the NIH Record

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

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PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

Dr. Shannon Wins NAS Award for Public Service

Dr. James A. Shannon, Director of NIH, last night (April 24) received the Public Welfare Medal of the National Academy of Sciences for "eminence in the application of science to the public welfare."

Dr. Shannon

The Public Welfare Medal, considered the most distinguished of the Academy's awards was presented to Dr. Shannon by Dr. Detlev W. Bronk, President of the Academy, at the annual dinner meeting of members and guests at the Statler-Hilton Hotel in Washington.

The medal is unique among the Academy's awards because it is presented in recognition of outstanding public service in the uses of science, rather than for achievements within a particular discipline.

In making this award the Acad-

(See DR. SHANNON, Page 2)

Top PHS Honor Conferred Upon Drs. Daft, Bell

Dr. Floyd S. Daft, Director of the National Institute of Arthritis and Metabolic Diseases, and Dr. Joseph A. Bell, Chief of the Epidemiology Section, National Institute of Allergy and Infectious

Dr. Daft

Dr. Bell

Diseases, have received the Distinguished Service Medal, top honor of the PHS Commissioned Corps.

The awards were presented by DHEW Secretary Abraham Ribicoff at the 11th Annual DHEW Honor Awards Ceremony April 11 in the HEW Departmental Auditorium.

Dr. Daft, who will retire on May

(See PHS HONOR, Page 6)

Dr. Stone to Head New NIH Division; Dr. Powell Appointed DGMS Chief

Surgeon General Luther L. Terry of the Public Health Service has announced the establishment of a new Division of Research Facilities and Resources at the National Institutes of Health, effective July 15.

Dr. Frederick L. Stone, currently Acting Chief of the Division of General Medical Sciences, will head the new Division.

Dr. Clinton C. Powell, presently Assistant Director of the National Institute of Allergy and Infectious Diseases, will become Chief of the Division of General Medical Sciences. He succeeds Dr. G. Halsey Hunt who retired April 1.

The new Division, Dr. Terry said, will centralize the administration

Dr. Stone

Dr. Powell

of some of the major NIH activities and programs which provide broad support to the Nation's biomedical research institutions.

It will be responsible for the following programs and activities: The Health Research Facilities Construction program, the program of support for Primate Centers, the General Clinical Research Centers program, the Special Resource Centers program, and the General Research Support Grant program.

Programs Support Research

Dr. Powell will head programs for the support of fundamental research and research training. The Center for Aging Research and the Center for Research in Child Health—focal points for research in these areas—are other components of DGMS.

Born in Biloxi, Miss., in 1915, Dr. Stone received the Ph.D. degree at the University of Rochester in 1948. He was commissioned in the U. S. Public Health Service at that time and served at NIH until 1954, first as Chief of the Research Fellowships Branch in the Divi-

(See NEW DIVISION, Page 8)

NIAMD Director Retires May 1

After more than 25 years with the Public Health Service, Dr. Floyd S. Daft, Director of the National Institute of Arthritis and Metabolic Diseases, will retire May 1.

Director of NIAMD since 1953 and previously Associate Director of that Institute, Dr. Daft has been associated with NIH continuously since joining the PHS.

During these years he has participated in the growth of NIAMD and NIH from urban origins in the old Hygienic Laboratory in Washington to its present suburban site, and has witnessed the tremendous expansion of the basic laboratories and the building of the Clinical Center.

"These changes have accomplished much for life at NIH,"

(See NIAMD DIRECTOR, Page 4)

Dr. Floyd S. Daft, Director of NIAMD (right), discusses the operation of a Swedish-made germfree tank with its developer, Dr. Bengt Gustafsson of the Department of Germfree Research, Karolinska Institutet, Stockholm.

Dr. Melvin Calvin, Nobel Prize Winner, Lectures on Photosynthesis Tonight

Dr. Melvin Calvin of the University of California, the Nobel Prize winner in chemistry for 1961, will deliver the 19th National Institutes of Health Lecture tonight (April 25) at 8:15 p.m. in the Clinical Center auditorium.

Dr. Calvin

Dr. Calvin's topic will be "Photosynthesis." He will discuss the advances made in understanding the mechanisms by which green plants — combining the energy of the sun with water and carbon dioxide — produce all the food and other energy-providing substances of the earth.

In this area of investigation lies one of the greatest challenges confronting modern science: How is energy changed from one form to another?

Pursuing this challenge has led Dr. Calvin to the belief that the evolution of chemicals, up to and including living cells, occurred in a predictable and inevitable pattern, and that man's coming adventure into space is but a necessary aspect of this same evolutionary process.

"The usefulness of such speculations as these," Dr. Calvin has said, "ranges from the impact that they have upon our concept of man's place in life and life's place on earth to the very practical generation of ways and means of controlling and diverting living proc-

(See DR. CALVIN, Page 3)

the NIH Record

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Fucose Abnormally High In Sweat Mucoproteins Of Patients With CF

Scientists from the National Institute of Arthritis and Metabolic Diseases have found a high concentration of fucose in sweat mucoproteins from patients with cystic fibrosis. The study, which also represents the finding of mucoproteins in sweat of normal and CF patients may aid in genetic studies of cystic fibrosis.

Disorder Is Inherited

Cystic fibrosis (CF) is an inherited disorder affecting the exocrine body glands, which include the sweat, tear, and salivary glands as well as those associated with the pancreas, small intestine and lungs. Previous studies had shown that mucoproteins taken from fluid in the small intestine of CF patients contain an abnormally high amount of fucose.

The present preliminary studies of mucoproteins from CF sweat were made in hopes of revealing the nature of a common denominator for the many apparently unrelated manifestations of the disease in various body organs.

Sweat Is Frozen

Sweat from 10 normal controls and eight cystic fibrosis patients was collected during heat stimulation and immediately frozen in dry ice to prevent the degradation of heat-sensitive material before precipitation. The resulting material showed the presence of carbohydrate-protein complex containing galactose, N-acetylgalactosamine and sialic acid in equal molecular amounts in both groups of patients.

However, while only negligible traces of fucose were found in normal sweat, significant quantities of the sugar substance were present in CF sweat, thus suggesting some defect in mucoprotein metabolism in the disease.

The work by Drs. J. Charles Pallavincini, Othmar R. Gabriel, and Paul A. di Sant'Agnese of NIAMD's Pediatric Metabolism Branch appears in the 1962 abstracts of the Federation of American Societies for Experimental Biology.

DR. SHANNON

(Continued from Page 1)

emy indicates its high regard for the medalists—many of them not research scientists—by conferring upon the recipient certain privileges of membership, including the right to present papers at Academy meetings.

Although it was established in 1913, the medal has been awarded only 27 times previously. Last year the recipient was Dr. Alan T. Waterman, Director of the National Science Foundation. Other winners have included G. W. Goethals, W. C. Gorgas, Herbert Hoover, John D. Rockefeller, Jr., Lt. Gen. James H. Doolittle, Karl Taylor Compton, and Vannevar Bush.

