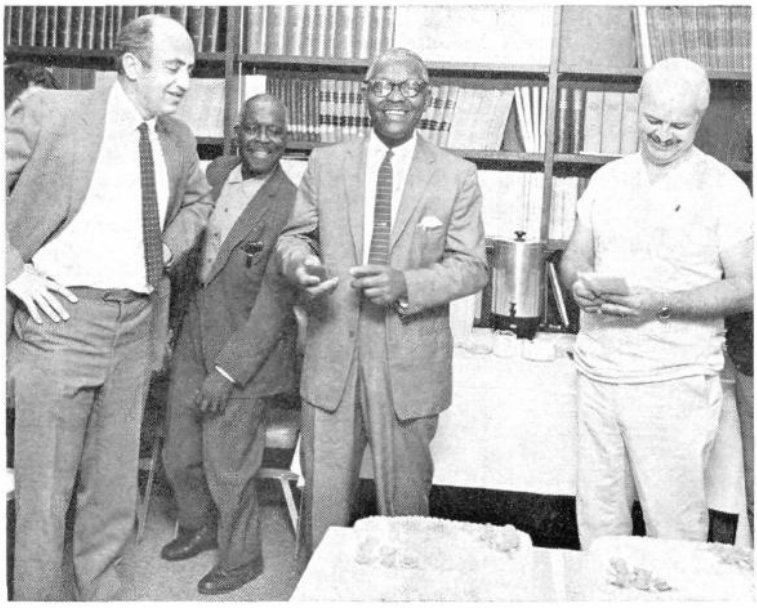
Seven former Summer Aids and two professional career counselors will be hired for the summer to provide additional guidance.

Help from other employees is also needed for tutoring, and to teach in classrooms. Interested personnel may call Stefanie Singer, Ext. 62146.

Influx of Immigrant Scientists, Engineers, and Physicians Drops

The number of foreign-born scientists, engineers, and physicians immigrating to the United States in fiscal year 1969 declined after a sharp rise in the prior 2 years, according to National Science Foundation estimates.

Roskey Jennings, NIAID's Iron Man, Here 40 Years, Honored for Work, Attendance



It's so nice to have you here, Mr. Jennings (2nd from right). His host of NIH friends—doctors, researchers, lab and office workers, everybody—came for TWO cakes, coffee, and the pleasure of being with Roskey Jennings.

By Marie Heintz

Roskey Jennings is a very important man to a lot of people at the National Institute of Allergy and Infectious Diseases. He's also a modest man.

Although he knew that some of his friends were planning a party to mark his 40 years at NIH, Mr. Jennings didn't think the March 27 event would be a big affair.

But when he got on the Building 5 elevator and saw an impressive notice about the "Roskey Jennings Party," he decided he'd better take some action.

So later that day, he dashed home to change from his work clothes into a handsome suit. And that's why Mr. Jennings also looked like a real guest of honor when more than 200 of his fellow workers gathered in the library of that building to pay him tribute.

One of the reasons Mr. Jennings has so many friends is that he's a most unusual man.

On March 25, 1930, he began his first day of a 3-month temporary appointment as a laborer at NIH—then known as the Hygienic Laboratory.

That 3-month appointment has stretched into 40 years and today he's a Biological Laboratory Technician in the NIAID Laboratory of Biology of Viruses.

At times he has been responsible for more than 2,500 animals each day and it is generally agreed that it would take two men working at normal speed to accomplish as much as he does alone.

For years, he came into his laboratory 7 days a week—working 4 hours each Saturday and Sunday—in order to check on the animals' behavior and give them food and water.

A former laboratory chief described Mr. Jennings as "the iron man" of NIAID who served faithfully every day except for his annual vacation each year.

At one time he was not even using his annual leave until a supervisor insisted that he use the leave to which he was entitled.

And it's been years since he used any sick leave—not even the day back in 1964 when a serious accident on the job resulted in the severing of a joint of a finger.

After receiving emergency treatment and seeing his own physician, Mr. Jennings returned to the lab the same day to care for his animals, with his hand in a sling.

Joint hosts for the party were personnel of two NIAID laboratories—the Biology of Viruses and Parasitic Diseases.

Coffee and cake were served and the guest of honor received a gold tie clasp engraved with the initials "N I H," in addition to a purse.

When Roskey Jennings took his oath of office on March 25, 1930, he signed a statement which said in part: ". . . I will well and faithfully discharge the duties of the office on which I am about to enter . . ." This oath he took seriously and he plans to continue doing just that!

Someone at the party told Mr. Jennings: "You know, you're very important to NIH." To which he replied:

"I'm glad to hear that because NIH is important to me, too!"

Efforts to Cure, Explain Pain, Shown on NIGMS TV Program, April 26

"There is only one pain that is easy to bear and that is the pain of others."

This saying, first stated by the French surgeon, René Leriche, is closely examined by a psychotherapist, a practicing physician, a clergyman, and a government health official on the WRC-TV program, "YOU . . . and Pain," scheduled for Sunday, April 26, at 2:30 p.m.

The program, based on the National Institute of General Medical Science's brochure *Pain*, will focus on pain's elusive nature and man's efforts to explain it, control it, cure it, and, at times, use it for his own purposes.

