

the NIH Record

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

May 4, 1965
Vol. XVII, No. 9

NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Paraguay Survey By ICNND Team To Begin June 1

A 17-member team from the Interdepartmental Committee on Nutrition for National Development will leave for Paraguay the first of June to conduct an extensive nutritional health survey at the official request of the Government of Paraguay.

Each ICNND team member will work with one or more Paraguayan scientists in his special field of study.

Watkins Directs Team

The survey team will be directed by Dr. Donald M. Watkin, Medical Consultant to ICNND, with Dr. William N. Pearson of the Vanderbilt University School of Medicine as deputy director.

Dr. Carl J. Witkop, Chief of the Human Genetics Branch, National Institute of Dental Research, will participate as a member of the team.

A briefing conference was held here in April, at which representa-

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Data on Hereditary Factors Sought in Study of Dogs Born With Cleft Palate

By Bob Callahan

All varieties of cleft palate which have been described in humans have been seen in dogs, Josh Jurkiewicz, M.D., D.D.S., of the College of Medicine, University of Florida, told a seminar group at the National Institute of Dental Research recently.

Dr. Jurkiewicz, Chief of the Section of Plastic Surgery at the university, is raising a colony of dogs to serve as an animal population for research on cleft palate in the canine, which may lead to a better understanding of hereditary factors involved in this malformation.

'Control Through Research'

"Control of this malformation will be achieved only through research," he said, "and a better understanding of the mechanism of action of environmental agents against a specific genetic background."

Dr. Jurkiewicz reported that the

Dr. Russell Reports on Team Survey in Nigeria Where 'Research Can Flourish'



Dr. William J. Darby of the Vanderbilt University School of Medicine, Director of the ICNND team (right), and Dr. George R. Morrison of the Washington University School of Medicine, examine Nigerian children for signs of malnutrition.—This and other Nigeria photos by Dr. Russell.

After participating in a 10-week survey in Nigeria conducted by an ICNND team, Dr. Albert L. Russell, Chief of the Epidemiology and Biometry Branch, National Institute of Dental Research, recently reported on the study findings at an NIDR seminar here.

"Nigeria," he said, "has a climate in which research can flourish."

He explained that various medical problems and paradoxes "project new dimensions for scientific inquiry and emphasize the opportunities for investigation."

In addition, he said, the country has good research facilities and welcomes trained investigators from other nations.

These diseases, he said, are present in Nigeria: endemic malaria, yellow fever, smallpox, leprosy, sleeping sickness, yaws, malignant lymphomas, and tropical ulcer.

Perhaps the most critical problem, Dr. Russell said, is malnutrition. Most of the inhabitants subsist on a high starch diet, low in

First Collection in 1926

The first large collection of human cases dealing particularly with the hereditary manifestations of cleft lip and palate was reported in 1926. Investigators felt that the malformation was largely controlled by recessive genes but, on occasion, behaved as a dominant.

Later studies showed cleft lip

(See CLEFT PALATE, Page 6)

Live Oral Vaccine Protects Against Adenovirus Type 4

A successful field trial of a new live oral vaccine against adenovirus type 4, the main cause of severe acute respiratory disease in military recruits, was announced recently by Surgeon General Luther L. Terry of the Public Health Service and Rear Adm. Robert B. Brown, Surgeon General of the U.S. Navy.

Taken in the form of a capsule, the vaccine was 100 percent effective in preventing acute respiratory illness in Marine recruit volunteers at a training camp where adenovirus 4 was epidemic.

Placebo Patients Hospitalized

By contrast, almost 25 percent of a control group which had been fed a placebo—a capsule not containing vaccine—were hospitalized with severe adenovirus respiratory disease during the same epidemic.

The vaccine represents a new concept in immunization against respiratory disease. A special coating on the capsule prevents the vaccine from being released until it reaches the intestinal tract.

Thus the live vaccine bypasses the normal site of adenovirus infection, the respiratory tract. In the intestinal tract the vaccine causes a symptom-free infection that stimulates the production of protective antibodies.

The vaccine is the product of a

(See ORAL VACCINE, Page 5)



Dr. Russell

Low Level of Pesticides Reported in Food Supply

Pesticide residues are detectable in the American food supply by today's highly sensitive analytical methods, but the amounts of such residue are insignificant from a health standpoint, according to recent findings announced by the Food and Drug Administration.

Pesticide levels found in the test samples were generally less than one percent of the safe legal tolerance. Many of the most commonly used pesticides were not found at all.

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the NIH Record

Published bi-weekly at Bethesda, Md., by the Public Information Section, Office of Research Information, for the information of employees of the National Institutes of Health, principal research center of the Public Health Service, U. S. Department of Health, Education, and Welfare, and circulated by request to interested members of the public. The NIH Record content is reprintable without permission. Pictures are available.

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NEWS from PERSONNEL

PHS PROMOTION PLAN

A recently revised PHS Promotion Plan establishes a PHS-wide area of consideration for positions at Grade GS-13 level and above, in the following series:

Social Science, Social Administration, Economist, Social Work, General Administrative, Digital Computer Systems Administration, Digital Computer Programming, Digital Computer Systems Analysis, Program Management, Administrative Officer, and Office Services Management.

Also, Financial Management, Hospital Administration, Public Health Program Specialist, Engineering and Architecture Group, Information and Arts Group, Business and Industry Group, Patent Adviser Series, Mathematics and Statistics Group, Education and Vocational Training, Public Health Education, and Supply Group.

Features Listed

This promotion plan has two features of major importance to NIH management and employees.

1.—Those concerned with recruiting and selecting persons to fill GS-13 positions in any of the listed series need to be aware that the promotion plan formalities must be followed before a selection can be made. This takes some time.

A promotion panel must be established by the Office of the Surgeon General, the applications of all eligible employees from all bureaus must be reviewed, and a promotion certificate must be issued covering the names of those found to be qualified and well qualified.

Only after this may a selecting official decide on the selection,

Official NIH Address to Use 'Rockville Pike' Designation

The *NIH Record* has been notified that to conform with street signs erected by Montgomery County, the official NIH address now is:

National Institutes of Health, 9000 Rockville Pike, Md. 20014

Some advance planning and early initiation of the required request for a promotion certification can ease the time burden associated with this formal promotion plan.