The awards ceremony was a part of the 98th Annual Meeting of the Academy held at the Academy building, 2101 Constitution Ave., N.W.

This side of the NAS Public Welfare Medal depicts Archimedes, one foot on his helmet, pulling on a lever that presses against the universe. The Greek inscription is the celebrated saying of Archimedes: "Give me where to stand, and I will move the world."

Empress of Iran Tours Pediatric Area, New Surgical Wing During CC Visit

Empress Farah of Iran visited NIH briefly Friday morning, April 13, accompanied by Mrs. Abraham Ribicoff, wife of the Secretary of HEW, and several wives of State Department officials.

A large group of visitors, NIH staff, and news photographers, were on hand when the Empress and her party arrived at the main entrance of the Clinical Center.

The Empress of Iran chats with a child participating in NIAMD clinical research, while touring the nursing unit with Dr. Joseph J. Bunim, NIAMD Clinical Director. —Photo by Sam Silverman.

Her Majesty was welcomed officially in the CC lobby by Dr. James A. Shannon, NIH Director; Dr. David E. Price, NIH Deputy Director; Dr. Jack Masur, CC Director; and Dr. Robert M. Farrier, CC Assistant Director.

Dorothy Horlander, Chief of the CC Special Events Section, presented the Empress with a small nosegay of red sweetheart roses, baby's breath, and Baker fern, representing the colors in the Iranian flag.

Party Members Listed

Other members of the official party included Mrs. Phillips Talbot, wife of the Assistant Secretary of State for Near Eastern and Asian Affairs; Mrs. Julius C. Holmes, wife of the American Ambassador to Iran; Mrs. Assadollah Alam, lady-in-waiting to the Empress; and Mrs. Eleanor Israel, State Department Protocol Office.

The visitors proceeded to the CC auditorium where Dr. Masur introduced the French-language version of the NIH film. As the official party left the auditorium, the waiting crowd applauded. The Empress smiled and nodded in acknowledgement.

Since Empress Farah had expressed an interest in the clinical research that NIH is currently conducting concerning children, a pediatric area was chosen for her private tour.

Meets Patients

Patients with cystic fibrosis of the pancreas were presented by Dr. Joseph J. Bunim, NIAMD Clinical Director, and members of his staff. In addition to explanations concerning the medical management of patients with this hereditary disease, information was given to the Empress about the social service activities provided for children who participate in studies conducted by NIAMD. The metabolic kitchen, where food is prepared for patients on NIAMD's metabolic unit, was described by Edith Jones, Chief of the CC Nutrition Department.

As a student of architecture, the Empress was especially interested in the new surgical wing which is still being readied for occupancy. Dr. Maitland Baldwin, NINDB Clinical Director, explained the many new concepts in this facility and described the highly complex instrumentation layout for monitoring physiological functions during neurosurgery.

Prior to her departure the Empress expressed appreciation for an informative and enjoyable visit.

You and Your Mail

To provide information essential to the efficient operation of the NIH Mail and Messenger services, the Communications Section, OSB, is publishing in the Record *a series of guidelines for the use of NIH personnel.*

Today's topic is "Inter-Office Mail."

Communication by mail is an age-old custom. Whether the correspondence is a few simple lines or a valuable document, the manner in which it is prepared for mailing is important.

Here at NIH, inter-office messenger envelopes of various sizes are available and should be used at all times in the transmission of correspondence between NIH offices and to DHEW and PHS offices.

To assure correct and prompt delivery, the envelopes should clearly show the name and the building and room numbers of the addressee.

For the transmission of telegrams, these inter-office envelopes should not be used. Telegrams may be phoned to the Mail Room in Building 31, Ext. 5651, or hand-carried there from the office of the sender.

Written confirmation of the telegram, typed on the Telegraphic Message form (Form 14), may be hand-carried to the Mail Room or sent in the next regular mail pick-up, but should not be enclosed in any envelope.

DR. CALVIN

(Continued from Page 1)

esses, such as would be involved in the improvement of agricultural products and the treatment of disease."

Photosynthesis, the process upon which all life on earth today is ultimately dependent, achieves the conversion of electromagnetic energy from the sun into chemical energy which is stored in the form of foodstuffs for both plants and animals.

This is done in three stages: First, sunshine is absorbed by the chlorophyll of green plants; second, the light energy absorbed by the chlorophyll splits the water molecules (taken up by the plant through its roots) into their component parts, namely, some form of "active" hydrogen and some form of "active" oxygen; third, carbon dioxide is absorbed by the plant from the air and converted into sugar, with the aid of the "active" hydrogen from the second step. The "active" oxygen is released into the air.

Carbon Path Traced

Using radioactive isotopes, Dr. Calvin and his associates at the Department of Chemistry and Lawrence Radiation Laboratory of the University of California, were able to trace the path of carbon during photosynthesis by feeding plants radioactively labeled carbon dioxide.

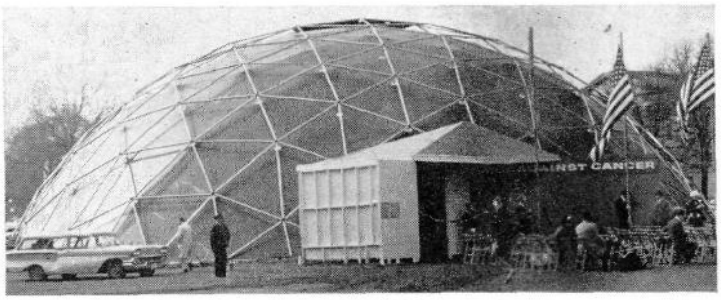
The radioactive carbon enters a leaf, for example, through a series of compounds, eventually coming out as part of sugar molecules. If the leaf is killed at any point (thus stopping the process of photosynthesis), the compounds which are on the route from carbon dioxide to sugar will contain the radioactive material, others will not. Thus, it was possible through a series of intricate and painstaking experiments to map the route of carbon in photosynthesis.

Dr. Calvin's major contributions have been in the area of photosynthesis but these studies have led him in surprising directions with many ramifications.

Having essentially determined the mechanism of photosynthesis, he set out to use these and other scientific facts to examine the origin of life on earth and the possibility of its existence elsewhere. He has asserted that there is enough evidence to believe, with some degree of scientific confidence, that cellular life as we know it does exist on millions of other sites in the universe.

The advent of space travel and the vital importance of the photosynthetic process to space exploration have opened new vistas for Dr. Calvin's basic work.

Dramatic Cancer Exhibit, Popular Here, To Be Shown at Seattle World's Fair



This geodesic dome, loaned by the Ford Motor Co., houses the Man-Against-Cancer exhibit now on display at Pershing Square in downtown Washington, where it remains through Sunday.—Photos by Bob Pumphrey.