Dr. Lawrence LeShan, chief psychologist, Institute of Applied Biology, New York, will explain how psychotherapy can help a patient face pain.

Chaplain LeRoy G. Kerney, Clinical Center, will discuss philosophical attitudes and beliefs pertaining to the basic nature of human suffering.

Dr. Thomas McPherson Brown, professor of Medicine at George Washington University, will tell how physicians treat pain and will also discuss the need for new methods of controlling pain, including the use of nonaddictive drugs.

Dr. L. Edgar Lee, associate chief, Research Grants Branch, National Institute of General Medical Sciences, will act as moderator.

2nd Program on Drugs Is Broadcast Tonight

The second of a series of six weekly, half-hour radio programs on the use and abuse of drugs in modern society will be broadcast at 8:30 this evening (April 14) over radio station WAMU-FM, 88.5.

Drs. Jerome Levine and Mitchell Balter, NIMH, will discuss "Drugs and Contemporary Society."

The series, entitled "This Drug Age," was developed by the American University Broadcast Center in collaboration with the National Institute of General Medical Sciences.

In the first segment last week, Drs. George Cosmides and Raymond Bahor, NIGMS, talked about the discovery and use of drugs by primitive cultures.

Next Tuesday (April 21) Dr. Herschel Jick, Tufts University School of Medicine, will be the featured speaker on "The Physician and the Prescription of Drugs."

The following Tuesday (April 28), "Drug Abuse" will be discussed by Donald Miller, chief counsel, Bureau of Narcotics and Dangerous Drugs, Department of Justice; Dr. Bernard Barber, Barnard College and Columbia University, and Dr. Walter Modell, Cornell University Medical College.

PROF. BENZER

(Continued from Page 1)

fruitfly. This subject is a great favorite for genetic studies from high school biology and on.

Drosophila probably has had its chromosomes more thoroughly probed and its genes more extensively mapped than any other creature.

Moreover, genetic mutations can be induced in drosophila by radiation and other techniques to produce alterations in physical or physiological characteristics and also produce modifications of normal behavioral patterns.

Will Summarize Research

In his lecture Dr. Benzer will summarize his recent research concerning the behavioral modifications induced in drosophila by mutations affecting various steps in the chain leading from the reception of light to the evocation of the behavioral response.

Dr. Benzer received his B.S. degree from Brooklyn College in 1942. He did his postgraduate work at Purdue, earning his Ph.D. in Physics in 1947.

In 1949, after a tour of duty as a biophysicist with the Oak Ridge National Laboratory, Dr. Benzer was awarded a research fellowship in biophysics at Cal Tech.

In 1951-52 he was a Fulbright research scholar at the Pasteur Institute.

Later, he returned to Purdue as a faculty member of the Biophysics Department. From 1961 to 1967 he served as Stuart Distinguished Professor of Biophysics. Dr. Benzer then joined the staff of the California Institute of Technology.

Dr. Benzer's numerous honors and awards include the Sigma Xi Award (Purdue, 1957), the Howard Taylor Ricketts Award (University of Chicago, 1961), the Gold Medal Science Award (CCNY, 1962), the Gairdner Award (Canada, 1964), the McCoy Award (Purdue, 1965), and memberships in the National Academy of Science and the American Academy of Arts and Sciences.

'Maggie' West Retires; Officials Praise Her Role in Health Manpower Studies

In an informal ceremony on April 2 attended by top NIH officials, Dr. Robert Q. Marston, NIH Director, presented a certificate of service to Margaret D. West, BEMT, who retired the next day.

Mrs. West, who was chief of the Manpower Resources Staff, also received a letter from Dr. Marston which read, in part:

". . . The chronicle of your accomplishments for the Government—all achieved with style and quality—ought to impress any taxpayer. You have done a remarkable job that deserves deep appreciation—which you would be the last to solicit.

Mrs. West is regarded as one of the foremost authorities in the nation on health manpower supply and education.

". . . Those whose privilege it has been to work with you . . . all realize that health manpower programs have gained national prominence largely by virtue of the high caliber analyses and studies you have directed.

"So we say simply: Thanks. We shall miss you. . . ."

'Closes the Circle'

In the course of her 28 years with the Public Health Service, Mrs. West "closed the circle" when BEMT merged with NIH in 1968, having started her PHS career in 1942 in the Division of Public Health Methods, then a part of NIH.

She remained with PHM when it was transferred into the Office of the Surgeon General.

Mrs. West has been a leading participant in many of the landmark studies in health manpower supply and education in the United States in the last three decades, and is regarded as one of the nation's foremost authorities on these subjects.

Accomplishments Noted

During World War II with the War Manpower Commission, Mrs. West played a principal role in establishing standards for physicians, dentists, and nurses for the health of the civilian population.

With the Health Resources Advisory Committee of the Office of Defense Mobilization, she conducted studies of medical school faculties and hospital house staffs.

With the Hoover Commission on Organization of the Executive Branch of the Government, she served on the Medical Task Force.

The Magnuson Report, the Bane Report—every important document of recent times bearing on the education, training, distribution, and utilization of health personnel bears the imprint of Maggie West.