2.—This directly concerns NIH staff members who regard themselves as eligible candidates for GS-13 positions in any of the listed series. To insure that they are not overlooked in operation of the PHS promotion program, such personnel should submit an up-to-date SF 57 to the OSG Office of Personnel.

PMB Furnishes Copies

Employees known to be qualified for the positions covered have been furnished by PMB with a copy of the Plan and an SF 57.

Other employees who believe that they also should be considered are encouraged to consult their personnel offices to determine if they are qualified.

No one may be considered for a promotion to GS-13 in any of these listed position groups unless he has submitted an up-to-date SF 57 to the OSG Office of Personnel.

ADVANCE APPROVAL OF LEAVE

Employees are reminded of the requirement to apply in advance for approval of anticipated annual leave whenever possible. This allows supervisors to schedule leave in relation to workload requirements, staffing patterns, and other management considerations.

Clinical Center Facility Speeds Up Scheduling Of Employee X-Rays

A new facility of the Clinical Center's Diagnostic X-ray Department, located in Rm. B2N102, is credited with speeding up the scheduling of chest radiographs for NIH employees.

Since employee chest X-rays constitute a lower priority than X-rays of patients, NIH personnel have had to wait their turn in the Diagnostic X-ray Department on the 6th floor. With the new facility on the B2 level, routine chest X-rays for employees can now be accomplished in 3 to 5 minutes.

Films Are Tubed

A further bit of inventiveness lends additional ease to the arrangement by eliminating a traffic obstacle in having these X-rays developed.

James G. Hawkes, Head of the Communications Section, Office Services Branch, OD, in cooperation with John P. Daly of the Diagnostic X-ray Department, has worked out a special device for holding undeveloped X-ray films so that they may be sent by pneumatic tube to the developing station on the 6th floor of the Clinical Center.

In addition to these new arrangements for NIH employees, a room adjacent to the department's 6th floor reception desk has been modified for chest radiography for CC patients.



New employee Marilyn R. Trimble, a programmer for the Division of Research Services' Computation and Data Processing Branch, enjoys the no-wait system as she receives instructions from Radiographic Technician John Daly.—Photo by Jerry Hecht.

At times a leave-approving officer may not be able to grant a request for annual leave if the work of the Department requires such action. However, rarely will this be necessary, and as far as practicable, leave will be granted when requested by employees.

U.S. Bonds Offer Plan For 'Painless' Savings

This year's U.S. Savings Bond Drive at NIH, headed by Dr. Frederick L. Stone, Acting Chief of DRFR, as chairman, is out to help personnel "Put it away in a painless way."

Keymen have been appointed and are now contacting employees with



Movie and TV comedian Bob Hope urges support of the U.S. Savings Bond Campaign.

bond information and application forms.

By painless payroll deduction, employees not only save to fulfill their dreams but help to keep this country strong.

Series E Bonds may be purchased in small and large denominations ranging from \$25 to \$1,000 face value. Purchase price of the bond is one-quarter less than the face value.

Employees can build up the amount for a savings bond with deductions of \$3.75 each payday, or larger amounts, provided the amount divides evenly into the price of the bond with no remaining fractions.

Bonds are not subject to taxation, and interest need not be reported until they are cashed.

"Look to a bright future with a packet of bonds!"

1927 Hitchcock Thriller Next in R&W Series

Next Saturday and Sunday, May 8 and 9, the NIH Recreation and Welfare Association's classic film series will present Alfred Hitchcock's 1927 production of "The Lodger." Also on the program will be Harold Lloyd's famous short subject entitled "High and Dizzy."

The two showings are scheduled for 8 p.m. in the Clinical Center auditorium. All NIH employees, guests, and CC patients are invited to attend.

Knutti Named to Board

Dr. Ralph E. Knutti, Director of the National Heart Institute, has been named a member of the Board of Trustees of the American College of Cardiology. His term of office began last February and will run for five years.

Dr. Eugene Braunwald Wins '65 Abel Award For Heart Research

Dr. Eugene Braunwald, Chief of the National Heart Institute's Cardiology Branch, recently received the 1965 John J. Abel Award for his significant contributions concerning the action of certain drugs and their effects on the heart.



Dr. Braunwald

Dr. Braunwald received the Abel medal and a check for \$1,000 at the 49th Annual Meeting of the Federation of American Societies for Experimental Biology in Atlantic City. The award is made by The American Society for Pharmacology and Experimental Therapeutics.

On February 11 Dr. Braunwald was one of 10 outstanding young men in the Federal Government to receive the 1965 Arthur S. Fleming Award.

For the Abel award he was cited for his research on digitalis, the most widely prescribed drug for improving the pumping action of the heart, and for his studies on the role of the sympathetic nervous system in regulating cardiac performance.

Digitalis Research Described

He and his co-workers showed that digitalis is beneficial to both normal heart patients and those with congestive heart failure. Some researchers previously felt that digitalis had no appreciable effect on the normal heart.

Dr. Braunwald's work showed that the drug does increase the vigor of the heartbeat, though it causes constriction of the blood vessels.

Patients with congestive heart failure gain a double benefit from digitalis, according to Dr. Braunwald's findings. Under these circumstances, digitalis does not cause the blood vessels to constrict but rather to dilate. The patient's condition is improved both by the increases in the heart's output of blood and the reduction of abnormally elevated pressures in the heart.

Papers Published

During the past two years Dr. Braunwald and his group have published a series of papers indicating that an important defect of sympathetic nerve function occurs in many patients with heart failure.

They showed that circulating norepinephrine, the chemical substance released by the sympathetic nerves, is raised to abnormally high levels during exercise in patients with heart failure, and that their

New NHI-Produced Film Available on Loan Basis

A new heart research film produced by the National Heart Institute for professional audiences is now available on loan without cost from the Medical Audiovisual Branch of the Communicable Disease Center, Public Health Service, Atlanta, Ga., 30333.

Titled "Chronic Extrinsic Cardiac Denervation by Regional Neural Ablation," the 16 mm film in color, with sound, lasts 20 minutes. It depicts an operative technique whereby the nerves which regulate heart function are removed.

Using this experimental procedure, surgeons have been able to achieve long-term survivals of animals, even to the point where the severed nerves grow back to once again regulate heart function.

The surgical preparation described in the film allows for the first time the study of heart function independent of direct nervous (reflex) influences in an otherwise healthy animal.