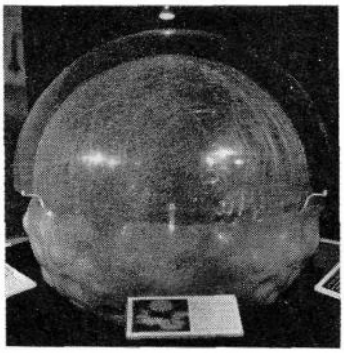
Within its geodesic dome at 14th St. and Pennsylvania Ave., N.W., the Man-Against-Cancer exhibit, sponsored by the National Cancer Institute and the American Cancer Society, is attracting visitors at the rate of nearly 10,000 per week.

It will remain open in its present location through next Sunday, during the hours of 11 a.m. to 8 p.m., and will then be shipped to Seattle for display at the World's Fair from May through October.

The 9,000-sq.-ft. exhibit, dramatically portraying the Nation's fight against cancer, is a feature of Cancer Progress Year, commemorating the 25th anniversary of the NCI's establishment and the Society's first nationwide educational and fund-raising campaign.

Elaborate ceremonies marked the opening of the exhibit in the Nation's Capital April 2. Mrs. Lyndon B. Johnson, wife of the

(See EXHIBIT, Page 7)



Cancer is a disease of the cell, the smallest unit of all life. This model of a cell, enlarged 250,000 times, is a part of the NCI-ACS exhibit. The lower portion of the model, representing the membrane that surrounds the cell, is cut away to reveal the interior. The clear, spaghetti-like material in the top portion represents the strands of protein called ectoplasm. The model was loaned by the Upjohn Co.

Dr. Herbert Kahler, Former NCI Scientist, Dies in CC March 29

Dr. Herbert Kahler, former Head of the Physical Biology Section, Laboratory of Physiology, NCI, died March 29 in the Clinical Center. A recognized authority in cancer research, he retired in October 1960, after 32 years in the Public Health Service.

Dr. Kahler

A pioneer in the application of physical principles and techniques to biological systems, Dr. Kahler joined the PHS Hygienic Laboratory, forerunner of NIH, in 1928. He became Head of the Physical Biology Section in 1931.

Dr. Kahler considered his most important work to have been increasing the accuracy and durability of the glass electrode, used in measuring the acidity of tissues and solutions. He was outstanding in the use of electron microscopy to study the polyoma and Shope papilloma viruses. He also reported on electron microscope studies of sodium desoxyribonucleate and the tobacco mosaic virus.

He received a B.S. degree from the University of Washington in 1918, and a Ph. D. in mathematical physics from Cornell University in 1922. After spending a year (1923) on the faculty of Yale University, he continued his graduate study at the University of Berlin and the California Institute of Technology.

The author of 57 publications in cancer research, Dr. Kahler was also a member of numerous professional societies.

Dr. Kahler is survived by his wife, Phera, of 10604 Wheatley Street, Kensington, Md., a son, three daughters, and eight grandchildren.

Scientists to Participate In ISA Symposium At Charleston, W. Va.

A number of scientists from NIH will take part in a 3-session program sponsored by the Biomedical Sciences Division of the Instrument Society of America during the 8th National Symposium on Instrumental Methods of Analysis, to be held in Charleston, W. Va., April 30 to May 2.

Dr. J. H. U. Brown, Louis P. Hellman, Dr. Herbert B. Pahl, and Dr. Trygve W. Tuve, all of DGMS, will participate in a panel discussion entitled "Requirements for Life Sciences Engineering." Dr. Carl R. Brewer, Chief, Research Grants Branch, DGMS, will be the panel moderator.

The discussants will identify some of the areas in biology and medicine in which the application of engineering concepts and theories is needed.

Engineering Talents Needed

Their purpose is to encourage the engineer to contribute his talents, along with other scientists, in a coordinated interdisciplinary approach to biomedical research in those areas. The session is under the chairmanship of Dr. Fred Alt, Chief, Instrument Engineering and Development Branch, DRS.

The other sessions will deal with "Biomedical Instrumentation for the Man in Space Program" and "Emerging Techniques in Biochemical Analysis Instrumentation."

One of the papers programmed for the latter session will be presented by Dr. William J. Adelman, Jr., NINDB, who will discuss "The Analysis of Ion Movements Across the Nerve Membrane."

Other speakers will be from the Office of the Surgeon General, U. S. Air Force; Catholic University, U. S. Geological Survey, and the U. S. Air Force School of Aero Space Medicine.

Other subjects to be discussed at the symposium are: Dynamics of process analysis, gas chromatography, electrochemical methods of analysis, laboratory instrumentation, neutron activation analysis, sample handling systems, radiation methods of analysis, optical methods of analysis, air pollution instrumentation, and physical properties measurement.

Last Call for Europe

There's still time to sign up for the HEW-sponsored May Tours to Europe—one to Scandinavia and the other to England, Holland, Belgium, Germany, Italy, Switzerland, France—leaving Washington May 19, returning June 19.

For details see *NIH Record* of March 13 or call Mrs. Ruby Langston, Code 13, Ext. 35846.

NIAMD DIRECTOR

(Continued from Page 1)

Dr. Daft said. "The increasing numbers and types of investigations initiated here throughout these years have resulted in the very best integration of clinical and basic research that can be found anywhere in the world."

Recalling that a number of NIAMD laboratories trace back through the Experimental Biology and Medicine Institute to the old Hygienic Laboratory, Dr. Daft said, "Perhaps one of the most important developments during the early years of the new NIAMD was the emphasis on the concept of 'metabolic disease' and the present acceptance in the scientific and clinical world of the metabolic nature of many important diseases known to man."

Authority on Nutrition

An authority on nutrition, Dr. Daft's work in directing and conducting nutrition studies has contributed to the understanding of dietary deficiencies causing anemia and cirrhosis of the liver.

He was a pioneer in the study of an unidentified substance later shown to be folic acid. This essential B complex vitamin is widely used today in treatment of blood disorders. He also played a major role in research on pantothenic acid, another essential B vitamin.

Studies Bacteria Role

Dr. Daft's most recent work has concerned the relationship of bacteria to nutrition through studies with germfree animals. He was instrumental in setting up a germfree research laboratory at NIAMD to examine the role of intestinal bacteria in supplying essential nutrients to their hosts. It was here that he and his associates developed new techniques in germfree research.

He also initiated many studies which have indicated that some bacteria are helpful to animal nutrition and, presumably, to human nutrition as well.

Visits Sweden, USSR

His outstanding role in nutrition research was recognized last year when he was the only American among a group of internationally known nutritionists invited to participate in a Swedish symposium on intestinal bacteria and nutrition. He was also a recent visitor to the Soviet Union as part of a five-man American team surveying Russian progress in metabolic research.

Dr. Daft's role as scientist-administrator in furthering research progress was praised last year at ceremonies marking NIAMD's first decade of operation.

At a program capping these ceremonies, he was presented a silver plaque by the American Rheumatism Association and the Arthritis and Rheumatism Foundation in recognition of his "constant devotion to, and effective support of, a national program of research, training and education in arthritis and connective tissue diseases."

Joins PHS in '37

Dr. Daft was appointed to the PHS in 1937 and spent three years as Chief of the Laboratory of Biochemistry and Nutrition at the old Hygienic Laboratory, where he participated in the important nutrition research which began with Dr. Joseph Goldberger's classic studies on pellagra.

