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the NIH Record

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NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Dr. C. L. Williams Appointed Chief Of Int'l Research

The appointment of Dr. Charles Laval Williams Jr. as Chief of the Office of International Research at the National Institutes of Health was announced recently by Surgeon General Luther L. Terry of the Public Health Service.

Dr. Williams

Dr. Williams will be responsible for the centrally administered aspects of NIH international activities, for proper coordination of Institute activities involving other countries, and for the development of general NIH policy in international activities.

Before coming to NIH, Dr. Williams was Associate Director for International Relations, Office of International Health, PHS. Earlier he served as Chief Public Health Adviser of the U.S. Agency for International Development Mission to Peru (International Cooperation Administration).

Born in New Orleans, La., in 1916, Dr. Williams received the

(See DR. WILLIAMS, Page 7)

NHI - USIA Film, 'Heartbeat,' To Be Shown Here, Abroad

By Tony Anastasi

A new international heart research motion picture, "Heartbeat," produced by the National Heart Institute and the U.S. Information Agency, is being shown as a short subject in commercial theaters in this country and was recently entered in the Academy of Motion Picture Arts and Sciences competition for an Academy Award. It presents examples of heart research supported by grants from the NHI on research projects carried out in conjunction with NHI scientists.

"Heartbeat" is the second USIA-produced film to be distributed in the United States. The first was Mrs. John F. Kennedy's tour of India. USIA films and other informational materials are normally produced for overseas consumption only.

To Beirut, Lebanon, this mother and father traveled 200 miles on foot to bring their baby, born with a rare heart defect, to the Heart Research Center where many heart patients, considered hopeless, have been cured.

The new movie is also among the first to be produced jointly by USIA and another government agency.

On TV in 100 Countries

The 35 mm. movie is in black and white, with narration and music, and runs almost 30 minutes. No other film of this kind, portraying international aspects of heart research, has been made to date. It will also be shown on television in this country and in over 100 foreign countries, with sound tracks in 40 languages.

Filmed in Peru, Lebanon, Uganda, Japan, East Pakistan and Washington, D.C. (National Institutes of Health), the movie is designed to help fill a need for dis-

(See HEARTBEAT, Page 4)

DNA Is Ultimate In Miniaturization Says Kornberg

By Don Goldthorpe

Dr. Arthur Kornberg, Stanford University Nobel laureate, discussing the chemical basis of heredity at an NIH seminar, summed up the deoxyribonucleic acid molecule as the ultimate in miniaturization of information coding.

Dr. Kornberg

The Stanford scientist's lecture on January 7 was the opening seminar in a series which will examine trends in the biochemical sciences and genetics. The seminars are sponsored by the National Institute of General Medical Sciences and the Division of Research Facilities and Resources for their professional staffs.

Miniaturization Compared

Dr. Kornberg offered his observation of the DNA molecule in the form of an analogy. The miniaturization accomplished within a single cell, he said, might be compared to the reduction of the entire Encyclopedia Britannica to the size of a pinhead. In this reduction, the period at the end of a sentence would occupy the space of 1,000 atoms.

This miniaturized chemical language, one of nature's most spectacular feats, embraces all the specifications for any living organism. In book form these directions would be larger than the Britannica. Yet the chromosomes for the earth's three billion-plus inhabitants would together occupy the space of a pea.

DNA's Role Established

Since the 1940's when DNA was established as the inheritance-transferring factor in the cell, new advances in this field have been so impressive that all investigators now accept the essentiality of DNA in determining what a cell is and does. DNA's primary func-

(See DR. KORNBERG, Page 6)

NCI Booklet Summarizes Findings of Committee On 'Smoking and Cancer'

A new pamphlet, issued recently by the Public Health Service, summarizes findings related to cancer that were reported by the Advisory Committee to the Surgeon General in its comprehensive study of smoking and health released early last year.

Single copies of "Smoking and Cancer" (PHS Publication No. 1103c) are available without charge from the Public Health Service, Washington, D.C. 20201. It may be purchased in quantity from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, for five cents a copy or $2.50 per hundred copies.

14-Month-Old Darcy Kropp Is Saved by Surgery and Blood Donations at NIH

Patients at the Clinical Center are told not to expect "medical miracles," and yet one happens every once in a while to upset this sage advice. That 14-month-old Darcy L. Kropp is alive today is just such a miracle — a miracle based on the willingness of others to donate blood.

The great zest she now enjoys was almost unthinkable for the frail 10-pound Darcy who came to the CC from her home in Hialeah, Fla., some three months ago.

She had already been hospitalized four times in her young life. Born with extremely serious congenital heart disease—total anomalous pulmonary venous drainage

(See DARCY KROPP, Page 6)

Miss Darcy L. Kropp, 14 months old and healthy as can be, is a testimonial to the life-saving value of blood donations.—Photo by Bob Pumphrey.

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

Editor ..... E. Kenneth Stabler
Associate Editor ..... George J. Mannina

Staff Correspondents

Georgiana Brimijoin, NCI; Tony Anastasi, NHI; Bryson Fleer, NIAID; Mary Anne Gates, NIAMD; Bob Callahan, NIDR; Bill Kleven, NIMH; Frances Dearman, NINDB; Frank Smith, CC; Faye Heil, DBS; Mike Canning, NIGMS; Beverly Warran, DRFR; Dick Turlington, DRG; Bob Walters, DRS; Helene Devay, OAM; Dan Rogers, NICHD.

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

NEWS from PERSONNEL

INCOME TAX ASSISTANCE

Help in filling out your income tax forms is now available in the morning as well as in the afternoon, in the Clinical Center cloakroom just off the main lobby. Robert Burbank is on duty from 8 a.m. until 1 p.m. Leonard Horan is on duty from 1 p.m. until 5:30 p.m.

"OPEN SEASON"

An "Open Season" under the Federal Employees Health Benefits Program is scheduled for February 1 through February 15. During this period, if you are registered not to be enrolled you may register to enroll, or if you are already enrolled you may change from one plan or option to another plan or option—or from self only to self and family (or reverse)—or any combination of these changes.

Three plans are available: the Government-wide Service Benefit (Blue Cross-Blue Shield), Government-wide Indemnity Benefit Plan (Aetna Life Ins. Co.), and Group Health Association Plan.

Booklets to Be Distributed

Or, if a member of an employee organization that sponsors a health benefits plan, you may participate in the organization's plan.

A booklet, BRI-41-117A, "Open Season Instructions," will be given to each employee by desk to desk distribution. If you have not received a copy by the end of January and are interested in the program, you may obtain a copy from your Personnel Officer, as well as copies of the brochures for the various plans.

Also, registration assistants will be available to answer questions about the program and to help complete the registration forms. The names of registration assistants will be posted on all NIH official bulletin boards and in the I/D Personnel Offices.