Served as Consultant

More recently, Mrs. West served as Consultant to the Milbank Memorial Fund and the Pan-American Health Organization in surveying the health manpower problems of Colombia and making valuable recommendations.

She was a member of the task force which established the Bureau of Health Manpower, in which she has continued to play a leading role since its organization on Jan. 1, 1967.

In BEMT, she directed preparation of such major reports as *Education for the Allied Health Professions and Service* and *Health Manpower Perspective—1967*.

Mrs. West earned her baccalaureate degree at Swarthmore College in 1935 and did her graduate work at New York University.

She began her Federal career as a research analyst with the Works Progress Administration. In 1938, she went to the National Maternal and Child Health Council.

BEMT Director Kenneth M. Endicott has prevailed on Mrs. West to continue to make her vast knowledge available to BEMT as a consultant.

Marcia Broxton, Clinical Center dietician, discusses GOOD NUTRITION WEEK, proclaimed by Mayor Walter E. Washingon, April 12-18, with John Timmes of Winter Park, Fla. This week trays for patients carry folders naming the basic food elements that should be included in the diet. These folders are also on the tables of NIH cafeterias.

Environmental Health's Extramural Programs Move to North Carolina

The Extramural Programs of the National Institute of Environmental Health Sciences has moved to Research Triangle Park, N.C., joining the Institute's Intramural Programs and direct operations.

Dr. Paul Kotin, Institute Director, announced the relocation of the Extramural Programs, effective as of yesterday (April 13).

Except for a small office here, the NIEHS is the only one of the National Institutes of Health to be located away from the Bethesda area.

Studies Environment

It is conducting studies to determine the effects of long-term, low-level exposures to environmental factors on man's health and to identify the mechanisms involved in such exposures.

Control agencies are informed of these findings which they, in turn, may use as the basis for standards and guidelines.

On April 13 the NIEHS Extramural Programs completed its move from the Westwood Building to these units at the Research Triangle Park in N. C.

Under the direction of Dr. William H. Goldwater, the new associate director for Extramural Programs (see *NIH Record*, Jan. 7, 1970), the extamural research and training programs of the Institute will focus on health implications of pesticides, food toxicants, occupational health hazards, air and water pollutants, and other chemical, biological, and physical factors in the environment.

Latest Participants in NIH Visiting Scientists Program Listed Here

3/6—Dr. Christo Goridis, Germany, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital, Washington, D.C.

3/20—Dr. Ryo Hirasawa, Japan, Laboratory of Physical Biology. Sponsor: Dr. Hideo Kon, NIAMD, Bldg. 2, Rm. B202C.

3/20—Dr. Kazunori Shimada, Japan, Section of Molecular Genetics. Sponsor: Dr. Robert A. Weisberg, NICHD, Bldg. 6, Rm. 212.

3/20—Dr. Zvi Wollberg, Israel, Behavioral Biology Branch. Sponsor: Dr. Phillip G. Nelson, NICHD, Bldg. 36, Rm. B306.

DR. LANGLEY

(Continued from Page 1)

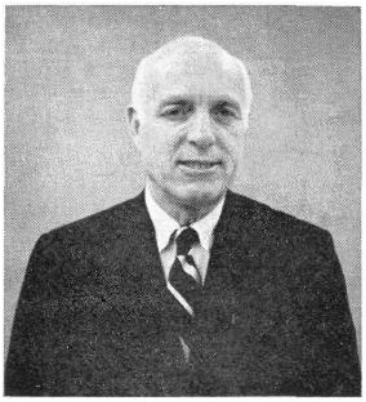
was a research fellow at the Institute de Biofiscia in Rio de Janeiro. During this time, he became editor and owner of the *Brazil Herald* and served as a foreign correspondent for the American Broadcasting Company.

Dr. Langley returned to the United States in 1948 and joined the staffs of the University of Alabama School of Dentistry and the Medical College of Alabama as assistant, associate, and full professor of Physiology. He taught at the University until 1964.

Dr. Langley's travels, both business and pleasure, have taken him all over the world. The author of numerous books and articles, he has lectured at schools of medicine and dentistry in the United States and abroad.

In 1962-63, he visited Turkey under the auspices of the International Atomic Energy Commission as an expert in the medical applications of radioisotopes.

He also established and directed the Radiobiology Institute at the Ankara Medical School and planned new laboratories at the Haseki Hospital in Istanbul.



Dr. Langley has an interesting background—during his tenure as a research fellow in Brazil, he edited a newspaper and was foreign correspondent for a broadcasting company.

Trailer at Midnight Pass, Lab for Marine Life Research, Is Open to NIH Scientists

By Carolyn Holstein

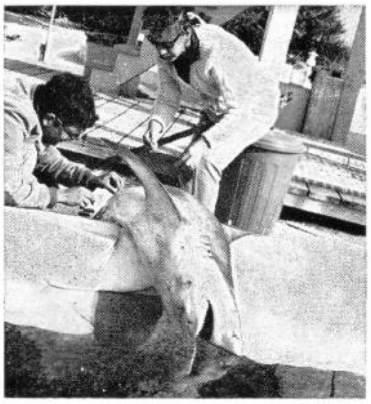
NIH scientists now have a permanent laboratory for studying properties of marine life called The Trailer at Midnight Pass.