These studies were later expanded by Dr. Goldberger's associate, Dr. William Sebrell, into the general field of nutrition, including research on the B vitamin complex. Dr. Daft soon became associated with Dr. Sebrell in these studies.

Under Dr. Daft, today's work on nutrition at NIAMD reflects the direct continuity of research started by Dr. Goldberger and extended by his protege, Dr. Sebrell.

Cites NIAMD Growth

In 1940 Dr. Daft was named Assistant Director of the Experimental Biology and Medicine Institute. This Institute formed the nucleus of NIAMD when the latter was established in 1950.

Commenting on the growth of NIAMD from its origins in EBMI, Dr. Daft said, "At the start, there were natural misgivings in some quarters that such remarkable growth might be attended by a lowering of standards of research. Instead, and in spite of increasingly complex problems faced by today's investigators, NIAMD together with NIH has maintained and strengthened its high quality of research in keeping with the tradition of the PHS."

Before joining the PHS, Dr. Daft engaged in teaching and research at Yale, Harvard, the University of Rochester School of Medicine, and the Carlsberg Laboratories in Copenhagen, Denmark.

He has been a member of the PHS Commissioned Officer Corps since 1945, is associated with numerous scientific and professional organizations, and is currently Chairman of the Board of the Executive Committee of the Federation of American Societies for Experimental Biology. In this capacity he presided at the recent meetings at Atlantic City and chaired the Federation evening symposium.

Recently Dr. Daft also served as President of the American Institute of Nutrition, one of the member societies of the Federation. In addition, he has also been Assistant Editor of Nutrition Reviews and Associate Editor of the Journal of Nutrition.

Born in Griswold, Iowa, Dr. Daft received his Ph.D. at Yale University in 1926 and holds an honorary degree of Doctor of Science from Simpson College in Indianola, Iowa, from which he graduated in 1921.

Dr. Daft's post-retirement plans include a continuation of his research studies and academic commitments on the East Coast, where he and Mrs. Daft will presently remain.

STAFF BOARD ATLANTIC CITY BUSES

NIH personnel cue up with their baggage in front of Building 1 prior to departure April 13 for the Annual Meeting of the Federation of American Societies for Experimental Biology in Atlantic City. Irene Skinner, Chief, Administrative Services Section, OSB, who suggested use of the chartered buses, reports 68 signed up at a round-trip cost of $7.65 each, a substantial saving in transportation cost.—Photo by Jerry Hecht.

Dorothy Allison Resigns After 13 Years at NIH

Dorothy F. Allison, Secretary to Joseph S. Murtaugh, Chief of the Office of Program Planning, OD, resigned March 30 after 13 years with NIH.

Mrs. Allison came to NIH in February 1949 from the Bureau of State Services. Prior to becoming Mr. Murtaugh's secretary in November 1960, she was secretary to John E. Fletcher, then Chief of the Office of Research Information.

Daft Opens Congress Of Gastroenterology

Welcoming remarks by Dr. Floyd S. Daft, Director of the National Institute of Arthritis and Metabolic Diseases, officially opened the Eighth Pan American Congress of Gastroenterology Monday in New York.

Addressing delegates meeting at the Roosevelt Hotel, Dr. Daft spoke briefly on NIAMD's role in gastroenterology and the importance which the Government attaches to research and training in this field of medicine.

Federal support for training and research in gastroenterology today welcomes "anything which will further our knowledge in this area," he said. "This is in marked contrast to the situation about 10 years ago, when only a handful of gastroenterologic research projects were supported through the National Institutes of Health.

Contrasts Eras

"At that time," he continued, "there was no gastroenterologic training program to afford young scientists and clinicians postgraduate training which would either prepare them for the practice of this specialty or for research and teaching in this important field."

In closing, Dr. Daft expressed the hope that "this interchange of scientific thought originating from a variety of countries will serve to enrich our common knowledge to the ultimate benefit of mankind as a whole."

The Congress is being held under the auspices of the Association Interamericana de Gastroneterologia and the American Gastroenterological Association.

Genetics Methodogy Volume Published

Methodology in Human Genetics, the first of three volumes based on a series of symposia sponsored by the Genetics Study Section, Division of Research Grants, and supported by a Division of General Medical Science grant, has just been published.

Edited by Walter J. Burdette, a member of the National Advisory Cancer Council, and former Chairman of the Genetics Study Section, the 400-page text is made up of chapters contributed by leading geneticists and is divided into five sections: Analysis of Human Heredity, Genetics of Disease, Mutations, Cytogenetics, and Biochemical Genetics. Advances in research techniques, special procedures, genetic stocks, equipment sources, and many other topics are discussed.

The two companion volumes, to be published later this year, will deal with methodology in mammalian and basic genetics.

Clinical Society Elects Driscoll, Presents Awards

Dr. Edward J. Driscoll, Chief of the Clinical Investigations Branch, National Institute of Dental Research, was elected President of the U.S. Public Health Service Clinical Society at its 16th Annual Meeting here April 4-7.

Dr. Driscoll, who has served as the Society's Vice President for the past year, succeeds Dr. John Walsh, Chief of Research Activities, USPHS Hospital, New Orleans, La.

The meeting was attended by more than 350 Society members and guests.

Awards totaling $400 were presented by Surgeon General Luther L. Terry at the final session to the authors of six of the 129 papers read at the meeting.

Presents Best Paper

The John D. Lane, Jr., Annual Research Award of $150 for the best paper presented at the meeting was won by Dr. Norman Tarr, Baltimore, Md., for his paper, "Intra-arterial Infusion of Malignancies with Chemotherapeutic Agents."

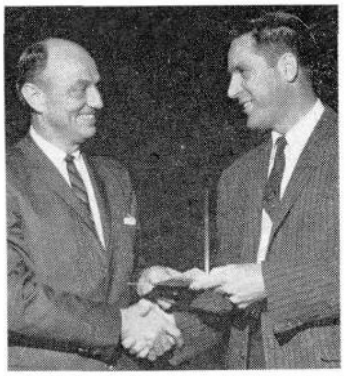
Dr. John T. West of the Surgery Branch, National Cancer Institute, won first prize of $75 in the medical-surgical category for his paper, "Facilitation of Major Hepatic Resections by an Innovation in Surgical Exposure of the Liver."

Second prize of $50 was won by Dr. Edgar L. Surprenant of Buffalo, N.Y.

The authors of two papers in the dental category—Dr. J. P. Moffa of New York City and Dr. A. J. Munk of Bethel, Alaska—shared an award of $75. James C. Yatsco and Alex J. Ravnik, of Staten Island, N.Y., coauthors of the best pharmacy paper, won $50.

Representative John E. Fogarty of Rhode Island was guest speaker at the Society's annual banquet at the Naval Weapons Plant on Thursday evening, April 5.

Dr. Driscoll and Dr. Clifton K. Himmelsbach, Clinical Center Associate Director, were cochairmen of the 4-day meeting.