Changes in enrollment will be effective on the first day of the first pay period after March 1. At NIH this is March 14.

However, if the change is from "not enrolled" to "enrolled," and you are on leave without pay for that entire pay period, and thus receive no pay on March 14, the enrollment will be postponed to the beginning of the first pay period after you return to a pay status.

Administrative Training Committee Headed by Robert H. Grant, OIR

NIH Executive Officer Richard L. Seggel has announced the appointment of Robert H. Grant, Assistant Chief of the Office of International Research, as Chairman of the NIH Administrative Training Committee.

At the same time three new members were named to the committee. They are Kenneth H. Brown, NIAID; J. Gordon DuBay, DRS; and Charles Miller, OD.

Other members of the group are Calvin B. Baldwin Jr., NICHD; Richard H. Henschel, NHI; Robert L. Schultheis, OD; Alexander Adler, DRG; and Louis L. Voegler, OD.

The committee has responsibility for recruiting, selecting, and planning the training of individuals with high potential for responsibilities in the management field. It also assures appropriate training opportunities for the entire NIH administrative population.

Medical Library Group To Meet Here Friday

The annual meeting of the Washington, D.C. Area Medical Library Group will be held here next Friday, January 29. It will be sponsored by the NIH Library, with Jess A. Martin, Chief of the Library Branch, serving as chairman and host.

The afternoon session will be held in Wilson Hall at 2 p.m. Mr. Martin will describe the development of the NIH Library; Dr. Martin Cummings will discuss the National Library of Medicine and its programs; and a panel on Medical Library Internship will be moderated by Alfred Brandon, Librarian of the Welch Medical Library, Johns Hopkins University School of Medicine.

Dinner Session at 5:30

A dinner session will be held at 5:30 p.m. in the State Room at Governor's House Restaurant, Bethesda. Dr. Estelle Brodman, President of the Medical Library Association, will make the opening remarks.

The principal address will be given by Dr. Richard H. Orr, Director of the Institute for Advancement of Medical Communication, on the subject "The Role of Libraries in the Communication System of Biomedical Research." The cost of registration and dinner is $4.95.

For further information call Miss Anna Dougherty, NIH Library, Ext. 64541.

Registration Is Feb. 1-6 For Graduate Courses

The Foundation for Advanced Education in the Sciences, Inc., the sponsoring organization, has announced that registration for classes in the Spring 1965 semester of the Graduate Program of NIH will be held in Building 31, Rm. B1B38 from 10 a.m. to 4 p.m. daily, February 1-6. Classes will begin Monday, February 8.

Forty-two classes are offered in Chemistry, Genetics, Medicine and Physiology, Languages and General Studies, Microbiology and Immunology, Biochemistry, Behavioral and Social Sciences, and Mathematics and Physics.

New courses being offered for the first time include Advanced Human Genetics, Histochemistry, Partial Differential Equations and Introduction to Modern Algebra.

Catalogs for the Spring 1965 semester are available at the Graduate Program Office, Rm. B1B38, Ext. 66371.

You can always spot a well-informed man. His views are usually the same as yours.—The Washington Post.

Dr. Frank Rauscher, NCI, Is Named One of Ten Outstanding Young Men

Dr. Frank Rauscher Jr., Head of the Viral Oncology Section, National Cancer Institute, was named on January 11 as one of the Ten Outstanding Young Men of 1964 by the U.S. Junior Chamber of Commerce.

Dr. Rauscher

During the presentation ceremonies in Santa Monica, Calif., on January 15 and 16, Stan Ludley, national Jaycee President, said the awards honored young men who "reflect the strength of this Nation and the world."

Dr. Rauscher, was cited for his significant contribution to virus-cancer research, in isolating a virus which acts swiftly to produce leukemia in laboratory mice.

Rutgers Faculty Member

A graduate of Moravian College, Dr. Rauscher received his Ph.D. in microbiology in 1957 from Rutgers University where he became Assistant Professor of Virology before joining the National Cancer Institute in 1959.

He was named Head of the Viral Oncology Section of the Laboratory of Viral Oncology in 1964 and is serving under Dr. Carl G. Baker, Associate Director for Program, as a member of a science-management team appointed by Dr. Kenneth M. Endicott, NCI Director, to develop the overall plan for the Institute's special $10 million virus-cancer-leukemia program.

Mr. Latker to Discuss DHEW Patent Policy

Norman J. Latker, NIH Patent Advisor, will address the Washington Chapter of the Instrument Society of America on February 1 at 8 p.m. in Building 31, Conference Rm. 3.

Speaking on "The Patent Policy of the Department of Health, Education, and Welfare," Mr. Latker will discuss possible changes in DHEW's patent policies as a result of the late President Kennedy's request for a uniform patent policy throughout the Government. These changes could greatly affect DHEW's patent policy regarding industry.

The meeting, to which all interested persons are invited, is cosponsored by the Instrument Engineering and Development Branch, DRS.

Dr. Caveness Appointed NINDB Assoc. Director Effective February 1

Dr. William F. Caveness, Associate Professor of Clinical Neurology at Columbia's College of Physicians and Surgeons, has been appointed Associate Director of the National Institute of Neurological Diseases and Blindness. His appointment to this newly established position is effective February 1.

Dr. Caveness

Dr. Caveness will be responsible for the Institute's programs in biometrics and epidemiology and for a variety of expanding collaborative and field research projects.

These projects include field studies of epilepsy and of head injuries, the development and evaluation of new drugs, and the investigation of viruses as a possible cause of such chronic neurological disorders as multiple sclerosis, amyotrophic lateral sclerosis, and certain forms of Parkinson's disease. The Institute's viral study involves established research programs on Guam and New Guinea.

Receives M.D. From McGill

A native of North Carolina, Dr. Caveness received the B.A. degree from the University of North Carolina and the M.D. degree from McGill University in Montreal, Canada. He received additional training in neurophysiology at Harvard Graduate School.

After intern and residency training in Montreal, Boston, and New York, he joined the staff of the Neurological Institute at the Columbia-Presbyterian Medical Center, where he has served for the past 16 years.

Dr. Caveness, a Diplomate of the Board of Psychiatry and Neurology, is a member of the American Neurological Association, the Association for Research in Nervous and Mental Diseases and the Society of Consultants to the Armed Forces.

Represents the U.S.A.

In 1961 he served as president of the American Epilepsy Society. He also served as a representative of the educational and cultural exchange program of the U.S. State Department at universities and hospitals in Peru, Chile, Argentina, Uruguay and Brazil.

Dr. Caveness is the author of an Atlas of Electroencephalography in the Macaca Mulata and of numerous articles on central nervous system development, head injuries and convulsive seizures.