Although it sounds like a hideout for Butch Cassidy, it is a 12' x 25' trailer housing a fully equipped air-conditioned laboratory. Here NIH scientists are studying biological properties of marine animals in their near-natural environment.

The laboratory, jointly sponsored by the National Institute of Neurological Diseases and Stroke and the National Cancer Institute, is rented from the Mote Marine Laboratory of Florida.

It is located at the Siesta Key Station in Sarasota, on a point of land where Midnight Pass connects the inland waters with the Gulf of Mexico.

Drs. Eberhard G. Trams, head,



Dr. Vincent T. Oliverio, NCI, removes blood for lab research studies from a newly captured 6-foot shark.

Section on Physiology and Metabolism, NINDS, and David P. Rall, associate scientific director of Experimental Therapeutics, NCI, originated the plan for using the trailer.

However, all NIH scientists interested in conducting basic studies on marine life are encouraged to use it.

Previously, NINDS scientists used the facilities at Bimini, Woods Hole or Maine and brought their equipment on each trip.

Now, with the trailer, they have immediate access to an ultracentrifuge, oscilloscope, spectrophotometer and other equipment.

Marine research is becoming increasingly important in exploring the ocean environment as a source of food, and for anticancer substances. It is also testing grounds for drugs and chemotherapeutic agents.

The location of the trailer—50 yards from the Gulf of Mexico—is ideal because the Gulf contains a part of the continental shelf which supports most of the fish and invertebrate life.

More than 241 species of algae, and 6 species of vascular plants can be collected in the area, many of the species are supplied by the Mote Marine Laboratory.

In addition, 24 species of reptiles, 6 species of amphibians, more than 6 species of aquatic mammals, 14 types of sharks and approximately 85 types of birds have been identified.

Because of this selection, it is possible for a scientist to find such things as a Florida diamondback terrapin, gopher tortoise, alligator, bottle-nosed dolphin, hammerhead shark, brown pelican, water turkey, Louisiana heron, and even the Cuban snowy plover.

The Mote Marine Laboratory has four boats for collecting marine animals. The lab requires a week to a month's notice depending on the nature and the size of the collection.

A wide variety of studies have already been conducted at the laboratory—many of them on sharks which lend themselves to physiologic and pharmacologic studies.

Director Is Expert

The executive director of the MML, Dr. Perry W. Gilbert, is considered one of the world's greatest shark experts.

Scientists from four Institutes have used the facilities for research on sharks in the following studies:

The blood-brain barrier (that phenomenon in most living creatures which prevents substances in the blood from crossing over into the brain); the interrelationship of steroid hormones and catecholamine metabolism; the effect of the sodium pump on shark glands; the neurotransmitter substances and

In the dark of the night a baited shark line is laid out in Gulf waters by Mote Marine Laboratory personnel.

receptors in the central nervous system, and the mode of action of anesthetics.

Because elasmobranchii (sharks and rays) for some unknown reason do not seem to develop malignant tumors, NCI scientists find these fish fitting subjects for tumor research.

Other animals used for brain research are the guitar fish, nurse sharks and cow nose ray. The first two species are used to study the microanatomy of brain extracellular spaces.

Scientists can also dig for amphioxus, one of the most primitive of vertebrates.

Most scientists use the laboratory for about 5 to 10 days at a time. During the off season nearby motels offer reasonably priced living quarters.

The laboratory is open for about 3 months of the year, but if more researchers use this facility it could be operated on a year-round basis. There is room for four persons to conduct research studies at one time.

Interested investigators may contact Dr. Trams, NINDS, for a film showing both the capture of a shark by Mote Marine Lab employees and the interior of the rented trailer laboratory.

Dr. Dean Burk Honored By Election to Medical Order of Bethlehem

Dr. Burk has been doing research work at NCI almost since the Institute's inception in 1937.

Dr. Dean Burk, National Cancer Institute, has been elected a Knight and Commander in the medical "Order of Bethlehem."

The order was founded in 1459 by Pope Pius II.

The election took place in Rome on Feb. 15—the same day Dr. Burk completed 41 years of continuous research work in the Federal Government.

During this period, he spent 31 years on the staff of the NCI. He now heads the Cytochemistry Section in NCI's Laboratory of Biochemistry.

The election to the order was based on his contributions in the area of cancer research. Dr. Burk had reported on these studies while attending scientific meetings in Italy and Germany last October.

He received the Gerhard Domagk Award for Cancer Research in 1965, and earlier, the Hillebrand Award of the American Chemical Society. In 1955 he was made a Foreign Scientific Member of the Max Planck Society, a leading scientific organization in Germany.

Electric Computers Help Biologists to Know How Man and Animal Evolved

Electric computers are helping evolutionary biologists to gain new insight into the way man becomes man.