Surgeon General Luther L. Terry (left) presents the John D. Lane, Jr., Annual Research Award to Dr. Norman Tarr, Chief of Surgery, USPHS Hospital, Baltimore, at the recent meeting of the PHS Clinical Society.—Photos by Sam Silverman.

Recipients of first and second prizes, respectively, for medical-surgical papers presented at the meeting, are Dr. John T. West, National Cancer Institute (left) and Dr. Edgar L. Surprenant of Buffalo, N.Y.

NIH-SS Bus Service Ended by Low Revenue

Insufficient financial returns on their investment have forced officials of the D.C. Transit Company to discontinue rush-hour bus service between NIH and Silver Spring.

The service went into effect December 18 on a 90-day trial basis which was extended 30 days through April 20. During that time a daily average of 42 passengers utilized the service.

In order to meet operating expenses it was necessary for the bus to carry 65 passengers per day, each paying the full round-trip fare, according to William E. Bell, Assistant Vice President of the transit company.

Since it was evident after four months that this minimum daily figure would not be met, the company regretfully made the decision to end the service, Mr. Bell said.

Art Exhibit Entries Accepted Tomorrow

Entries for the Fourth Annual NIH Art Show will be accepted tomorrow (April 26) from 4:30-5:30 p.m. on the stage of the Clinical Center auditorium. The competition is open to employees of NIH and their immediate families.

Entries are limited to three per artist in each of the three categories—oils, sculptures, and the graphic arts. An entry fee of $1 is required with each work submitted.

The show, sponsored by the Recreation and Welfare Association of NIH, will open in both bays of the Clinical Center lobby on May 5 and will be on exhibit through June 10.

Works selected for showing and prize awards will be chosen by a distinguished panel of judges: Dr. Grose Evans, Curator of the Index of American Design, National Gallery of Art; Jack Perlmutter, Washington artist and recent Fulbright professor in Japan; and Frieda Sohn, sculptress, of the Baltimore Museum of Art and Goucher College. Cash awards will amount to about $250.

Entry forms and information may still be obtained by calling the R&W Executive Secretary, Ext. 3597.

Transfusion Reactions Seen Unrelated To Leukoagglutinin Presence in Blood

By Dorothy Jeanne Davis

Patients who have substances that cause white blood cells to clump together in their blood prior to transfusions are no more likely to develop transfusion reactions than patients who lack these substances, according to a report presented here at the 16th Annual Meeting of the U.S. Public Health Service Clinical Society.

Previous studies showed that both the presence of these substances (leukoagglutinins) and transfusion reactions were more common in patients who have had multiple transfusions. That these substances do sometimes cause clinical reactions had also been demonstrated.

Relationship Assumed

Because of these observations, it has been inferred that a causal relationship exists between the presence of these substances in individual patients and the occurrence of transfusion reactions in the patients.

The findings of a study conducted by investigators of the Division of Biologics Standards indicates that this assumption is not necessarily correct.

Over a 4-month period, 185 patients were tested for leukoagglutinins before transfusion. Four percent of these patients had clinical reactions such as chills and fever as a result of the transfusions. The incidence of reactions was no greater in patients with leukoagglutinins, even though these patients on an average had had more transfusions (10.9 units of blood per patient compared with 6.1 units per patient without leukoagglutinins).

The study was part of a detailed survey of patient responses to 10,085 consecutive transfusions given to 1,649 patients at the Clinical Center over a 4-year period. It was conducted by Dr. Sherwin V. Kevy now at Children's Hospital in Boston; Dr. Paul J. Schmidt, now with the Clinical Pathology Department, Clinical Center; Mary H. McGinniss, Laboratory of Blood and Blood Products; and Dr. William G. Workman, Laboratory of Control Activities, Division of Biologics Standards. Dr. Schmidt presented the paper to the Clinical Society.

Reactions Not Hemolytic

Out of a series of more than ten thousand transfusions, there were 276 febrile transfusion reactions, none of which was hemolytic. Tests of blood containers produced no evidence that any of the reactions was due to contamination with bacteria or bacterial pyrogens. Skin reactions without fever occurred in 1.1 percent of the patients.

More than half of the patients who had transfusion reactions had only one reaction, even though almost all of them had further transfusions. This would not be expected if leukocyte-destroying substances were the major cause of the reactions. Of those patients who responded to transfusion with a fever, 18 percent did so following their very first transfusion. Other patients had many successive reactions followed by numerous reaction-free transfusions of blood from which the leukocytes had not been removed.

Urges Caution

Dr. Schmidt said that caution should be used in referring to transfusion reactions as "pyrogenic," or in ascribing them to the presence of leukoagglutinins. In this study such was not the case. If the cause of such reactions is automatically assumed to be due to leukocyte incompatibility, little effort may be made to study the incompatibility of serum proteins, platelets, and other possible causes of febrile, nonhemolytic transfusion reactions.

A complete report of this study has recently been published in Transfusion.

Blood Bank Supervision Transferred to CC

Administration of the Clinical Center Blood Bank, for the past six years the responsibility of the Division of Biologics Standards, has been placed under the direct supervision of the Clinical Center. The transfer became effective April 1.

This action places the Blood Bank, with its large transfusion program, under the administrative direction of the Office of the Director of the Clinical Center, which provides other supportive services for patient care. It also relieves the DBS from the operation of a service function which is not directly associated with its program.

Daniel Bailey to Direct Scientific Publication Program at NLM

The National Library of Medicine has announced the appointment of Daniel Bailey to the newly established position of Program Director for Scientific Publication. Mr. Bailey, who has been Information Officer of the Division of General Medical Sciences at NIH since December 1958, will assume his new duties next Monday.

In the new position he will be responsible for developing a significant area of the Library's new Extramural Program.

In close cooperation with the NIH Division of Research Grants, the Scientific Publication Program, in support of publication needs in the biomedical sciences, will provide machinery for reviewing grant applications in the context of sound publication practices and policies, according to the announcement.

Purpose Stated

These reviews, it was said, are designed to supplement the scientific reviews provided by the Study Sections and other reviewing bodies, and "will result in the development of an articulated response by the Public Health Service to publication needs in broad areas of medical research."

Mr. Bailey was instrumental in organizing the pre-Forum Workshop on "Communication Among Health Scientists and Health Practitioneers" on behalf of the 1961 National Health Forum, and served as a member of the Editorial Committee for the National Health Council's recently published monograph, "Better Communications for Better Health."

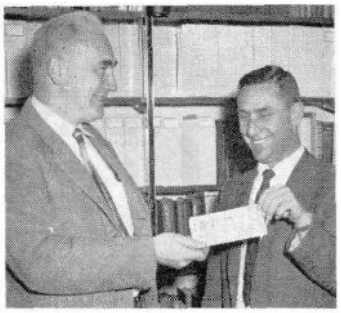
Mr. Bailey came to NIH from the Office of the Secretary of the Army. Previously he was an information officer for the Department of State in New Delhi and Hyderabad, India. He is a former staff member of the Atlanta Constitution and the Washington Post, and earlier published his own weekly newspaper, the North Dekalb Record, in Brookhaven, Ga.