Carl Witkop, NIDR, Reports on Effects Of Protein Deficiency in Latin America

By Lee Neilan

A dental scientist visiting Latin America reported that Guatemala and San Salvador children, born healthy and alert, will not grow as well as average North American children because many Latin Americans do not eat enough protein.

Dr. Carl J. Witkop Jr., Chief of the Human Genetics Branch of the National Institute of Dental Research, explained at a recent Institute seminar how sociological factors and general health relate to dental health as seen through his pilot research projects in Guatemala and San Salvador.

"The health of Latin Americans should concern all people of the Western Hemisphere. It affects not only tourists and immigration into this country, but also the political stability and economic well-being of Latin America," Dr. Witkop pointed out.

Attends INCAP Course

With public health officials from many countries, Dr. Witkop attended a special nutrition course offered in Guatemala City by the Institute for Nutrition for Central America and Panama (INCAP), established several years ago by Central American and U.S. scientists.

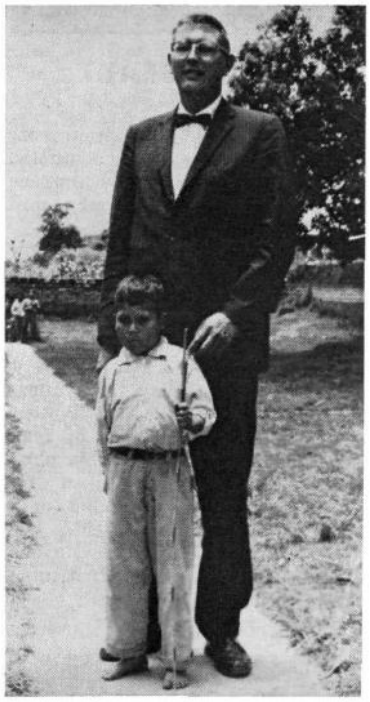
"INCAP is an organization trying to change the future of Latin Americans," Dr. Witkop said. "Today a great many of the Indians and Ladinos of Guatemala and San Salvador spend 99 percent of their time just obtaining the bare necessities for survival. Life is difficult. The village women frequently must walk two or three miles to bring water to their families."

Dr. Witkop noted that under such conditions more than one-third of young children die. "The objective of initial programs must be to decrease the time required to obtain survival necessities. Thus successful public health programs cannot be started until the population has some time to devote to these problems," he said.

New Food Developed

INCAP's biochemists, clinical nutritionists, and marketing specialists have promoted the manufacture of a food product, Incaparina, which can be produced locally and is low enough in cost for poor Latin American families. It can be prepared much like the low protein, high carbohydrate native corn drink "atole." It can also be added to broths and baking goods to bolster nutrition.

Incaparina, made in Guatemala, San Salvador, Brazil, and Colombia from the local grain, with cotton seed meal added to supply protein, approaches the biological value of good animal protein. Vitamin A is also added because more of this vitamin is required when protein is increased in the diet. Yeast is added for its vitamin content and minerals.



Dr. Carl J. Witkop measures this 12-year-old Guatemalan boy with a 36-inch ruler. Because they are undernourished, many of these children are the size of average American six-year-olds.

"Although Guatemala, known as the 'Land of Eternal Spring,' is an Eden for tourists," Dr. Witkop said, "it is very poor and difficult for its citizens."

The estates of Guatemala and San Salvador are owned by a very few people. Perhaps 65 percent of the people are Indian, while the rest, of mixed Spanish and Indian ancestry, are the more influential Ladinos. The traditional Indian farm, or minifinca, is a plot 20 x 20 feet on which the family lives and raises corn and beans as staples.

Villagers Examined

Santa Maria Cauque, a village near Guatemala City, was the setting for Dr. Witkop's pilot research projects. Since it is a study community for INCAP, the villagers are examined periodically.

After children are weaned, they are fed bean broth and a high carbohydrate corn gruel called "atole." Milk is not used because it is contaminated and causes dysentery. "The children have two to three

(See LATIN AMERICA, Page 8)

Grant to Aid Study of Virus Relationship to Human Breast Cancer

Scientists of the Public Health Service have enlisted the help of physicians at Georgetown University Medical School, Washington, D. C. in studies of the possible relationship of viruses to human breast cancer.

Under a $47,300 contract awarded to the medical school, Dr. Robert J. Coffey, Director of the Department of Surgery, and Dr. William F. Feller, Assistant Professor of Surgery, will work closely with Dr. W. Ray Bryan, Associate Scientific Director for Viral Oncology, National Cancer Institute, and his staff.

To Test Tissues and Milk

The Georgetown investigators will obtain samples of human breast cancer tissue and of human milk from operating rooms and maternity wards.

Pellets prepared from this material by ultracentrifugation will be studied under the electron microscope for virus-like particles. Suspect particles will be tested for tumor-producing activity in various laboratory animal species.

Suspect particles will also be injected into appropriate animals in an effort to produce an anti-serum containing antibodies with a high degree of specificity. Such antibodies, tagged with a fluorescent chemical, can be used to detect virus in other tissue specimens.

Procedures Based on NCI Work

These procedures will be based on knowledge obtained by NCI investigators and others working with a mouse mammary tumor system.

Scientific evidence accumulated over several years has demonstrated that the development of breast cancer in a susceptible strain of mice is associated with a virus found in mouse milk and tumor tissue.

A part of the research to be conducted at Georgetown under the present contract will extend studies on this animal model system.

Lab Animal Safety Film To Be Shown Tomorrow

A 15-minute film in sound and color, titled "Safe Handling of Laboratory Animals," will be shown in the Clinical Center auditorium tomorrow (Wednesday) at 1 p.m.

Scenes for the film were shot recently at NIH and the PHS Communicable Disease Center in Atlanta, Ga. All persons engaged in animal handling and other interested personnel are invited to attend the film showing.

NIMH Scientist Uses Trailer for Lab, Investigates Behavior of Neonatal Dogs

By Mildred Lehman

Hypothesis: If a scientist is bent on doing research, nothing can stop him. He'll carry out his project regardless of the kind of laboratory and office accommodations available.

Evidence: A National Institute of Mental Health psychologist who is studying the conditioning and ingestive behavior of the neonatal dog is working in a converted house trailer rigged up in a field at the NIH Animal Center near Poolesville, Md.

He is Dr. Walter C. Stanley of the Laboratory of Psychology.

While Dr. Stanley is most particular about the comfort and well-being of the tiny newborn beagles who give him clues to infant behavior, he is much less concerned about his own working conditions.

Until a few months ago, his experiments were confined to one trailer, which didn't leave him much walking space. Recently he acquired an annex consisting of another second-hand trailer. But he still has difficulty in getting assistants to work out there with him. At the moment he is his own lab helper, technician, and records keeper.