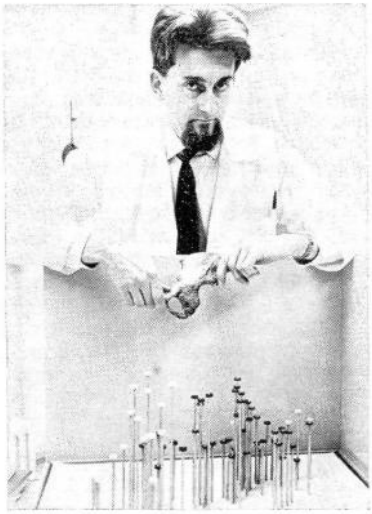
Because of this help biologists are "inventing the past," according to Dr. Charles E. Oxnard, associate professor of Anatomy, Anthropology, and Evolutionary Biology, University of Chicago.

Dr. Oxnard, a National Institute of Child Health and Human Development grantee, believes electronic computers have ushered in a new era of studying the macro-anatomy of the animal or human body.

These studies reveal how parts of the body—in both man and animals—could have changed and evolved.

By studying films of living animals, dissecting hundreds of specimens, and measuring thousands of bones, Dr. Oxnard and his colleagues established a relationship between bone shape, muscle function, and locomotor behavior in primates.

Dr. Oxnard also uses computer and engineering techniques on other living mammals and in fossils of early man-like creatures.



According to Dr. Charles Oxnard, the evolution of the shape of bones in monkeys, apes, and man may be defined in terms of an imaginary nine-dimensional figure as represented by a real three-dimensional model shown here.—Photo from University of Chicago.

With the use of mathematical formulae and computers, the researcher shows the animals within three-dimensional space. He believes his approach results in new insights in the studies of the change of shape in evolution.

"Although the human eye is extremely good at such procedures as discriminating between different complex shapes," Dr. Oxnard further explained, "it is rather bad at such tasks as allowing for correlations of parts within shapes. The computer can see what the human eye cannot."

Dr. Oxnard also emphasized this point: "however powerful the computers and programs that are used, information cannot be extracted from data if it truly is not there.

"Such studies depend heavily on creative anatomical approaches to the original biological materials. Given this important qualification the electronic computer can become for the macro-anatomist what the electron microscope has proved to be for the micro-anatomist."

NIGMS Sponsors Briefing on Trauma Problems, Patient Care and Research

At the press briefing the methods for treating patients suffering from traumatic shock were discussed by (l to r) Dr. R. Adams Cowley, Dr. Peter C. Canizaro, and Dr. Frederick L. Stone.

By Robert A. White

A tiny electrode inserted into the leg through a hypodermic needle can detect important chemical changes in the blood of accident victims.

Dr. Peter C. Canizaro, assistant professor of Surgery at the University of Texas Southwestern Medical School, made this statement to newsmen at a recent press briefing sponsored by the National Institute of General Medical Sciences.

The electrode measures sodium and potassium levels within the cell and helps physicians determine how much salt solution they should administer to correct chemical imbalances.

The use of microelectrodes, he said, illustrates how basic research findings at the Parkland Memorial Hospital Trauma Center in Dallas —one of seven such centers supported by NIGMS—are enlisted quickly and effectively to aid patients suffering from traumatic shock.

Dr. Canizaro cited also the use of thin pigskin strips on burns to reduce pain, reduce chances of infection, and serve as temporary skin grafts until permanent grafts are feasible; and the method of applying antibiotics to burned skin to prevent infection.

Opening the briefing, Dr. Frederick L. Stone, Institute Director, said that trauma research is one area of science where findings can be translated almost instantly to patient care.

He announced that the Institute will sponsor an international trauma symposium May 18-20 in Washington, D. C., that will stress research on care of the injured.

One of the symposium's objectives, he said, is to determine how research may be applied even more rapidly than it is at the present time to aid the injured patient.

Dr. Stone outlined the dimensions of the trauma problem, and explained that injuries are the leading cause of death among all persons aged one to 37.

One hundred and fourteen thousand Americans die each year from injuries; approximately half these deaths are from traffic accidents.

Injuries Cost $22 Billion

Of the 50 million Americans injured, 10 million are temporarily disabled and 400,000 permanently disabled. In money alone, the cost of injuries is $22 billion a year.

Another trauma center at the University of Maryland Medical School funded by the Institute was represented by Dr. R. Adams Cowley, Director.

Dr. Cowley said many U. S. emergency rooms are poorly organized, inadequately staffed, and insufficiently equipped.

He said these discrepancies were especially true on nights and weekends when many accidents occur.

By comparison, the trauma research center at Baltimore is staffed around the clock by special teams of physicians, surgeons, engineers, scientists, and nurses who, according to Dr. Cowley, are uniquely trained and equipped to handle crisis patients.

A soon-to-be inaugurated helicopter ambulance service will airlift accident victims from remote parts of Maryland to the trauma center.

NIGMS, as the Government's focal point for trauma research, has an annual research investment of $2.8 million of which $1.5 million is for work at these centers.

In addition to the centers at Dallas and Baltimore, NIGMS supports other large trauma research units at Columbia-Presbyterian Medical Center, the University of Cincinnati Medical Center, the University of Pennsylvania School of Medicine, Albany Medical College, and the State University of New York at Buffalo.

NIDR Meetings Explore Ways of Using Advances In Molecular Biology

A series of informal workshops have been started by National Institute of Dental Research scientists representing different disciplines.