History of Science Club Elects Leikind President

Morris C. Leikind, Scientist Administrator in the Office of Research Accomplishments, DRG, was elected President of the Washington History of Science Club at its final meeting of the 1961-62 season, April 10, at the Kennedy-Warren Hotel.

Mr. Leikind, who will serve for a one-year term, is also President and charter member of the Washington Society for the History of Medicine, founded at NIH last year.

ABILITY WINS



A cash award for superior scientific and managerial ability was presented recently to William T. Lane (right), a Research Technician in the Laboratory of Infectious Diseases, NIAID, by Dr. Dorland J. Davis, NIAID's Associate Director for Intramural Research. Mr. Lane was cited for the thousands of dollars he has saved the U.S. Government and for his outstanding contribution to the medical research objectives of the NIH.—Photo by Jerry Hecht.

PHS HONOR

(Continued from Page 1)

1 after more than 25 years with PHS, was cited for "his outstanding leadership in research on problems of nutrition, the solution of which is vital to the economic welfare and the health of all peoples of the world."

Dr. Bell was honored for "his contributions to the understanding and control of infectious diseases which are unsurpassed in Public Health Service research annals and have received national and international recognition."

Served Hygienic Lab

Dr. Daft has been associated with NIH during his entire PHS career. Before NIAMD was established in 1950, he was Assistant Director of the old Hygienic Laboratory's Experimental Biology Institute, the forerunner of NIAMD. In 1953 he became Director of the Arthritis Institute.

Dr. Bell has held his present position since 1945. In 1951 he was Chairman of the U.S. delegation which prepared the Sanitary Regulations for Control of International Spread of Communicable Diseases. While on leave to the National Foundation for Infantile Paralysis in 1953, he made the first plans for a controlled field trial of poliomyelitis vaccine. He is also a member of the WHO Expert Advisory Panel on International Quarantine.

The PHS Commissioned Corps Distinguished Service Medal was established in January 1961, along with its companion awards, the Meritorious Service Medal and the Commendation Medal. Prior to that time only Civil Service employees were eligible for awards in recognition of outstanding service to the Federal government.

The medal is awarded annually by the Secretary of DHEW to candidates selected by the Surgeon General. Its recipients become eligible for the President's Award for Distinguished Federal Civilian Service.

Four other NIH staff members received meritorious service awards at the same ceremony, as reported in the *NIH Record* of April 10. They are Dr. Thelma B. Dunn, NCI, and Dr. Robert W. Berliner, NHI, who received the DHEW Distinguished Service Award, and Dr. Morton Kramer, NIMH, and Joseph S. Murtaugh, OD, who received the DHEW Superior Service Award.

NIAMD Scientists Pinpoint the Cause Of Serious Blood Disease in Infants

Scientists at the National Institute of Arthritis and Metabolic Diseases have pinpointed the cause of a serious blood disease which occurs in newborn infants.

An uncommon form of bleeding disorder in infants, called thrombocytopenic purpura, is now known to result from blood cell differences between mother and offspring. The cells in which the difference occurs are blood platelets which, along with red and white blood cells, form the nonliquid elements of blood. Platelets, spherical bodies about one-third the diameter of red blood cells, are needed to prevent the leakage of blood through vessel walls.

Traced to Antibodies

Dr. N. R. Shulman and his associates at NIAMD's Metabolic Disease Branch, reported that most cases of infant purpura—shown by bleeding and a lack of platelets—are due to antibodies formed in the expectant mother against the different platelet type in the unborn child.

The infant's type of platelet is inherited from the father, and because it is foreign to the mother, it provokes the formation of antibodies. The mother's antibodies are transmitted to the infant through the placenta, and cause the infant to bleed by destroying his platelets.

Thus, the course of this disease, Dr. Shulman said, is comparable to that arising from the well-known Rh factor, an antigenic substance in red blood cells. In this case, a dangerous anemia occurs in an Rh-positive unborn infant when his Rh-negative mother forms antibodies against his red blood cells.

Dr. Shulman further reported that mismatching of platelets can cause ill effects not only in newborn infants, but also occasionally in children and adults who receive transfusions. It was found that platelet antigens frequently are mismatched when blood transfusions are given and may provoke antibodies which destroy platelets in subsequent transfusions, just as mismatched red cells are destroyed. Destruction of platelets by these antibodies may be the cause of some hitherto unexplained transfusion reactions.

The problem of antibodies against platelets is similar to the problem of antibodies against the various red blood cell groups, of which the A, B, O, and Rh groups are the best known. The ABO groups were first recognized at the turn of the century when the original puzzle of why some transfusions "take" and some do not was cleared up by Dr. Karl Landsteiner, an America Nobel Prize winner.

Red Cells Differ

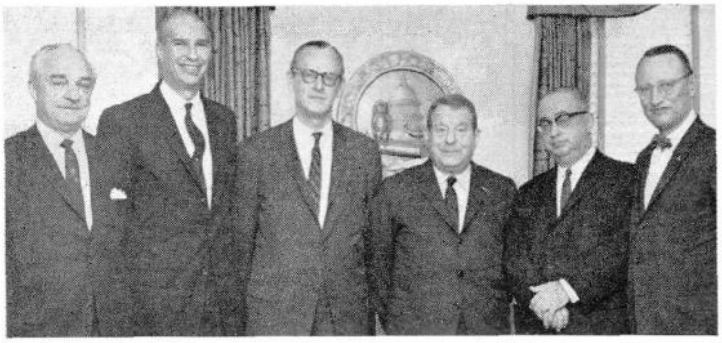
He found that human red cells were not all alike and that if bloods of donor and patient are different, they will cause agglutination, or clumping of the red cells when mixed. Chemicals which account for the difference are located on the surface of the red blood cells. These chemicals act as antigens which will provoke the production of antibodies when transfused into an individual with another inherited blood type.

The first problem Dr. Shulman and his group had to face in their experiments was the demonstration of anti-platelet antibodies. Red blood cell antigen-antibody reactions are easily shown because they cause visual clumping. However, no laboratory technique was available to show anti-platelet antibodies, although they were suspected by scientists to be present.

Develop New Technique

The NIAMD scientists overcame this handicap by developing a sensitive technique for determining the antibodies which depends on complement fixation rather than agglutination, the latter being unsatisfactory for platelet-antibody detection. Complement fixation is a complex process which involves measurement of the substance in blood called complement which attaches to combinations of antigen and antibody and reflects the degree of antigen-antibody reaction.

Dr. Shulman said his group's finding of platelet incompatibility is a further example of the subtle biochemical differences between human beings, which often are inherited. The study is reported in The Journal of Clinical Investigations.