Serves as Model

It also represents in many ways a model for the transplanted heart and therefore is suitable for the study of physiologic, pharmacologic and metabolic responses which may be anticipated following the transplantation of a heart.

The procedure, however, is an experimental method for research studies and has not been used in humans.

The film is based on the work of Dr. Willard Daggett, formerly of NHI and now with Massachusetts General Hospital in Boston; Dr. Theodore Cooper of the St. Louis University School of Medicine; and Dr. Stephen Potkay of the Division of Research Services.

It should be of particular interest to cardiovascular physiologists, pharmacologists, surgeons, and cardiologists; and to departments of anatomy and physiology in medical schools, for teaching and research purposes.

urinary excretion of norepinephrine is also abnormally high.

Perhaps of greatest significance is their finding that the stores of norepinephrine in the heart itself are depleted in many patients with heart failure. This finding has been extended to both dogs and guinea pigs with experimental heart failure and the mechanism responsible for the depressed stores has been revealed.

Current clinical studies indicate that these findings may prove of importance in the treatment of patients with heart failure.

Dr. Braunwald has made significant contributions to the understanding of factors regulating the output of the heart with particular

DRFR Supports Model Research Units In 81 Centers in 5th Year of Program

By Ruth Silbey

A patient who splashed violent primary colors on a canvas 24 hours before being linked to a kidney dialysis machine, painted with a gentle pastel palette on the following day.

The artist is a research patient at the Georgetown University Hospital Clinical Study Unit. Physicians there conjecture that the startling change in the selection of colors may be due to the influence of toxins in the blood immediately before the kidney dialysis.

After the blood had been cleaned and the impurities removed by the dialysis machine—a function

which normal kidneys perform—the patient chose more serene and calm colors.

At Georgetown physician-scientists are studying the effects of long-term hemodialysis on patients with chronic kidney disease. They are investigating the medical and psychological effect of hemodialysis on the patient, as well as different methods and mechanical devices used in dialysis.

These various aspects of hemodialysis are being studied in clinical units numbered among the 81 active or proposed general clinical research centers in 66 medical institutions, in 30 States, the District of Columbia and Puerto Rico.

Administered by DRFR

Administered by the Division of Research Facilities and Resources, this program of general clinical research centers makes possible a wide range of basic and applied scientific studies of man, his normal life processes and diseases. The ultimate goal of the centers is the application of this new knowledge to the improvement of medical care.

Launched five years ago as an experimental program, its grants support small, model research units where scientist-physicians can conduct controlled studies on carefully screened patients.

Marking the fifth anniversary of a start with fewer than 100 beds, the program now counts nearly 1,000 beds in operation or preparation.

Centers Are Self-Contained

Each center has patients' rooms, laboratories, kitchens, and other facilities, as well as the modern equipment enabling it to function as a separate, self-contained unit devoted exclusively to clinical research.

Since the program began, more than \$102 million has been awarded in grants that pay renovation and equipment costs, the salaries of the director, nurses, dieticians, and other supporting staff, as well as patients' hospitalization, and maintenance costs. The annual cost of operation of the centers averages a half-million dollars.

As the director of one clinical research center has said, "The greatest contribution of the clinical research center . . . has been to provide both physicians and trainees with the facilities to do better clinical research. Both the quality of hospital services and of teaching have improved as a direct outgrowth of having the center."



This patient is undergoing a series of tests by general clinical research center physicians to provide them with data necessary in the solving of problems for improvement of medical care.

Council on Medical TV To Meet in Ann Arbor

The Council on Medical Television will hold its 7th Annual Meeting May 17-19 at the University of Michigan Horace H. Rackham School of Graduate Studies and the University Medical Center in Ann Arbor.

The 3-day meeting will have as its general theme "The Present Status of Television in the Health Sciences."

Special features of this year's program include lectures, reports, presentations of technical exhibits and papers, manned photographic exhibits, and an informal workshop session.

Dr. Schaefer Elected to Nutrition Institute Office

Dr. Arnold E. Schaefer, Executive Director of the Interdepartmental Committee on Nutrition for National Development, Office of International Research, was chosen President-Elect of the American Institute of Nutrition at the 49th meeting of the Federation of American Societies for Experimental Biology in Atlantic City. He will take office on July 1.

emphasis on the importance of venous tone as a determinant in cardiac performance.

PARAGUAY

(Continued from Page 1)

tives from government agencies and private institutions which cooperate with ICNND discussed related continuing programs in Paraguay.

These agencies included the Defense Department's Advanced Research Projects Agency, which is providing funds for the nutrition survey.

Others represented were the Agency for International Development, United States Information Service, Food for Peace, the Food and Agriculture Organization of the United Nations, the Pan American Health Organization, United Nations Children's Fund and the State University of New York.

Dr. Shirley C. Fisk, Deputy Assistant Secretary of Defense



Drs. Donald M. Watkin (right) and William N. Pearson (left), Director and Deputy Director of the nutrition survey team for Paraguay, confer in front of Stone House with Dr. W. G. Unglaub, Director of the survey team for Guatemala.

(Health and Medical) and Chairman of ICNND, and Dr. Arnold E. Schaefer, Executive Director of the ICNND Secretariat, located at NIH, presided at the briefing sessions.

Dr. Frank B. Berry and Dr. Watkin, who headed a group that conferred with officials of the Government of Paraguay and made preliminary studies for the projected survey, discussed their advance visit.

Former ICNND Chairman

Dr. Berry was Chairman of ICNND until he retired from his position as Deputy Assistant Secretary of Defense (Health and Medical). He is now Chairman of the Editorial Advisory Board of U.S. Medicine.

Background information for the survey team was prepared by Dr. L. A. Maynard, consultant to ICNND and former Director of the Graduate School of Nutrition at Cornell University.

The ICNND also recently initiated a study to assess the nutritional status and local resources of Central American countries, in cooperation with the Institute of Nu-



Drs. Frank B. Berry, Arnold E. Schaefer, and Shirley C. Fisk (left to right) continue conference discussion during coffee break at Stone House, before a portrait of former Surgeon General Leroy Burney.—Ed Hubbard photos.

trition of Central America and Panama (INCAP).

One survey was completed in Guatemala and another started in El Salvador in April.