The workshops will explore ways of incorporating advances in molecular biology into dental research.

At a recent meeting the mechanisms controlling the migration of embryonic cells in facial development was discussed. The meeting was directed by Dr. Malcolm C. Johnston, a visiting scientist with the Human Genetics Branch.

At a previous session, Dr. William A. Gibson, Experimental Pathology Branch, presented his views on enzyme activities of the periodontium.

These workshops differ from formal seminars. Here, the participants determine the subject through discussions with the speaker.

The speaker directs the session by posing problems and providing information while participants try to solve the problems.

The series was organized by Dr. Anthony J. Steffek, Director of the American Dental Association component at NIDR, and Dr. Edward F. Rossomando, NIDR.

Dr. Lois Cohen has been voted president-elect for 1970-71 of the Behavioral Scientists in Dental Research, a new international organization. Dr. Cohen is chief of Applied Behavioral Studies in the Division of Dental Health, BEMT.

Jessie M. Scott, Director of the Division of Nursing, BEMT, was presented the PHS Meritorious Service Medal by Surg. Gen. Jesse L. Steinfeld on March 24, during the 10th annual meeting of the Division's professional staff. Miss Scott was cited for her "outstanding contributions to nursing in this country and other parts of the world . . ."

Apply for Short-Term Training Grants Through HEW Regional Offices

Applicants for Short-Term Training Grants under the Public Health Traineeship Program should apply for these grants through the nine regional offices of HEW, according to Dr. Kenneth M. Endicott, BEMT Director.

Formerly, applications were submitted to the BEMT central office. The change is the result of a recommendation made by the Federal Assistance Streamlining Task Force (FAST), HEW.

FAST examined, evaluated and made recommendations for the improvement of grants management throughout the Department.

Grants Explained

This is the first grants program on which action has been taken.

The grants are awarded on a competitive basis to any public or non-profit private institution or agency that provides graduate or specialized short-term training in public health for professional health personnel.

Length of training varies from at least 2½ days to generally not more than 4 weeks.

The objectives are: assist in increasing the technical competence of professional health personnel; decrease the time lag between the discovery of public health knowledge and its application in public health practice.

Further information about the program is available from the Associate Regional Health Director for Manpower in each of the HEW Regional Offices.

Camptotheca Tree, Cultivated in West, Yields Active Anticancer Compound

A tree, native to mainland China, is the source of camptothecin. Extracts from all parts of the plant, *Camptotheca acuminata*, have yielded the active anticancer compound which first gained the attention of NCI scientists when it doubled the survival time of mice with leukemia.

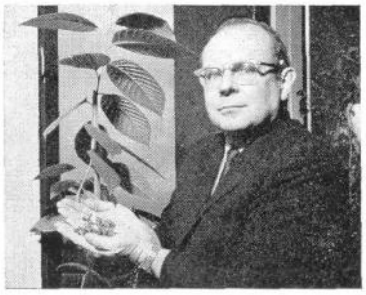
The mouse leukemia, designated L1210, serves as a primary screen for the Institute's Cancer Chemotherapy National Service Center.

"If an agent is active against the L1210 tumor," says Dr. Saul A. Schepartz, associate scientific director, NCI, and the Center's chief, "this is an excellent indicator of its potential as a weapon against human cancer."

The camptotheca tree was brought to California by the U. S. Department of Agriculture in the early 1930's as a possible new ornamental plant, but it never became popular.

In the early 1950's Dr. Monroe Wall, then of the USDA's Eastern Utilization Research and Development Laboratories in Philadelphia, examined alcohol extracts of camptotheca along with those of thousands of other plants as a possible source of cortisone precursors. None was found in the camptotheca, and the extracts were set aside for several years.

In 1955, NCI established its screening center for cancer chemotherapeutic agents. Officials learned of Dr. Wall's collection of plant extracts and asked that they be submitted for testing. The center has screened over 327,000 substances over the past 15 years, including 45,000 plant extracts.



Camptotheca tree seeds, like these held by Dr. Wood, are being processed to establish a new planting of 50,000 seedlings.

It was not until 1959 that camptothecin's anticancer activity in animals was established. In the meantime, Dr. Wall, now at Research Triangle Institute in North Carolina, had entered into contract with the NCI to prepare extracts from plants and isolate the active agents from them.

Camptothecin was isolated as a pure material in 1965 at Research Triangle Institute. Two years earlier, in late 1963, Dr. Robert E. Perdue, Jr. of USDA's Agricultural Research Service, began an intensive search for new sources of camptotheca. About 30 trees were located, mostly in California, a few in Taiwan.

From a single tree in southern California that produces viable seeds and from 2 mature trees at the Chico, Calif., Plant Introduction Station, the Agricultural Research Service began cultivating camptotheca seedlings at Chico.

In October 1968 the first major crop was harvested for processing. By the fall of 1969 the planting at Chico included 6,000 seedlings 2 to 5 years old and 4 to 14 feet tall.

Seeds are now being processed to establish a new planting of 50,000 seedlings under an interagency agreement between the USDA and the NCI. Both cultivation of seedlings and the search for full-grown trees will continue in order to meet the needs of the clinical program.