Lab to Be Ready in 1966

Dr. Stanley is careful to point out that building construction at the 500-acre NIH Animal Center is not behind schedule. Completion of Phase I-A will bring him a laboratory building well equipped with electronic devices. He has only to wait until 1966.

"The hypothesis that keeps us going," said the genial psychologist, "is that basic processes of learning are the same across all age groups and across all species. What differs is not the process but the specific conditions or factors surrounding the learning."

In the course of his work with newborn pups, Dr. Stanley has observed that they learn struggling or defensive behavior much earlier in life than previously thought. He also believes that his tender-aged charges learn rapidly and efficiently, and has assigned himself the task of proving it.

The classic experiments of the Russian Pavlov in which the dog's mouth watered at the sound of a bell—a conditioned response to getting food—opened this path of research but did not explore its many ramifications.

2d Biometrics Seminar

An epidemiological seminar titled "Does Epidemiological Evidence Support a Viral Etiology for Human Leukemia?" was held this morning in Bldg. 31.

It was the second in a series of seminars sponsored by the National Heart Institute's Biometrics Research Branch.

HEARTBEAT

(Continued from Page 1)

seminating health information from medical scientists to the public. The five sequences of the film are based on research programs supported by the NHI.

The opening segment shows how doctors in Dacca, East Pakistan, and others, half a world away at NIH in Bethesda, Md., combined their knowledge and skills to operate on the heart of a Pakistani boy, Tarig Hussain. Today this youngster who had lived the first 12 years of his life in the shadow of fear, can enjoy activities that his playmates have always taken for granted—a game of cricket or a romp through a wooded field.

Dr. Andrew G. Morrow, Chief of the National Heart Institute's Surgery Branch, successfully closed the hole in the wall of Tarig's heart. Dr. Morrow performs open-heart surgery in the new NIH Clinical Center Surgery Wing on the average of three times a week.

This little girl of Cerro del Pasco, Peru, is among those studied by researchers trying to solve the mystery of how the human heart adapts to the scarce oxygen and low temperatures of high altitudes.

The mystery of how the human heart has adapted to the scarce oxygen and low temperatures of high altitudes is featured in the second sequence of the new film.

At Cerro del Pasco, Peru, a team of doctors, aided by a National Heart Institute research grant, is studying ways in which these mountain people differ from their countrymen living at sea level. Some of these differences are apparent even to the untrained observer. Enlarged chests, labored breathing, clubbed fingers, and ruddy, almost purple complexions are characteristic.

Doctors in Kampala, Uganda, are working together to learn more about heart disease, especially the type contracted by this young boy whose abdominal swelling is due to abnormally large amounts of fluid in the body.

In Beirut, Lebanon, a program is underway to study cardiovascular diseases in the Middle East. "Heartbeat" shows how a team of doctors from the American University hospital in Beirut has established a cardiac clinic where people from all over Lebanon and surrounding countries come for treatment. In this third vignette the work of these scientists is portrayed.

A country transformed quickly from a predominantly rural setting to an emphasis on industry and urban life could provide important clues to solution of the heart disease riddle. This situation is explored in the film's fourth sequence, filmed in Japan, whose pastoral tranquility has given way more and more to the forces of the Twentieth Century and whose people today suffer from an attendant increase in heart disease.

Clotting Studied in Tokyo

At Tokyo Medical and Dental University, Dr. Takio Shimamoto and his staff use the modern tools of medical research in their quest. One of the important questions they are studying involves the effect of certain substances in preventing blood clotting action in the arteries. Clotting is often the final step in a heart attack or a stroke.

International cooperation in the battle against the world's number one killer—heart disease—can be seen in research conducted at the Mulago Hospital in Kampala, Uganda, Africa, in the movie's final story.

Physicians in Mulago and at Tulane University in New Orleans are working together to learn more about heart disease, especially forms prevalent in Kampala such as those that cause edema. The National Heart Institute helps make possible such programs as this, thereby linking the efforts of medical research around the world.

Joint Study Reports on Oncogenic Activity of Adenovirus 12 in Mice

A study by the Division of Biologics Standards and National Cancer Institute shows that inoculation of adenovirus 12 in two inbred strains of newborn mice produces tumors only in those animals thymectomized at birth.

The role of the thymus in immune mechanisms, as well as the importance of immune mechanisms in the ability of animals to reject transplanted tumor cells, has been reported by various workers. It has been suggested that human tumors might also be related to the impairment of the immune mechanism.

The current study indicates that the susceptibility of two inbred strains of mice to adenorvirus 12 may have been increased by neonatal thymectomy.

In the first experiments, four litters each of four different strains of newborn mice were inoculated with adenorvirus 12. These animals have been observed for over a year and no evidence of tumors has been noted.

Thymectomized Mice Inoculated

Eight additional litters of two of the four strains of newborn mice were inoculated with adenovirus 12 but, first, the animals were thymectomized.

Within a 2- to 4-month period, eight of the 35 thymectomized animals developed tumors. The tumors resembled those previously described in hamsters, *Mastomys*, and mice, and were considered to be undifferentiated malignant tumors.

The investigators consider it likely that the development of tumors in the thymectomized mice is related to impairment of immunity with loss of ability to reject neoplastic cells induced by adenovirus 12.

A complete report of this study by Dr. Ruth L. Kirschstein, DBS; Dr. Alan S. Rabson, NCI; and Elizabeth Peters, DBS, was published in a recent issue of the Proceedings of the Society for Experimental Biology and Medicine.

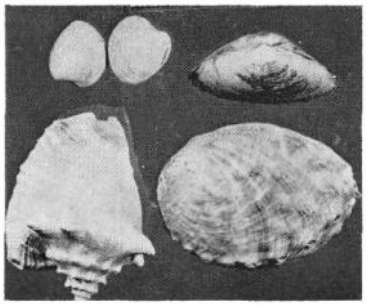
Two Members Named to NIMH Advisory Council

Surgeon General Luther L. Terry of the Public Health Service has announced the appointment of Dr. Paul V. Lemkau, Psychiatrist and Professor of Mental Hygiene at Johns Hopkins University School of Hygiene and Public Health, and James Quigg Newton Jr., President of the Commonwealth Fund in New York City, to 4-year terms on the National Advisory Mental Health Council, ending September 1968.

Tumor-Preventive Activity Attributed to Sea Mollusks' Antimicrobial Substances

Paolins, the antimicrobial substances known to be present in sea mollusks, have been found by latest experimental evidence to possess a tumor-preventive activity in addition to their antibacterial and antiviral effects, according to a recent report by NIH scientists.

The discovery that extracts from the common clam prevent or delay virus-induced tumors in hamsters and also inhibit herpes simplex virus in tissue cultures, was reported by Dr. C. P. Li of the Division of Biologics Standards, at a meeting of the New York Academy of Sciences in New York City.