Dr. A. L. Russell, Chief of the Epidemiology and Biometry Branch, NIDR, was a member of the survey team for Guatemala and will serve with the El Salvador team. He also recently participated in a similar survey in Nigeria. (See feature story, P. 1, in this issue.)

Nutritional health surveys will be conducted in Nicaragua later this year and in Costa Rica, Panama and Honduras in 1966. Funds for these surveys will also be provided by the Defense Department's ARPA.

New Edition of Manual For Nutrition Surveys Published by ICNND

A new Manual for Nutrition Surveys was recently published by the Interdepartmental Committee on Nutrition for National Development (formerly known as the Interdepartmental Committee on Nutrition for National Defense).

This edition of the ICNND manual revises and updates material contained in the first edition published in 1957.

Much new material has been added, based on experience gained from nutrition surveys of population groups in 26 developing countries.

The manual is designed to establish uniformity in methods, techniques, procedures and guidelines for conducting surveys in order to make meaningful comparisons within and between countries.

When first published, the manual was intended as a guide for conducting nutrition surveys of military personnel. Since then it has increasingly been used as a guide for surveys of civilian population groups, which now constitute the

NICHD Provides Aid for Training of Personnel in Population Research

The National Institute of Child Health and Human Development has awarded a 5-year training grant to Johns Hopkins University to help establish a Population Dynamics Division at Baltimore, Md.

The grant provides \$161,000 for the first 18 months of training support, with the balance of the \$727,693 grant total to be funded over the next three-and-a-half-year period.

The new division will train researchers to seek improved methods of dealing with population growth problems in the United States and elsewhere. The NICHD training support is specifically for the training of United States research personnel in the scientific areas of reproductive physiology, behavioral aspects of reproduction, and in demography.

Others Aid Training

Other organizations supporting the new division—the Ford Foundation, Population Council, Rockefeller Foundation, and the Agency for International Development—will aid training of service program personnel to work in the United States and at overseas family planning projects.

Those trained in this portion of the division's program will include medical students for clinical service roles; biomedical personnel for service or technician jobs; and other service personnel such as public health administrators, nurse midwives, and social scientists—including specialists in communication and motivation.

These funds can also be used for the training of foreign nationals without the limitation that applies to using Public Health Service grant funds for this purpose.

Qualifications Noted

Trainees accepted for most of the division's training activities will have advanced degrees or may already be physicians. However, in the demography and biostatistics areas, both pre- and post-doctoral training will be offered.

Dr. Paul A. Harper, Director of the Maternal and Child Health and Population Dynamics Department of the Johns Hopkins School of Hygiene and Public Health, will direct the new division, which will be administratively located within his department.

majority studied in surveys.

The new edition of the ICNND manual is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for \$2.50 a copy.

Rheumatology Thesaurus Is Published by ARA

An unusual "Thesaurus of Rheumatology," expected to be a boon to specialists in this particular field of medicine, has been prepared by the American Rheumatism Association (ARA) with grant support from the National Institute of Arthritis and Metabolic Diseases.

Cataloguing more than 1100 rheumatologic terms, the thesaurus is a product of the ARA's Literature Analysis Project.

Dr. Leon Sokoloff, Chief of the Section on Rheumatic Diseases, Laboratory of Experimental Pathology, NIAMD, provided supervision for the project which is designed to improve the dissemination and retrieval of information on rheumatic diseases.

Foreign Terms Included

The new thesaurus is a comprehensive guide to varying terms used by rheumatologists around the world. It provides a codified index of all technical terminology used by foreign rheumatologists in their original papers.

Rheumatologic terms are translated from the native tongue of the author into equivalent English terms for the benefit of the world's English-speaking rheumatologists.

At the same time, the thesaurus has initiated a means of standardizing rheumatologic terms, an essential move if specialists in this field are to communicate in the same scientific language.

The thesaurus was published in the February issue of Arthritis and Rheumatism, official journal of the ARA, and reprints may be obtained from the association at cost.



This money tree and scroll were presented to Virginia K. Hardiman by her work associates at the time of her retirement from NIH recently. Mrs. Hardiman, who came to NIH in 1954, retired as a supervisor in the Operations Section of the Clinical Center's Environmental Sanitation Control Department after more than 12 years of Federal service.—Photo by Jerry Hecht.

Dr. Edmund Sonnenblick Receives Meltzer Award

Dr. Edmund H. Sonnenblick, a senior investigator in the Cardiology Branch of the National Heart Institute, was named winner of the 1965 Meltzer Award at the recent 49th Annual Meeting of the Federation of American Societies for Experimental Biology by the Society of Experimental Biology and Medicine. Dr. Sonnenblick received a medal and a \$500 check.



He was cited for his work on the mechanics of the heart muscle. His electron microscope studies have provided an explanation of how the heart muscle can alter its strength of contraction.

Dr. Sonnenblick and his associates have been studying the mechanics of human heart muscle outside the body under controlled conditions. They are investigating these factors both in normal and failing hearts.

Future Value Cited

This study permits scientists to sort out the variables which control contraction of the heart under managed conditions. Such studies are only now becoming possible in intact man by extending these views. Hopefully, the results will provide further insight into the causes of heart failure.

A native of New Haven, Conn., Dr. Sonnenblick joined NHI as an investigator in 1960. He graduated from Wesleyan University, Middletown, Conn., in 1954 with a B.A. degree.

In 1958 he received an M.D. degree (cum laude) from Harvard Medical School and took his postgraduate training at Columbia-Presbyterian Medical Center in New York.

ORAL VACCINE

(Continued from Page 1)

comprehensive effort of the Vaccine Development Program of the National Institute of Allergy and Infectious Diseases. The idea originated in the Institute's Laboratory of Infectious Diseases.

Wyeth Laboratories, Inc., manufactured the capsule under a contract with NIAID. Institute scientists, in cooperation with staff members of the District of Columbia Department of Corrections, tested the capsule for safety in volunteers at the Lorton Reformatory, Lorton, Va.

The field trial at the Parris Island and Camp Lejeune Training Centers was conducted by physicians of NIAID, of the Parris Is-

Nine Share Awards in 7th Art Exhibit Here; Entries on Display in CC Lobby



Three paintings (left to right) capture top prizes in the oils category at the 7th Annual NIH Art Exhibit: "Still Life with Foliage" by Naomi Bossom, "Horse" by Dr. J. Arthur Weinberg, and "Plant and Animal" by Ann Zahn. Shown arriving at their decision (from left) are judges Alexander Giampietro, Samuel Bookatz and Jacob Kainen.—Photo by Ed Hubbard.