Moreover, several laboratories under NCI contract are attempting to synthesize camptothecin. Although they have not yet been successful, Dr. Harry Wood, chief of NCI's Drug Development Branch, says they are "coming very close."

CAMPTOTHECIN

(Continued from Page 1)

Of the 9 patients with advanced cancer of the intestine and rectum, 4 patients achieved tumor reduction greater than 50 percent; in 4 others tumor masses decreased 25 to 50 percent. One patient of the 9 with gastrointestinal cancer did not derive benefit.

In addition to the responses by patients with intestinal and rectal cancer, one patient with melanoma experienced greater than 50 percent reduction in tumor nodules; one adult with lung cancer and another with acute myelocytic leukemia had from 25 to 50 percent decrease in tumor mass or manifested other objective evidence of tumor regression.

Durations of response were brief. Half were under 2 months, half longer than 2 months. The longest lasted 5 months.

Four patients died 7 to 17 days following drug administration from kidney and lung complications but their deaths did not appear to be directly drug-related.

Toxic side effects of camptothecin were varied and generally manageable. The major limiting toxicity was bone marrow depression which, in some cases, necessitated transfusions of blood platelets.

Hair loss and weight loss were frequent but were reversible upon cessation of therapy. Hemorrhagic inflammation of the bladder occurred in some patients but appears to be preventable by maintaining high urine flow through administration of large quantities of water and other fluids.

Cooperation between HEW and the Department of Agriculture in planting thousands of *Camptotheca acuminata* seedling trees in Chico, Calif., is providing sufficient amounts of camptothecin for use by the research team at the NCI Baltimore Cancer Research Center. However, the drug continues to be in short supply.

The most promising approach to obtaining large quantities of the drug now, according to Dr. Saul Schepartz, associate scientific director for Chemotherapy, is to synthesize camptothecin chemically.

Attempts are being made to produce a synthetic camptothecin product in several NCI-supported laboratory studies.

Dr. Stroud Named Chief Of Extramural Training Programs Branch, NHLI

Dr. Robert Church Stroud has been appointed chief of the Training Grants and Awards Branch of the National Heart and Lung Institute. He replaces Dr. Leroy Langley, now with the National Library of Medicine.

Dr. Stroud

Dr. Stroud will administer the Institute's $20+ million program of training grants, fellowships, and research career awards designed to increase the supply of scientists, teachers, and physicians in the cardiovascular and pulmonary fields.

These programs support training in research and clinical disciplines. They allow postgraduate students to sharpen research skills under the tutelage of established investigators; physicians to obtain special training in the latest, most sophisticated clinical techniques in the cardiovascular and pulmonary fields, and competent investigators to obtain stable, long-term support for their research and training activities.

Before joining the NHLI staff, Dr. Stroud was chief of the Health Research Facilities Branch, Division of Educational and Research Facilities. He had served with this program since coming to NIH in 1964.

Earlier, Dr. Stroud held a number of research and administrative posts with other Federal agencies.

His principal research interests are the cardio-pulmonary and respiratory effects of environmental changes, especially high altitude adaptation and responses.

Dr. Harry W. Bruce, Jr., Director of the Division of Educational and Research Facilities, BEMT, received the honorary degree of Doctor of Humane Letters from the Loyola University of Chicago School of Dentistry during dedication ceremonies of the new school on April 1. In a symposium, "The Dental Profession Looks to Its Future," following the dedication, Dr. Bruce discussed the role of the PHS.

Dr. Irina V. Tarasevich Observes RML Research

A scientist from Russia, Dr. Irina V. Tarasevich, spent almost a month—during the past winter—visiting the National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratory in Hamilton, Mont.

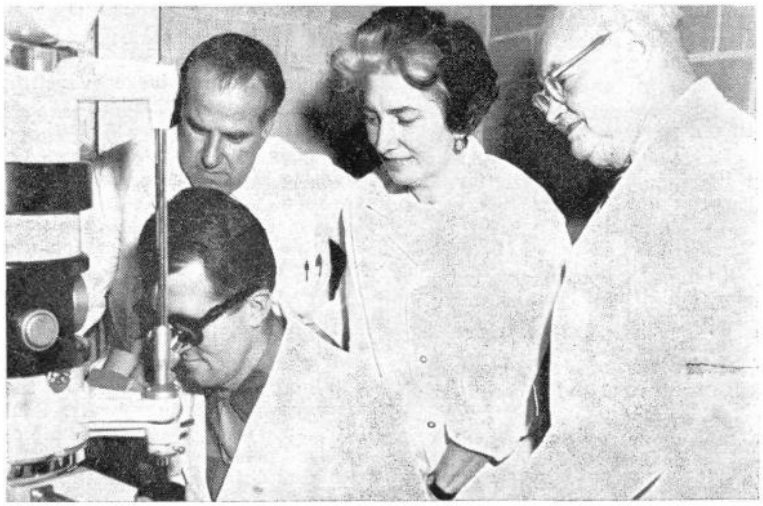
Dr. Tarasevich is a senior scientific associate in the Laboratory of Endemic Rickettsial Diseases of the Gamaleya Institute for Epidemiology and Microbiology.