Research has shown that sea mollusks are a rich source of antimicrobial substances known as paolins. Pictured here are four species. From left: Top row—common clam, quahog; Bottom row—queen conch, abalone.

Scientists Listed

This investigation was made by Dr. Li, Dr. Benjamin Prescott (NIAID), Dr. Bernice Eddy (DBS), Dr. William Green (NINDB), and G. Caldes (NIAID), E. C. Martino (DBS), and A. M. Young (DBS).

They prepared the extract from fresh clams purchased in August and September, since clams processed during the summer months have been reported to possess more inhibitory activity.

The clams were shucked, homogenized, and mixed with an equal amount of ammonium sulphate solution. The supernatant was then dialized and dried, and the resulting tan-color, water-soluble powder was fractionated by column chromatography. Only the major fractions 1, 2, and 3 were used in the study.

Hamsters Inoculated

Fractions 1 and 2 were administered to baby hamsters inoculated with adenovirus type 12. In one typical experiment, the hamsters were inoculated subcutaneously with the virus. Four days later, daily injections of the clam fractions were given to each infected hamster for two days. Infected, untreated hamsters served as controls.

After 90 days, eight of 11 controls developed tumors. Among two groups of infected hamsters that had been treated with the clam extracts, three of 10 and five of 10 developed tumors, with the average appearance of the tumors delayed for 13 days in comparison to the control animals.

Antiviral Activity Tested

Experiments for antiviral activity of the clam material against herpes simplex (cold sore) virus were made in primary rabbit kidney cells. The herpes simplex virus was inoculated into cultures immediately after the three clam extract fractions were added.

After three days of incubation, the cytopathic effect in the treated tubes was found to be considerably suppressed with the virus titer reduced by 90 percent as compared to the control tubes.

When the clam fractions were examined for their effect on herpes simplex keratitis in the eyes of rabbits, no appreciable effect on the course of keratitis was noted, although the clam material was found to be free of local toxic effects.

In discussing the study, Dr. Li pointed out that the antiviral substances isolated from shellfish material probably belong to or are derived from the glyco- or mucoproteins.

In this study, all three fractions gave positive protein and carbohydrate reactions. Paolins are apparently widely distributed in nature; they have been found in plants and in certain animal tissues, as well as in sea mollusks.

"It is possible that the intake by man or animals of certain foodstuffs rich in paolins plays an important role in the natural defense against certain viral infections," Dr. Li speculated.

Roland E. Mills Dies, Came to NIH in 1942

Roland E. Mills, 54, a Division of Biologics Standards microbiological laboratory technician, died December 30, at the Marine Hospital in Baltimore following a short illness.

Mr. Mills

Mr. Mills came to the National Institute of Health's Division of Infectious Diseases in 1942. He later worked in the Laboratory of Biologics Control of the National Microbiological Institute and, since 1955, when the Laboratory of Biologics Control became the Division of Biologics Standards, he has been with the Division's Laboratory of Bacterial Products.

During his 22 years of service, he aided in the study of hepatitis and various bacterial vaccines, including pertussis, typhoid, and cholera vaccines.

Mr. Mills is survived by his wife, Mildred, and three sons, Roland Eugene, Gerald, and Danny. The elder son, Roland Eugene, is stationed at Fort Myer, Va. Gerald and Danny reside with their mother in Bolar, Va.

4th Regional Center for Primate Research Opens

Dr. Willard H. Eyestone, Chief of the Animal Resources Branch, Division of Research Facilities and Resources, was among participants at recent ceremonies dedicating the fourth Regional Primate Research Center, established at the University of Washington.

The new center and the three previously established at Tulane University, the University of Oregon and the University of Wisconsin are administered by DRFR's Animal Resources Branch.

Participants in the signing of the agreement to set up a mental retardation outpatient Diagnostic and Study Unit for children of military personnel are shown here. From left, they are Capt. R. O. Canada, MC USN, Commanding Officer, U. S. Naval Hospital; Dr. G. Burroughs Mider, Director of Laboratories and Clinics, NIH; Rear Adm. C. B. Galloway, MC USN, Commanding Officer, National Naval Medical Center; and Dr. Donald Harting, Acting Director, NICHD.—Photo by Jerry Hecht.

Navy, PHS Set Up Unit For Outpatient Study Of Mental Retardation

An agreement to set up a mental retardation outpatient facility for children of military personnel was signed on January 11 by representatives of the Medical Department of the Navy and the Public Health Service. The facility, to be called the Diagnostic and Study Unit, will be located on the grounds of the National Naval Medical Center.

While the Diagnostic and Study Unit will be a direct research activity of the National Institute of Child Health and Human Development, it will be run on a cooperative basis with the U.S. Naval Hospital in Bethesda when completed in about eight months.

Children and families studied at the unit will be those ordinarily eligible to receive medical services at the Naval Hospital, and will be referred to the unit by the Naval Hospital's Pediatric Service.

Research to Be Clinical

Research undertaken in the Diagnostic and Study Unit will be clinical in nature, and concentrate on the biomedical and behavioral aspects of mental retardation. Programs carried out in the unit will also include complete diagnostic studies, parent counseling and guidance, and selected educational and therapeutic procedures for the retarded and their families.

In addition, the unit will be utilized to train clinical and research associates, and, as a by-product of this research training, will provide an important service to mentally retarded children of military personnel in the area, and to their families.

Rear Adm. C. B. Galloway, MC USN, Commanding Officer, National Naval Medical Center and Capt. R. O. Canada, MC USN, Commanding Officer of the U.S. Naval Hospital signed for the Surgeon General of the Navy.

Agreement Signed

Dr. G. Burroughs Mider, Director of Laboratories and Clinics, National Institutes of Health, and Dr. Donald Harting, Acting Director, National Institute of Child Health and Human Development, signed for the Surgeon General of the Public Health Service.

The core research group of the unit will be made up of an 8-man NICHD staff headed by a pediatrician or pediatric neurologist. It is expected that the remainder of the group will include a psychologist, social worker, geneticist, public health nurse, nutritionist, and a cytogeneticist and technician assistant who will work in the Naval Hospital's Radiology Exposure and Evaluation Laboratory.

Biology Reference Book Published by FASEB With NIGMS Support

Biology Data Book, a 633-page volume designed to fulfill an unmet need as a basic reference in the field of biology, has been published by the Federation of American Societies for Experimental Biology with partial support from the National Institute of General Medical Sciences.

The book's 13 main sections cover genetics, reproduction, development and growth, morphology, nutrition and digestion, metabolism, respiration and circulation, blood, biological regulators and toxins, environment and survival, parasitism, and materials and methods.

The material is organized in the form of quantitative and descriptive tables, charts, and diagrams to give ready access to a wide range of information, varying from the chemical composition of cell sap from various species of plants to the growth and development of plants and animals.