Nine entries in three general categories were judged "superior" in the 7th Annual NIH Art Exhibit, on view until May 21 in the Clinical Center lobby.

In a departure from tradition, the nine winners will receive equal prizes in the show sponsored by the Recreation and Welfare Association of NIH. This year no "best of show" award was given. Participants included NIH employees, their immediate families, and Clinical Center patients.

Winners Listed

Winners in the category of oil painting included two former winners: Naomi Bossom, wife of Dr. Joseph Bossom, Laboratory of Psychology, NIMH, for "Still Life with Foliage," and Ann Zahn, wife of Theodore Zahn, also of the Laboratory of Psychology, NIMH, for her entry, "Plant and Animal." The third winner was Dr. J. Arthur Weinberg, clinical associate in the Laboratory of Clinical Science, NIMH, for his painting, "Horse."

land Marine Recruit Training Center, the Naval Medical Field Research Laboratory at Camp Lejeune, and the Epidemic Intelligence Service of the Communicable Disease Center, PHS.

Acute respiratory disease is the leading cause of hospitalization and treatment at outpatient clinics among recruits in all branches of the Armed Forces.

Ten percent of these illnesses result in pneumonia. Yearly adenovirus epidemics at military training camps throughout the country in fall, winter and spring rank second only to accidents as a cause of lost manpower.

The cost is staggering. Loss of training time and increased medical care during one adenovirus type 4 epidemic at a single military recruit installation were estimated to have cost \$10 million.

the nine winners will receive equal

Phylliss Hoffman, wife of Dr. Harold Hoffman, Laboratory of Biology, NCI, another former winner, this year won recognition in graphics for "Girl with a Guitar."

Other winners in this category were Sandra Levine, wife of Dr. Jerome Levine, Research Grants Branch, NIMH, for "Spring Grass"; and Kathryn Giberman, daughter of Mrs. Marcella Giberman, Office of the Director of Clinical Investigation, NIMH, for her print, "Untitled."

2 Win Sculpture Awards

Last year's grand prize winner, Saide Fishman, Laboratory of Psychology, NIMH, again was a winner for her sculpture, "In God We Trust." Sharing the honors in sculpture for the second year was Jenny Lea Knight, Laboratory of Psychology, NIMH, for her entries, "Little Green Owl" and "Earthbound."

Fifty-four entries of the 225 submitted were selected for exhibit by judges Jacob Kainen, Director of Graphics, Smithsonian Institution; Alexander Giampietro, Head of the Ceramics Department, Catholic University; and Samuel Bookatz, artist and owner of the Bookatz Gallery in Alexandria, Va.

PHS Establishes New Outpatient Branch

The Public Health Service recently announced the establishment of an Outpatient Branch in the Division of Hospitals because of the growing importance of ambulatory care and preventive medicine for some half-million beneficiaries. Dr.

Grant to Support Study Of Cell Membranes at University of Chicago

One of the most challenging problems of basic biomedical research — the role played by cell membranes in determining structure and function of individual cells — will be studied at the University of Chicago with grant support from the Public Health Service, shared in the initial year by the National Institute of General Medical Sciences and the National Institute of Neurological Diseases and Blindness.

The grant of \$164,429 for the first year of a 5-year project was made to Dr. Humberto Fernandez-Moran, Professor of Biophysics.

In the past decade striking contributions to biological knowledge have come from this field, which is now regarded as a central and unifying discipline in the biomedical sciences.

'Scope' Plays Vital Role

In a program of comprehensive long-term research and training in molecular biology at the University of Chicago, Dr. Fernandez-Moran and his associates will investigate the molecular organization of cell membranes and associated systems.

The development of the electron microscope has given scientists an analytical tool of unparalleled power, permitting them to see parts of cells formerly invisible, to study the arrangements of the molecules in these structures, and to make visual observations of some of their functions.

Improved preparation techniques for electron microscopy, some of which were developed in Dr. Fernandez-Moran's laboratory, have been used in the past few years to study isolated mitochondria.

Researcher Optimistic

With the new techniques, Dr. Fernandez-Moran believes that substantial headway can be made, not only in learning about mitochondria but other systems as well.

Dr. Fernandez-Moran, strongly interested in the improvement of the techniques of electron microscopy, is now developing an instrument which operates at the temperature of liquid helium (approximately -270°C.) at which electric currents continue to flow, and the magnetic fields which serve as lenses are maintained in very stable condition even when the microscope is unplugged from the conventional source of current.

Contamination of specimens is reduced and specimens can be observed which could not be studied under usual conditions.

William C. Larsen has been appointed Chief of the branch.

CLEFT PALATE

(Continued from Page 1)

and palate to be genetically distinct from isolated cleft palate alone.

Most researchers now feel that some form of recessivity is involved, Dr. Jurkiewicz said, and that cleft lip and palate cannot be fully dominant with full manifestation, nor are they simple sex-linked.

Dr. Jurkiewicz became interested in the problem in dogs in 1959 when he acquired two English bulldogs, both with cleft palate, sired from two successive matings of two normal animals.

Begins Breeding

Consanguineous inbreeding began with these animals and, with the acquisition of an American bulldog, he was able to begin cleft to cleft breeding.

From breedings of animals with cleft of the primary palate, Dr. Jurkiewicz has seen in eight animals all varieties of cleft described in humans. Some of the puppies have crooked tails, but whether this is linked with the oral malformation is not known.

Painstaking efforts are required to maintain the dog colony. Affected dogs must be removed from the environment of the dog farm, and nursed by hand for at least three weeks before solids can be introduced. Mortality is high, often caused by trauma inflicted by the mother or by inflammation caused by foreign material entering the lungs.

Dr. Jurkiewicz now has sufficient dogs to begin experiments to determine the number of factors, or the genetic modifiers, involved in the hereditary condition.

Cites Possibilities

"One of the exciting things about this whole thing to me as a clinician," he said, "is that we have the distinct possibility of being able to breed large numbers of cleft palate animals because we are no longer restricted to the inbred animals.

"We can use our inbred males to inseminate mongrel females and retrieve the defect in the backcross. Thus, we will have animals available for certain teratologic, embryologic, or surgical experiments if we wish.