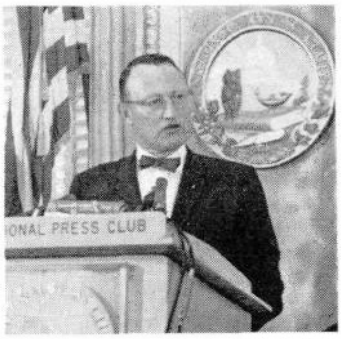
Pictured at the National Press Club luncheon are, left to right: Rutherford L. Ellis, Chairman of the Board of Directors of the American Cancer Society; Dr. Chester Southam, Memorial Sloan-Kettering Cancer Center; Dr. E. Cuyler Hammond, American Cancer Society; Dr. I. S. Ravdin, University of Pennsylvania; George Cullen, President of the National Press Club; and Dr. Kenneth M. Endicott, NCI Director.

EXHIBIT

(Continued from Page 3)

Vice President, cut a ribbon stretched across the entrance to the geodesic dome. Senator Warren G. Magnuson and former Senator Homer T. Bone were honored for their leadership in enactment of the legislation creating the National Cancer Institute. And the General Federation of Women's Clubs was commended for its role in the Cancer Society's 1937 drive.

At a National Press Club luncheon preceding the ceremonies, Dr. Kenneth M. Endicott, NCI Director, chaired a panel discussion of the cancer problem and cancer research in which four scientists participated. They were Drs. I. S. Ravdin of the University of Pennsylvania, Chester Southam of Memorial Sloan-Kettering Cancer Center, Harry Rubin of the University of California, and E. Cuyler Hammond of the American Cancer Society.



Dr. Kenneth M. Endicott, NCI Director, speaks at the National Press Club Luncheon preceding the exhibit opening.

The exhibit depicts the present status and directions of research in epidemiology, chemotherapy, virology, and immunology; describes the nature and scope of the cancer problem; traces progress in detecting and treating cancer; and offers guidelines on what individuals can do for their own protection against cancer.

2 DRS Programs Move To New Locations

Two programs of the Division of Research Services have moved to new locations on the reservation, and a third move is tentatively scheduled for early in May.

The Environmental Services Branch has moved into new offices in Building 12, and the area it has vacated on the 11th floor of the Clinical Center is now occupied by the Translating Section of the Library Branch. As a result of the move, changes in translating procedures make it necessary to schedule appointments for oral translations.

The Medical Arts and Photography Branch will have its headquarters office on the 5th floor of the Clinical Center, in the space formerly assigned to the Translating Section. The occupancy date is tentatively set for May 1 to May 15, following completion of office remodeling.

The programs affected are headed by Edwin M. Lamphere, Acting Chief, Environmental Services Branch; William H. Everhardy, Acting Chief, Translating Section; and Dr. Malcolm S. Ferguson, Chief, Medical Arts and Photography Branch. Their new locations are:

Environmental Services Branch, Room G113, Building 12, Ext. 6035.

Translating Section, Room 11N112, Clinical Center, Ext. 2257.

Medical Arts and Photography Branch, Room 5N250, Clinical Center, Ext. 3467.

In addition, the plastics laboratory of the Medical Arts Section has moved to new quarters in the sub-sub-basement (SSB3) of Building 1, and has an outside entrance at the south end of the building. Philip A. Joram is in charge of the laboratory, which specializes in plastics fabrication for exhibits and museum displays. His telephone extension is 2704.

Simple, Speedy Method Converts DIT To Thyroxine by Use of Snake Venom

Studies by scientists at the National Institute of Arthritis and Metabolic Diseases have shown that rattlesnake venom is capable of converting in the test tube a known thyroxine-percursor, diiodotyrosine (DIT), to thyroxine.

Thyroxine, the principal thyroid hormone, is an iodine-containing amino acid which is produced in the thyroid gland from DIT. It is then transported by the blood stream to regulate the oxidative, energy-releasing processes in all body tissues.

Although thyroxine had been synthesized long ago in the test tube for therapeutic and research purposes, the synthetic process generally used required considerable time and a large number of synthetic steps. In contrast, snake venom can make thyroxine in less than an hour.

The new process provides not only a convenient method of synthesizing thyroxine but is of particular value for the easy preparation of radioactive thyroxine in which all carbon or iodine atoms are labeled.

Such uniformly labeled forms of thyroxine are important tools for the study of the metabolism of the thyroid hormone. All that is needed for their preparation is to treat easily available radioactively labeled DIT with snake venom.

To make uniformly labeled thyroxine by the procedure now generally used for the synthesis of thyroxine would be very difficult. This is why uniformly labeled thyroxine is not commercially available.

May Provide Information

Aside from its practical importance, the snake venom process may throw light on the obscure mechanism by which DIT is converted to thyroxine in the thyroid gland. Rattlesnake venom which contains the enzyme L-amino acid oxidase oxidizes DIT in the test tube to a compound which is no longer an amino acid but a keto acid (keto acids are agents which serve as intermediates in a variety of metabolic processes). As soon as this keto acid, 4-hydroxy-3, 5-diiodophenylpyruvic acid (DIHPPA) is formed, it combines with DIT that had not yet been attacked by the enzyme, resulting in the formation of thyroxine.

Possibility Suggested

This suggests that perhaps DIHPPA also is an intermediate in the biosynthesis of thyroxine. DIHPPA could be formed in the gland in several ways other than through the action of L-amino acid oxidase. The possible formation of DIHPPA in the thyroid is now under investigation.

The new process for making radioactive thyroxine is reported by NIAMD scientists Drs. H. J. Cahnmann and Tetsuo Shiba in the 1962 abstracts of the Federation of American Societies for Experimental Biology.

John DuBay Appointed DRS Executive Officer

John Gordon DuBay, a former budget examiner in the Social Security Administration and for the past two years a management analysis officer in the Public Health Service, was named Executive Officer for the Division of Research Services, April 2. He succeeds James A. King, who in December became one of the Division's two Assistant Chiefs, with specific program responsibilities.

Mr. DuBay

Before coming to NIH, Mr. DuBay was a member of the General Methods Staff of the Office of the Surgeon General and conducted management studies of PHS systems with a view to effecting improvements.

Among the projects were a comprehensive review of the automation of personnel statistics and a procedure for the patenting of employees' inventions.

Previously Mr. DuBay was successively supervisory budget examiner and auditor with the Bureau of Old-Age Survivor's Insurance, in Baltimore. He received the B.S. degree in Business Administration from Johns Hopkins University in 1955.

NIH Scientists Evaluate Hill-Burton Program

Accomplishments of the Hill-Burton program in terms of the Nation's needs for patient-care facilities are evaluated in a recent report by Dr. Alan E. Treloar, Special Assistant to the Director, NINDB, and Donald H. Chill, Statistics and Analysis Branch, DRG.

The extensive report describes the results of a PHS-supported study conducted by the authors, then associated with the Hospital Research and Education Trust. Entitled "Patient Care Facilities: Construction Needs and Hill-Burton Accomplishments," the report is the 10th in a series of American Hospital Association monographs and is available from the Association.

High School Students Benefit Indirectly From NIH Grants

A letter received recently by Dr. Willis R. Boss, Chief of the Training Branch, National Cancer Institute, points to significant indirect benefits of the NIH Extramural Grants Program.