Each descriptive unit is followed by a list of references for further information. Contents have been authenticated by 470 leading investigators.

DARCY KROPP

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and an interatrial septal defect—she was given no more than "a chance."

The chance was the most delicate sort of surgery. And, as it turned out, even that chance was narrowed by Darcy's relatively uncommon type of blood: group B, Rh negative. Finding enough donors (seven) whose blood could match hers was not an easy task, especially since an irregular blood group antibody in Darcy's blood made it incompatible with about half of the B-Rh-negative blood that became available.

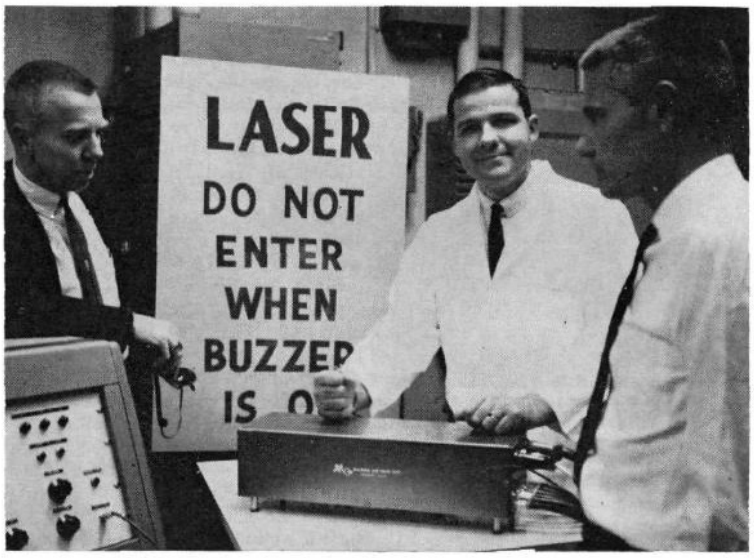
In the end, however, enough blood was found; the chance was taken; and after some stormy days during the post-surgery period this little girl has come to look like one of those robust, rosy youngsters who advertise milk, bread, and baby foods.

Westwood Employees Give Blood Thursday, Jan. 28

The Westwood Building's 1,000 or more NIH employees will have an opportunity next Thursday (Jan. 28) to give life-saving blood for the use of Clinical Center patients.

Blood Bank staff will be there in Room 30 to receive donations between the hours of 10 a.m. and 2 p.m.

Most Accidents Here Caused by Falls; Man-Hour Loss Exceeds Prior Years



Jack Leach, Chief, Safety Section, PSB (left), discussses safety measures for Laser equipment with Dr. John P. Minton, Surgery Branch, NCI (center), and Dr. James C. Reid, Laboratory of Physiology, NCI Safety Committee Chairman.

By Julian Morris

What would you judge to be the most common type of accident at NIH? Something connected with laboratory or shop work, you'd probably guess, such as exploding gases, hypodermic syringe punctures, or acid burns. But you'd be wrong.

While these easily identifiable hazards possess a high potential for serious injury, they actually account for a minority of the total injuries. It is the ordinary, taken-for-granted situations which are the most often ignored that lead to most accidents and injuries.

The most common accidents at NIH are ordinary slips and falls. According to reports filed with the Safety Section of the Plant Safety Branch, NIH personnel took 200 tumbles and spills during 1964. Eighteen of these were disabling.

Safety Programs Developed

Keeping track of NIH accidents is just part of the job of the PSB Safety Section. Its main task, as seen by Jack Leach, Section Chief, is "to assist the Institutes and Divisions in developing the type of safety program that best meets their needs."

Is safety a hard commodity to sell at NIH? "Not usually," says Mr. Leach. "If a person is aware that a particular hazard exists, such as those associated with handling infectious agents, unguarded machinery, or toxic or flammable gases, he will usually cooperate fully in establishing and following safety procedures. However, in situations where people lack hazard awareness or knowledge, considerable persuasion may be necessary to establish acceptance of safe practices."

The success or failure of any safety program is hard to measure, according to Mr. Leach. Severity of accidents is largely a function of luck. Frequency is a more controllable matter. The number of disabling injuries at NIH has remained fairly constant at approximately five per million man-hours over the last 10 years as compared to last year's frequency of three per million man-hours for the chemical industry.

In contrast, the severity of injuries, measured in terms of days lost, has taken a considerable jump in the last three years. A total of 2,058 days were lost last year due to injuries on the job. This averages to 106.9 days per million man-hours compared with the 1963 rate of 83 days per million and the 1962 rate of 25 days per million.

The total of injuries here last year was 1,928 as compared with 1,657 for 1963.

Safety Measures Complex

Safety, in an environment as complex and diversified as NIH, can develop into as much of an involved and technical a science as the very work it seeks to safeguard.

A Clinical Center surgeon, for example, may wish to have his new Laser equipment checked out. Another investigator may need to quickly know the toxicity of a certain gas.

Since no one man could hope to keep up with the vast body of knowledge accumulating on the subject of safety in scientific re-

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Dr. Helen Jeffrey Dies, Was DRG Exec. Sec't.

Dr. Helen L. Jeffrey, 54, Executive Secretary of the Medicinal Chemistry A Study Section, Research Grants Review Branch, Division of Research Grants, died of cancer on January 10 at George Washington University Hospital.

Dr. Jeffrey

A native of Minneapolis, Dr. Jeffrey received her B.S., M.S., and Ph. D. degrees from the University of Minnesota, where her father, the late Dr. William F. Lasby, was head of the dental school.

From 1942 until 1946 Dr. Jeffrey headed the Department of Chemistry at Transylvania College, Lexington, Ky. She moved to Washington in 1949 and was employed at the National Academy of Sciences for five years.

She then served as a professional assistant in the molecular biology program of the National Science Foundation until she joined the NIH in 1958.

Dr. Jeffrey was the widow of Robert N. Jeffrey, a plant psysiologist of the Agriculture Department at the Greenbelt Research Station.

DR. KORNBERG

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tions are to control cell development, function and reproduction.

Assessing the research outlook in basic genetics, Dr. Kornberg characterized nucleic acid chemistry as a "poverty pocket" in today's science. He said it will continue to be a bottleneck until we have more chemists working in this field.

We know more about obscure alkaloids in otherwise useless plants, Dr. Kornberg observed, than we know about the chemistry of nucleic acids.

Future Needs Noted

The problem of tomorrow's generation of investigators and physicians will be coping with today's information. Our great need will continue to be education, Dr. Kornberg said, if the benefits of molecular medicine are to be understood and applied.

The seminar series which the Kornberg lecture launched was planned and organized by Dr. Abraham Dury, Head of the Biochemical Sciences Section, and Dr. David C. Rife, Head of the Biological Sciences Section, Research Grants Branch, NIGMS.