"We will also have the opportunity of breeding animals with all varieties of cleft lip and palate," he concluded. "Hopefully, we should be able to accumulate data to get some notion of the numbers of cumulative genes or genetic modifiers involved."

Trying to cope with the complexity of life is one of the responsibilities of growth.—*Jack Levine from Conversations With Artists.*

NIH Machine Operator Paul W. Brown Serves as Ordained Baptist Minister

By Martha Kovacic

Each weekday, machine operator Paul W. Brown of Arlington, Va., joins the army of civil servants commuting to work at NIH. Each weekend, the Rev. Paul W. Brown joins the clerical corps and commutes 50 miles to minister to his congregation at the Zion Baptist Church in Berryville, Va.

He finds no conflict in serving in two roles. Instead, he says, they complement each other. Many experiences of his Government job provide examples of Christian experiences for his sermons, the Rev. Mr. Brown points out, and his training in theology helps him in his relations with people on the job.

Mr. Brown was ordained in 1957 after attending the Washington Baptist Theological Seminary for four and a half years. During that time he worked for the Arlington County Maintenance Department, often a 10-hour day, and attended classes two and a half hours in the evening.

Plays Preacher

His interest in the ministry began as a lad in his hometown of Evington, Va. After services on Sunday he would remember the minister's sermon, get a box and a book, and "be preacher" to his brothers and sisters.

The suffering he saw during his Army service from 1942 to 1946 as a technician corporal in the Pacific area strengthened his desire to "teach the gospel."

His hope is, "If the word of God could be displayed to all mankind, perhaps a lot of suffering through



The Zion Baptist Church, of which Mr. Brown is pastor, is located at 10 Josephine St., Berryville, Va.

war could be blotted out."

Mr. Brown became pastor of the 70-member congregation of the Zion Baptist Church in 1960. On Sundays he conducts morning and evening services, holds prayer meetings on Wednesday nights, and a "youth hour" twice a month.

"When Mr. Brown became our pastor, the church's indebtedness was nearly \$3,000," financial secretary Florence E. Gillison, reports. "But under his leadership and the



The Rev. Paul W. Brown stands beside the church bulletin board.

help of Mrs. Brown, we have not only paid the debt but have made many improvements."

For these accomplishments and for assistance in counseling work, Mr. Brown gives credit to his wife, whom he calls his assistant pastor. "People come to her with their problems, and she advises me as to who and what needs my attention."

Mr. Brown continues to learn as he teaches. For the past several years he has been enrolled in adult education classes in English, psychology and philosophy at Catholic University. This year he is also taking a course on the Book of Ecclesiastes at Howard University.

At 49, Mr. Brown seems to thrive on this rigorous schedule of studying, teaching and working.

He joined the Administrative Services Section of the Office Services Branch, OD, in 1963.

Operates Machines

In a small office on the B2 level of Building 31, he operates the mimeograph, ditto and Xerox machines to run off thousands of copies of menus for the Clinical Center patients and various forms and tabulation sheets.

He also assists in the sign shop, setting type for name plates and conference signs, and he is often called on to operate the various reproduction machines in Building 1.

Margaret Lehman, Head of the Administrative Services Section, has praise for his handling of all situations in a calm and efficient manner. "Nothing fazes him," she says. "He is always pleasant and accommodating."

The college student body is getting younger according to the Census Bureau's *Statistical Abstract*. Of the 3.6 million students in 1960, 79 percent were under 25; of the 4.2 million in 1962, the percentage was 83.

Dr. Martin A. Kramer Named to NIMH Post

Dr. Martin A. Kramer has been appointed Acting Assistant Chief of the Community Mental Health Facilities Branch, National Institute of Mental Health, Dr. Stanley F. Yolles, Institute Director, announced recently.

He replaces Robert H. Atwell who left NIMH last January to become Assistant to the Provost at the University of Wisconsin.

The branch is involved in the administration of the new community mental health centers program and is principally responsible for the review of both State plans for centers and center construction grant applications.

Serves Budget Bureau

Dr. Kramer comes to NIMH from the U.S. Bureau of the Budget where he served as legislative analyst and staff assistant to the Director.

Prior to that he taught philosophy at U.C.L.A. and the University of Texas. He is currently Professorial Lecturer in Philosophy at American University.

Born in Ballinger, Tex., Dr. Kramer received his B.A. in history from Harvard University (magna cum laude) and was a Rhodes scholar in philosophy at Oxford University, where he earned his doctorate in 1958.

2 Employee Groups Win Exclusive Recognition

As a result of the elections held April 20, exclusive recognition has been granted to two employee organizations for two separate units.

Lodge 2419, AFGE, AFL-CIO has been accorded exclusive recognition for a unit comprised of non-supervisory wage board employees in the Nutrition Department, Clinical Center.

The Washington Area Metal Trades Council and its affiliated locals, AFL-CIO, was given exclusive recognition for a unit comprised of the non-supervisory wage board employees in the Ground Maintenance and Landscaping Section, DRS.

In the third election held for the unit of all non-supervisory wage board employees exclusive of those in the above mentioned two units, a representative vote was not cast. In order to be representative, at least 60 percent of the eligible employees must have participated, or more than 50 percent of those eligible must have supported one choice.

Since neither requirement was met, this election was inconclusive and employees in this unit will not be represented exclusively by any employee organization.

NIGERIA

(Continued from Page 1)

calories and especially deficient in protein and other nutrients, depending on the region.

Kwashiorkor, a result of malnutrition, is fairly common, he said.

Dr. Russell spent a whole day examining the teeth of Yoruba tribesmen in the village of Osegere. He said he did not find one case of dental caries or fillings in the permanent teeth of the tribesmen. However, there were many who had missing teeth—presumably not from dental decay.

The diet in this region, he said, is 95 percent carbohydrate. It consists mainly of a variety of yam, a starchy root which the natives pound to a pulpy consistency and flavor with a hot pepper sauce.

Adequate in ascorbic acid, calcium, and iron, the diet includes almost no sucrose (common table sugar, which is used also in many of the processed "sweets" often associated with dental decay).

Sucrose Intake Low

The national average intake of sucrose, he said, is one to two pounds per person a year—and this average is heavily weighted by the much greater intake of inhabitants of the big cities.

Interestingly, he said, there is dental decay in the big cities and caries is reported rampant among children of the Ibadan University faculty.