During her stay in the northwestern state Dr. Tarasevich observed the methods used by RML investigators in their research of rickettsial diseases.

The American scientists and Dr. Tarasevich also exchanged information on those diseases that may very well further cement international scientific relations.

The Russian researcher, a native of Moscow, graduated from Moscow General University with a degree in Entomology. In 1966 she was awarded her Doctorate of Medical Sciences.

Dr. Tarasevich has written many scientific articles and is also the co-author of two books on the natural sources of diseases.



RML scientists point out under an electron microscope a phase of their research work. Left to right: Dr. Lyle Brinton, Dr. Willy Burgdorfer, Dr. Tarasevich, and Dr. Cornelius B. Philip.

AWARDS

(Continued from Page 1)

Division of Clinical and Behavioral Research—"In recognition of his achievement in founding and bringing to maturity a distinguished program of cliincal psychiatric research."

Dr. Julius Axelrod, chief, Section on Pharmacology, Laboratory of Cliincal Sciences—"In recognition of his contribution toward understanding mechanisms of drug action and metabolism, and pineal gland funtion in relation to diurnal rhythms."

After the ceremony, Departmental and agency officials, and award recipients and their families attended the Secretary's reception in the Snow Room at HEW.

Admissions System at Med School Evaluated

The effectiveness of a semiannual system at the University of Tennessee College of Medicine will be evaluated by the Research Institute of Menlo Park, Calif., under a one-year contract with the Division of Physician Manpower, BEMT.

Data and opinions will be gathered from the administrative staff, faculty, prospective students, and graduating physicians.

An analysis and description of the medical school operation will also be prepared.

Dr. Philip H. Sorensen, manager of the Institute's Educational Research program, will direct the project.

Curtis Tate Wins Award for Estimating Power of Ice Cube in Transporting Serum

What can a person do with one ice cube?

Usually not very much. One ice cube won't cool a drink. It won't go far in an icebag to ease an aching head or throat. In liquid form, it's only about two tablespoonsful of water.

But Curtis D. Tate, administrator in the National Institute of Allergy and Infectious Diseases' Transplantation Immunology Branch, found a valuable use for one ice cube.

He turned it into a profitable $1,000 suggestion award and gained the recognition of scientists in this country and overseas.

Mr. Tate's idea grew out of a problem encountered in shipping frozen human tissue typing serum to medical centers throughout the world involved in organ transplant surgery.

The serum is used to test tissue compatability between human organ donors and recipients before surgery, just as blood types are routinely determined before transfusions.

But, unlike blood, the tissue serum must remain frozen from the time it leaves NIAID until it reaches its destination or its potency may be weakened.

Potency Loss Dangerous

The results could be a false test reaction and possible loss of a life.

Shipped by commercial air freight and packed in dry ice, the styrofoam containers holding the precious serum carried instructions for re-icing along the route.

However, upon delivery, it was impossible to determine by inspection whether the serum specimen had been allowed to thaw and then had been refrozen during transit.

Then came the Tate ice cube idea.

Placed in a small sealed plastic bag inside the container, the ice, still in its cube form upon arrival, indicates that the contents had remained in a constant frozen state.

If the ice were melted—or refrozen in a new form—it becomes readily apparent that the serum also was allowed to thaw enroute.

The precise dollar savings resulting from Mr. Tate's suggestion are difficult to compute because so many intangible factors are involved.

It is generally agreed that if the sera's reliability is questioned—and therefore must be replaced or meticulously tested—the cost can run into thousands of dollars.

Based on the premise that the Tate ice cube indicator could eliminate re-testing and re-issuance of much of the scarce sera, it has been estimated that the annual savings could amount to more than $20,000.

The branch provides sera to tissue typing centers around the world. In fact, the majority of all heart and kidney transplant operations performed to date have involved the use of NIAID sera to match donor and recipient.

The Tate method for shipping frozen laboratory material has now gone international:

The British Cooperative Transplant Program is now using his technique, and other countries are beginning to evaluate his procedure.

Dr. Dorland J. Davis, NIAID Director, and Dr. John R. Seal, NIAID Scientific Director, participated in the recent award presentation ceremony.

The latter, in presenting the check to Mr. Tate, called the idea "a simple but highly ingenious solution to a worrisome problem."

"Why didn't I think of that?" must have occurred to many scientific minds when Dr. Seal (l) presented Mr. Tate with an award (cold cash) for suggesting the use of ice cubes during transit of sera.

"Like all eminently practical and worthwhile suggestions which have great value in usage, the idea is so simple that it is difficult to understand why others haven't thought of it before," he remarked.

To which Mr. Tate replied:

"Thank you. This check looks as good to me as the suggestion did to everyone else!"

Lab of Molecular Aging In NICHD Reorganizes

Three sections have been established in the Laboratory of Molecular Aging, Gerontology Research Center, National Institute of Child Health and Human Development.

The organizational changes which became effective on March 16 were announced by Dr. Gerald D. LaVeck, NICHD Director.

Dr. Gunther Eichhorn will head the Section on Molecular Chemistry.

Dr. Bertram Sacktor, acting chief of the laboratory, will also be acting head of the Section on Biophysics, and head of the Section on Intermediary Metabolism.