Dr. Kornberg, a former NIAMD scientist, was introduced by Dr. Frederick L. Stone, NIGMS Director and Acting Chief of DRFR.

Arthritis Deaths Higher In Rural Areas Than in Urban, Scientist Reports

Rural county residents had a significantly higher death rate for rheumatoid arthritis than residents of metropolitan areas of the United States in the 1959-1961 period. Recent data from the same period also shows that more residents of the mountain states died of the disease than persons living in any other part of the country.

Dr. Thomas A. Burch of the National Institute of Arthritis and Metabolic Diseases, in a study of mortality from rheumatoid arthritis in the U.S. during that time, also observed to a lesser degree the same phenomenon when data was tabulated by State of birth rather than State of residence.

Evidence emerging from this study was included in a report prepared by Dr. Burch for the Eleventh Interim Scientific Session of the American Rheumatism Association, meeting in final sessions recently at the Mayflower Hotel, Washington, D. C.

Dr. Thomas A. Burch in his office in the Arthritis and Rheumatism Branch, NIAMD.—Photo by Sam Silverman.

Data contained in this report was compiled for a monograph on arthritic and rheumatic conditions by the National Office of Vital Statistics. Sponsored by the American Public Health Association, the monograph is one of a series on various medical conditions using information from the 1960 census as the population base.

Data Analyzed

This study was undertaken, Dr. Burch said, because it was felt that an examination of mortality rates, based on various subgroups of the population, might reveal differences that should be investigated further. Full consideration was given to the limitations and inaccuracies of death certificates, he noted, and data tabulations were divided into categories similar to those in census data.

Dr. Burch described the meticulous methods used to adjust death rates per million, in order to narrow down evidence of mortality from rheumatoid arthritis in a variety of population subdivisions.

These subdivisions ranged from a general rate of mortality found in various regions of the country to the mortality rate shown by further breakdowns such as race, national origin and sex.

Discussing the significance of data found in these population subdivisions, Dr. Burch pointed to an interesting fact concerning marital status. Repeated analyses of evidence found in this category, he said, showed a death rate of 15.85 per million among unmarried individuals against 8.84 among married persons and 9.74 among the widowed.

Because of the provocative questions raised by the results of this study on rheumatoid arthritis, and possible interpretations, Dr. Burch said that studies designed along similar lines have been initiated to investigate mortality rates for other rheumatic diseases, including collagen disorders such as lupus erythematosus.

DR. WILLIAMS

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M.D. degree from Tulane University in 1940. Following his internship at the U.S. Marine Hospital in New Orleans he served as epidemiologist and later health officer at various North Carolina county health departments from 1941 to 1943.

As an officer in the Public Health Service Commissioned Corps, Dr. Williams earned the Master of Public Health degree (MPH) from the University of Michigan in 1945.

He served in a number of PHS administrative positions before entering the field of international public health in 1951 when he became Chief of the Professional Methods and Standards Branch of the Division of Health, Welfare and Housing Institute of Inter-American Affairs.

Holds Important Posts

Dr. Williams became Associate Director of the Division in 1952 and was appointed Chief of the Latin American Branch in 1953. In 1957 he became Deputy Chief of the Public Health Division.

The NIH Office of International Research is responsible for coordinating all international research activities of the National Institutes of Health and for providing advice to both the Director of NIH and the Surgeon General of the Public Health Service on international aspects of medical research.

The Office constitutes the central point for NIH relationships with the World Health Organization, the Pan American Health Organization, and other international research and scientific organizations.

First Woman Architect on DRFR Staff Helps Design Clinical Research Centers

By Beverly Warran

If Mrs. Mary Jack Craigo had not decided upon architecture for a career, the 1960 census statistics would have shown only 764 women architects in the Nation. Moreover—and more important—the Division of Research Facilities and Resources would have been deprived of the capabilities and enthusiasm of a woman who feels "truly fortunate to be serving in this rewarding profession."

Mrs. Mary Jack Craigo examines a set of architectural drawings in her office here.—Photo by Bob Pumphrey.

The first woman architect to join the DRFR staff, Mrs. Craigo has been with the Division's Office of Architecture and Engineering since last April.

Her challenging job requires, and she has brought to it, the tact of a diplomat, the imagination to visualize new architectural concepts for special biomedical research programs, and the specialized knowledge that will make each constructed unit functional in design and application.

She has worked on programs large and small. Among the larger is the Cornell University Medical Science Bilding in New York City, which has received a grant of almost $3.5 million under the matched funds construction program administered by DRFR.

At the other extreme is the 4-bed general clinical research center for the Children's Hospital in Philadelphia, where the challenge lies in fitting the center units efficiently and comfortably into limited space.

Mrs. Craigo's assignments cover many facets of architectural design, but she finds those involving the design of general clinical research centers most interesting.

"It is in these centers," she said, "that the transition takes place—that laboratory research becomes meaningful because it is directly related to people."

In all the programs she derives satisfaction from helping the applicant avoid pitfalls and from knowing she is part of a program established to assure both the Government and the applicant the greatest value per dollar.

Mrs. Craigo would like to see more women architects. She thinks it a profession for which they are ideally suited. "Not only in home designing," she said, "but in other areas such as hospitals, where the nurses' requirement may be more readily appreciated by another woman."

Begins Career in Md.

A native of Hinkley, Minn., Mrs. Craigo was graduated from the University of Minnesota School of Architecture with a Bachelor of Interior Architecture degree. She began her professional career as a designer-draftsman at the Annapolis (Md.) Yacht Yard in 1943.

In 1944 she joined the WAVES, serving as an administrative engineer for patrol craft with the Bureau of Ships, Washington, D.C.

Following the war she divided her time between raising her children and designing and remodeling homes.

In 1956 she joined the Plant Engineering Branch of DRS.

Her oldest son is now studying architecture at the University of Clemson, South Carolina. And Mrs. Craigo is planning, someday when time permits, to take graduate courses in urban redevelopment.

Dr. Harvey I. Scudder, Chief, Research Training Center Branch, NIGMS, presents a Superior Performance Award and cash certificate to Sue P. Wynne, Head of the Awards and Council Unit, for her "competence and industry in the development and execution of efficient procedures for making training grant awards and commitments, and for maintaining overall accuracy of the NIGMS training grants budget."—Photo by Ed Hubbard.

LATIN AMERICA

(Continued from Page 3)

bouts of severe dysentery a year, anyway," Dr. Witkop said.

Kwashiorkor, or severe protein deficiency disease, often sets in after bouts of dysentery. The stunted, listless children are fed even less of the foods that might repair protein deficiencies and promote growth.