Questions posed by these findings, Dr. Russell pointed out, include:

How is the oral flora related to the caries-free phenomenon? Is the yam broken down into a sugar during preparation and digestion in the mouth? Is there something in the pepper sauce that is cariostatic? Or is the pepper injurious to the supporting tissues and a contributing cause of the prevalent tooth loss?

Cancrum Oris Prevalent

Diseases of the supporting tissue present another focus for meaningful research, Dr. Russell stated. An infection which has long since vanished in the United States, cancrum oris, is found in a number of the Nigerian children.

Beginning with a sore mouth, the disease is possibly preceded, he said, by a type of herpes infection and clinical characteristics of Vincent's infection (trench mouth). A dark spot appears on the cheek or lip, the soft tissue sloughs off, and the bone becomes exposed.

Although nutritional inadequacies and certain systemic diseases including malaria, measles, and a severe anemia are associated with cancrum oris, precise correlations between the factor and disease need further investigation, Dr. Russell added.

The Vincent-like infection does



Yoruba tribeswoman brings her child (wearing rings) for examination by the ICNND team.

not always lead to cancrum oris, he said. A form of periodontal disease common in the village children with deciduous teeth begins with this infection. Heavy calculus usually forms, even on teeth not fully erupted.

By the time the children reach adolescence, they have from moderate to advanced periodontitis. The disease usually reaches advanced stages in the 30- to 40-year old age group. The prevalence of periodontal disease in Nigeria is possibly the highest in the world.

University Outstanding

Nigeria has an outstanding university in Ibadan, Dr. Russell said. It has an excellent medical school and a training program by the London School of Hygiene and Tropical Medicine for nutritionists and food technologists. The University Hospital in Ibadan has 510 beds and is considered the best in West Africa.

Dr. Russell's counterpart in Nigeria during the ICNND survey was Dr. Cyril O. Enwonwu.

35 NIH Employees Give Blood to Save The Life of a Clinical Center Patient

The importance of the NIH blood donor was evident recently, when some 35 employees were immediately on hand to save a man from bleeding to death.

Following surgery (a splenectomy) at the Clinical Center, the 60-year-old patient, because of a bleeding tendency, lost so much blood in 24 hours that he needed the help of 75 people whose relatively rare A-Rh-negative blood matched his.

Dr. Paul J. Schmidt, Chief of the CC Blood Bank, was the first to answer the call. Meanwhile, other staff members quickly identified other NIH donors having A-Rh-negative blood and contacted them by phone.

Employees Enthusiastic

Some regular donors had to be discounted because they had given blood recently or because of present health condition. But the response of NIH employees was enthusiastic; and what they could not supply, the Red Cross was able to obtain from emergency sources.

Dr. Schmidt says this incident points up the importance of the NIH donor, who serves as a "minuteman" for that minute when blood will help and his blood is the only type needed.

Dr. Schmidt, who has given a gallon of blood for Clinical Center patients, says: "There's only one answer to the unanticipated need for blood: to have a ready panel of donors who don't mind being called on at a time of critical shortage."

2 Reach Gallon Mark

Two other members of the NIH donor panel recently brought their total donations to the gallon mark. They are Leonard Aberbach, Electronic Instrument Technician in the Biomedical Engineering and Instrument Branch, DRS; and Howard F. Brubach, Biologist in the Laboratory of Physical Biology, NIAMD.

Those who wish to join these "minutemen" in guarding the health of patients at the Clinical Center may do so by dialing Ext. 64509 for a donor appointment.

DRS Announces Change In Name of Branch

The Division of Research Services has announced that the name of the Instrument Engineering and Development Branch has been changed to Biomedical Engineering and Instrumentation Branch.

This change reflects the increased scope of the Branch activities in designing and fabricating unique non-commercial instrumentation systems and in its advisory capacity to NIH investigators.

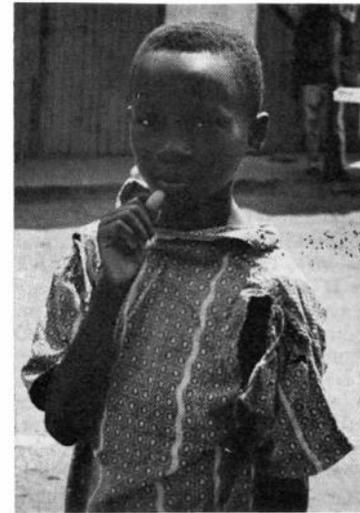
The ideal place for a picnic is usually a little farther on.—*The Washington Post*.

Raimond Hernits Dies, Was NIDR Technician

Raimond Hernits, 41, a physical science technician in the Cellular Biology and Cytogenetics Section, Human Genetics Branch, National Institute of Dental Research, died suddenly April 16 at his home.

A native of Estonia, Mr. Hernits transferred to NIDR in June 1962 from the National Institute of Arthritis and Metabolic Diseases, where he had worked since 1960.

He is survived by his wife, Laine, and 12-year-old son, Einar, of the home address, 4218 Matthews Lane, Kensington, Md.



Boy wears a gift shirt backwards.



Nigerian school children give friendly greeting to the ICNND team.

Adoption Studies Reveal Personalized Care Aids Offspring of Retarded

Studies conducted by the National Institute of Mental Health show that children adopted from institutions achieve far higher than their own deprived or retarded parents.

Followup studies of experimental groups also revealed fresh evidence that a warm, stimulating environment early in life is a key factor in the growth of children into productive adults.

To determine the adult status of children who were under study in Iowa institutions, a life span of 30 years was covered in the followup.

Personalized Care Vital

Preliminary findings are that the child's performance as an adult is close to the level of his adoptive parents, and that both normal and mentally retarded children can thrive under stimulating personalized care.

All of the children were physically healthy and reared away from their own parents. The experimental groups who early received personalized care showed achievement as adults strikingly superior to those who were left to the traditional type of institutional care.

The followup involved three studies. The IQ's of the children were compared with the IQ's or educational level of their own and their adoptive parents.

After an interval of 16 years, 100 subjects were found achieving as adults consistently higher than would have been predicted from the intellectual, educational or socio-economic level of the biological parents.

Offspring Compare Favorably

After an interval of 21 years, 87 adopted offspring whose mothers were mentally retarded were found to compare favorably in occupational status and intelligence with the general Iowa population.