Dr. M. Michael Sigel, Research Director of the Variety Children's Research Foundation, Miami, Fla., in writing to Dr. Boss referred to the value of an NIH-supported cancer training grant in relation to the Foundation's activities embracing research training for secondary school students.

Cites Advantages

These students, he said, benefited from the availability of equipment purchased with grant funds, and from contacts with postdoctoral trainees and members of the Foundation's scientific staff.

In the recent finals of the Westinghouse Science Talent Search, a competition open to high school science students throughout the country, two of the eight highest awards were won by students sponsored by the Foundation, Dr. Sigel said.

"We are very pleased," he added, "to pass this information on to you as further evidence that your training program, which is designed to create a pool of mature scientists for research in cancer and viruses, has made this additional significant contribution."

Joint Conference Held On Insecticide Research

A working conference of PHS and Department of Agriculture representatives and consultants was held here recently to coordinate research on a group of experimental insecticides known as chemosterilants.

"Chemosterilants" is a term used to describe certain alkylating agents and antimetabolite compounds whose use results in incomplete development of the eggs of treated insects. PHS interest stems from the need to assess any health hazards arising from use of such materials.

Two DRG Study Sections, Genetics and Toxicology, seek to broaden knowledge of all biological effects of the compounds.

Chaired by Dr. James B. Kitzmiller of the Toxicology Study Section, the conference was devoted to four general topics: 1) Review of USDA research; 2) Mutagenicity on bacterial systems; 3) Problems associated with insecticidal usage; and 4) Identification of needed research.

DOGPATCHERS WHOOP IT UP!

The virtues of Jubilation T. Cornpone are extolled by this group of Dogpatchers at a recent rehearsal of the R&W Hamsters' spring production of "Li'l Abner." Ozzie Grabiner, OAM (on chair), who plays Marryin' Sam, leads the chorus; Dr. Gerald Shean, NIAMD (third from left, back row), is Li'l Abner; Jerry Osborne, NCI (third from right, front row), is the show's choreographer; and Arnold Sperling, CC (right), is its director. The sprightly musical, based on Al Capp's famed comic strip, will be presented here next month.—Photo by Sam Silverman.

NEW DIVISION

(Continued from Page 1)

sion of Research Grants until 1951, and then as Chief of the Extramural Programs in the National Institute of Neurological Diseases and Blindness from 1951 to 1954.

From 1954 to 1955, Dr. Stone was Assistant Vice Chancellor for professional services in the Schools of the Health Professions at the University of Pittsburgh, and from 1955 to 1956 was Director, Medical and Scientific Department, National Multiple Sclerosis Society, New York City.

Dr. Stone returned to NIH in 1956. He served as Assistant to the Associate Director, NIH, from 1956 to 1957; as Assistant Chief, DRG, from 1957 to 1958; and as Assistant Chief, DGMS, and Chief of its Research Training Branch since 1958. He served in the U.S. Marine Corps from 1942 to 1948.

Dr. Powell's work in the Public Health Service has been in the areas of general program development and grants management—both in DRG and in NIAID. From 1958 to 1960, he was in DRG, first as an Executive Secretary and later as Assistant Chief of the Research Grants Review Branch, and as Deputy Chief of the Division. He has been Assistant Director of NIAID since 1961.

A native of Hartford, Conn., Dr. Powell received the B.S. degree from the Massachusetts Institute of Technology in 1940, and the M.D. degree from Boston University in 1944. He served his internship at the U.S. Marine Hospital, Boston, from 1944 to 1945, and was a medical officer in the U.S. Navy from 1945 to 1946. He was commissioned in the U.S. Public Health Service in 1946.

He was a resident in radiology at the USPHS Hospital, Baltimore, from 1951 to 1952. From 1952 to 1954, he was a fellow in radiology at the University of Pennsylvania Hospital. He returned to NIH in 1954 as staff physician in the Clinical Center's Radiation Therapy Branch, and in 1955 served in NCI's Research Grants and Fellowship Branch. From 1956 to 1958, Dr. Powell was Chief of the Radiological Health Medical Program in the Division of Special Health Services, PHS.

Dr. Chanock to Lecture At Meeting in Holland

Dr. Robert M. Chanock, Head of the Respiratory Virus Unit of NIAID's Laboratory of Infectious Diseases, has gone to Europe to lecture at the Boerhaave Conference on Respiratory Virus Diseases in Leiden, Holland.

Prior to his arrival in Holland, he will present a paper to the Danish Pathological Society in Copenhagen on "Biology and Natural History of Eaton Agent PPLO, the Agent Responsible for Cold Agglutinin-Positive Atypical Pneumonia." He will also visit the State Serum Institute while in Copenhagen.

After the Boerhaave Conference Dr. Chanock will go to London and Kent, England, to confer at the Lister Institute and Wellcome Research Laboratories, respectively, on problems in respiratory virus research. He plans to return to Bethesda in early May.

Also attending the conference in Holland is Dr. Karl M. Johnson of LID's Respiratory Virus Unit. Following the conference he will visit virus research laboratories at Uppsala, Sweden, and in Edinburgh and Glasgow, Scotland. Prior to his return in May, Dr. Johnson will also visit the Common Cold Research Unit in Salisbury, England, to confer with investigators there.

Single Poliovirus Gives Rabbits Neutralizing Capacity for 4 Types

A Division of Biologics Standards study has demonstrated that rabbits acquire a neutralizing capacity for poliovirus types 1, 2, and 3, and ECHO 12 virus following inoculation with a single poliovirus type.

The neutralizing capacity for heterotypic and heterologous viruses was shown to have properties of antibody, in that it was produced by antigenic stimulus, was demonstrated in heat-inactivated sera, and was not dependent upon the cellular component of the antigen.

This research, reported in a recent issue of the Journal of Immunology was made by Drs. Eugene V. Barnett and Samuel Baron of the DBS Laboratory of Viral Immunology.

High Levels Produced

All rabbits, 72 hours after primary inoculation with either type 1, 2, or 3 poliovirus, produced high antibody levels for the homotypic virus, measurable in the conventional metabolic inhibition test.

Using more sensitive techniques capable of detecting the homotypic responses 24 to 48 hours after inoculation, the investigators found unexpected early production of low levels of neutralizing capacity for the heterotypic polioviruses in approximately 50 percent of the inoculated rabbits. The heterotypic response was usually detectable somewhat later than the homotypic response.

Further evidence for the antigenic relationship of the three poliovirus types was demonstrated when rabbits previously immunized with type 2 poliovirus were found to have an enhanced response to the poliovirus type 1 and 3 components of trivalent vaccine as compared with the control, unsensitized rabbits.

Relationships Suggested

Antibody relationships among the enteroviruses (including poliovirus) have been previously suggested and there is evidence of some protection against paralytic poliomyelitis on the basis of shared antigen by the other poliovirus types.

The investigators suggest that it may be of interest to know whether similar cross-protection against polioviruses occurs in man following natural infection with other enteroviruses.