As a result of customs and poverty, only about half the children survive to age six, and when these survivors reach age 12 most of them look no larger than North American six-year-olds.

Latin American doctors treat kwashiorkor differently from marasmus (malnutrition) which results from an insufficient but balanced diet. However, early differential diagnosis is a problem.

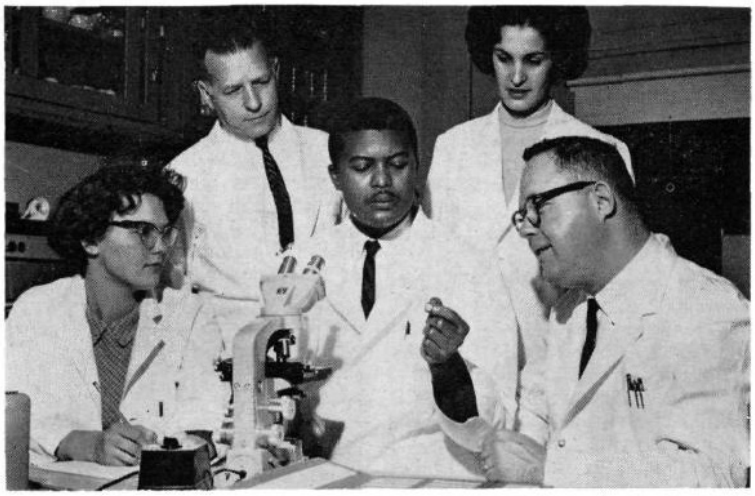
Simple Test Used

A research project conducted with Dr. Jean Hebacht in Guatemala showed that a simple urine test following small loads of phenylalanine or histidine could distinguish preclinical kwashiorkor.

When children are developing kwashiorkor two enzyme systems involved in the metabolism of phenylalanine and histidine fail to operate. As a result, a specific urine color test is positive in prekwashiorkor and negative in premarasmus.

Since children with a hereditary lack of the enzyme histidase present a peculiar kind of mental retardation, an inability to learn and repeat verbal commands, and children with phenylketonuria present signs of retardation, the investigators were interested in finding out about mental retardation in the listless child with kwashiorkor.

A member of the NIH Guard Force, Pfc. John W. Green has been named Guard of the Month for December. He was cited for his conscientious attitude toward his duties, and for initiative and courage beyond the call of duty in the recent apprehension of a group of teenagers involved in arson and theft on the reservation.—Photo by Ralph Fernandez.



These are the newly elected officers of the NCI Technicians Study Group for 1965. Formed 10 years ago, the study group serves to promote the exchange of ideas, provide better liaison between research groups of the Institute, and sharpen its members' awareness and understanding of the work in progress throughout NCI labs. Meetings, held on the first Thursday of each month in Wilson Hall at 12:30 p. m., include programs featuring speakers, films and visits to other research facilities. They are, seated, from left: Carolyn Ann Curtis, Treasurer; Harvie Sims, President; and Arleigh Green, Vice President. Standing: Herman Michelitch, Delegate-at-Large, and Paula Carney, Secretary.—Photo by Sam Silverman.

ACCIDENTS

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search and supporting services, the Safety Section maintains a large reference library and subscribes to an index card abstract service of the Center for International Safety at Geneva.

A quick check of the card file will provide direction to the answer of many safety problems. However, there are occasionally original and unique problems on which no specific information has yet been developed. The satisfactory solution of such problems often requires considerable investigation and research on the part of the Safety Section.

Job Safety Is Goal

Much of the efforts of the section are directed toward making safety a part of every operation or job. In this regard, new construction and renovation plans are reviewed from a safety standpoint; training programs of the Institutes and Divisions are coordinated to include safety features; Institute needs are coordinated with the Employee Health Service to establish employee immunization programs; protective equipment, such as safety glasses, are provided at no cost to NIH employees; and clearance programs are developed for purchase of certain equipment or supplies through Supply Management Branch. In fact, accident prevention is a factor in almost every facet of the total NIH operation.

The Safety Section is concerned also with the safety of NIH employees off the job. It is presently assisting the Employee Health Service in the latter's film series on health and off-the-job safety.

In a recent exhibit, which was displayed at various locations here, the section publicized the medical alert identification tags worn by many diabetics, epileptics and others, which have proved invaluable in cases of seizure or accident.

Safety at NIH, as in any research institution, presents a constant challenge to all personnel. Today's precautions and modern safety methods may soon become obsolete as new equipment is brought in, new research techniques are employed, and old facilities remodeled or new ones built.

Through the efforts of the PSB Safety Section and the Institute and Division safety committees, employees and property are being safeguarded for the work of the future.

Nellie McLeish Retires, Served With Personnel

Nellie McLeish, Assistant Chief, Employee Relations and Services Section, Personnel Management Branch, retired December 30 after more than 30 years of Federal service.

Miss McLeish entered Government service in 1933 with the Home Owners' Loan Corporation, where she was employed in various phases of personnel activities. She joined the Reconstruction Finance Corporation in 1942 and served as Chief of its Employee Relations Branch until the agency was abolished in 1955.

She then joined the Public Health Service as a Placement Officer and transferred to the PMB Employee Relations and Services Section at NIH in May 1956. During recent years Miss McLeish has trained personnel management staff employees in counseling techniques, as well as serving as counselor to individual employees.

In addition to her regular duties, she has been Secretary of the R&W Association of NIH. Miss McLeish also was an early member and held several offices with the organization now known as the Federal Conference on Employee-Management Relations.

DRS to Sponsor Series Of Management Training Labs for Supervisors

The Division of Research Services plans to hold a series of management training laboratories aimed at achieving greater effectiveness in carrying out its mission of providing engineering, scientific, and technical resources for the support of NIH programs.

With the assistance of the Employee Development Section, the Division conducted a pilot management training laboratory recently in order to evaluate the possibilities of a new approach to management training.

Week-Long Lab Session

Called the "NIH Management Action Laboratory," the session was an intensive, week-long study program which brought together various levels of supervisors in study teams which examined alternative styles and assumptions of management.

In precisely designed tasks, these groups studied the effects of conflict, creativity, commitment, and communication on organizational effectiveness.

After evaluating the pilot session, it was decided to continue the training for other DRS supervisors. This one-week program for the DRS management and supervisory staff constitutes the first phase of a unified approach toward achieving higher organizational effectiveness. Later phases will build upon the insights and common understandings generated in the first phase.

Others May Use Program

The initial laboratory included DRS personnel and members of other NIH organizations. Additional DRS laboratory sessions have been planned for early this year with several spaces being held open for representatives from other organizations at NIH so that they may see how the laboratory works and evaluate its potential for their organizations.

Chris A. Hansen, DRS Chief; Robert Philleo, Head of the Employee Development Section, and members of their staffs conducted the initial laboratory session.