In the followup of a unique experiment with mentally retarded children, the effects of differential stimulation were found to be dramatic.

A group of 13 mentally retarded infants and toddlers had been taken from the orphanage, "adopted" for several months to two years by women in an institution for the mentally retarded, and then placed in adoptive homes. A contrast group of 12 children remained in the orphanage.

After 21 years, the experimental group was found to be faring far better as adults. All 13 are self-supporting, show average or better IQ's and educational attainment, many are raising families, and

NIDR Hosts Students Attending Conference

The National Institute of Dental Research played host to 70 of the Nation's top dental students on April 22.

The students were in Washington for the first Dental Student Conference on Research, a 3-day meeting which was initiated to stimulate student interest in research. Participating were freshmen and sophomores representing dental schools throughout the United States and Canada.

Dr. Francis A. Arnold Jr., Director of NIDR, welcomed the students. Other NIDR staff members spoke about the Institute's program. The group spent most of the afternoon touring NIDR laboratories. The following day Dr. Arnold spoke to the group at the International Inn on the role of NIDR in dental research.

During the course of the conference the students also visited laboratories at the National Bureau of Standards and attended lectures on current research activities.

Martin Shoffner, RML, And His Wife Die in Automobile Accident

Martin E. Shoffner, a supply assistant at NIAID's Rocky Mountain Laboratory in Hamilton, Mont., and his wife, Thelma, were killed March 28 in an automobile accident near Seattle. The Shoffners were on their way to the funeral of Mrs. Shoffner's father.

Mr. Shoffner, a native of Montana, had been employed by the Public Health Service since 1944. He went to work for the Rocky Mountain Laboratory as a laboratory technician and served there as a packer, supply clerk, photographer, and mail clerk.

Praised by Stoenner

Dr. Herbert Stoenner, Director of RML, said, "Everybody around the laboratory will miss Martin. He was a dedicated man, always looking for things to do and always doing his work well."

Born in Miles City in 1919, Mr. Shoffner spent most of his life in Montana. He enjoyed many hobbies, including photography, raising pigeons, and rock-collecting.

Mr. and Mrs. Shoffner are survived by two children, Mrs. Roger White of Darby, Mont., and Gary, a U.S. Navy seaman.

none is a ward of any institution.

In contrast, the surviving institutional subjects are still in institutions as adults.

The preliminary findings were reported in *Children*, journal of the Children's Bureau, by Dr. Harold M. Skeels, Community Research and Services Branch, NIMH.

SMB Staff Commended For New NIH Catalog on Animal Care Equipment

James B. Davis, Chief of the Supply Management Branch, OAM-OD, and his staff were recently commended by Dr. James A. Shannon for their work in compiling a new NIH standard animal care equipment catalog.

In his memorandum of commendation, Dr. Shannon said, "I know from experience that this catalog represents years of painstaking and dedicated work with the sole aim of helping our intramural scientific and technical staffs."

Shannon Lauds Service

"It also reflects," he added, "the high level of service being rendered by the Supply Management Branch and your insistence on providing the best possible supply and procurement assistance to the scientific staff."

The catalog contains a composite listing of standard animal care equipment of proven quality at economical prices, available to NIH laboratories.

One important feature is the interchangeability of certain items such as cage lids and other accessory equipment designed for use with a variety of cages.

As a convenient ready reference, the catalog's use by the Institutes and Divisions to estimate, plan, budget and requisition animal care equipment is expected to result in increased efficiency and economy.

EHS Schedules Films on Safety During Vacations

With vacation season approaching, the Employee Health Service has scheduled two films this month to remind NIH employees that although it is a time for relaxation and pleasure, a vacation is no time to relax on safety.

"Vacation Safety," a 10-minute black and white film, is directed to the head of the house, pointing out his responsibilities when taking his family on a vacation.

Water Hazards Shown

"You are the Lifeguard," an 11-minute color film, is designed to alert parents and other adults to swimming hazards by chronicling training given neophyte swimmers as they progress from shallow water fundamentals to advanced swimming techniques.

The film will be shown at the Clinical Center auditorium Monday, May 17, at 11:30 a.m. and 1:00 p.m.; on Thursday, May 20, at NBOC #2 Conference Room 113 at 1:30 p.m.; at NBOC #1 Conference Room 202 at 2:30 p.m.; and on Friday, May 21, at the Westwood Building Conference Room A at 1, 1:45 and 2:30 p.m.

New Observations Made Of Ultrastructure of Exosporium of Spores

Important new observations of the ultrastructure of the exosporium of certain bacterial spores, such as those of *Bacillus cereus* and *B. anthracis*, were made recently by a National Institute of Arthritis and Metabolic Diseases investigator and grantee.

Using electron microscopy and X-ray diffraction analysis, as well as procedures they developed for isolating homogeneous fragments of the exosporium, the investigators found that the fine structure of exosporium appears to embody two primary layers.

Those layers consist of a surface layer of hairlike projections that arise in an irregular fashion from an intermediate covering, and an underlying basal layer that seems to be hexagonally perforate and comprised of four closely packed lamellae which may fragment into crystal-like elements.

Microscopic observations of the crystal-like nature of the exosporium basal membrane were confirmed by X-ray diffraction analysis.

Pattern Described

The pattern of reflection lines in powder diagrams of exosporium fragments or paracrystals, or intact spores, corresponds to a hexagonal, close-packed crystal structure.

The exosporium, the filmy membrane that loosely envelops certain bacterial spores, is now recognized as the primary physiological barrier between spore and environment and as a specific spore component rather than a sporangial remnant.

Further knowledge of the structure of this membrane may throw more light not only on the structure of bacteria in general but also on the problem of resistance.

The investigators, Dr. Philipp Gerhardt of the Department of Microbiology, The University of Michigan, and Dr. Edgar Ribic, of NIAID's Rocky Mountain Laboratory, reported their findings in the *Journal of Bacteriology*.

NIH Stamp Club Hears James Canlon May 13

James A. Canlon, Chief of the Bureau of Engraving's Office of Currency and Stamp Manufacturing, will address the NIH Stamp Club at 7:30 p.m. on Thursday, May 13, in Conference Room 6, Building 31.

Mr. Canlon will discuss the printing of stamps. His talk will highlight the Giori press and will be complemented with a series of color slides.