

the NIH Record

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

February 20, 1968
Vol. XX, No. 4

NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

NCI Recorganizes Office; Dr. Steinfeld Is Named Assoc. Dir. for Program

The Office of the Associate Director for Program, National Cancer Institute, has been reorganized to help staff personnel and outside institutions involved in NCI supported programs plan training and research.

The new organization will facilitate continuous planning for both intramural and extramural single programs and coordinated research.

Dr. Jesse L. Steinfeld has been named Associate Director for Program by Dr. Kenneth M. Endicott, Institute Director. Prior to this appointment Dr. Steinfeld served at the University of Southern California, Los Angeles, as professor of Medicine and head of the Cancer Chemotherapy Program. He was chairman of nine committees concerned with U.S.C. cancer research.

Assists Director

In his new position Dr. Steinfeld will work with Dr. Endicott in co-ordinating principal Institute programs, and with members of the Institute's extramural advisory committees on important problems and policy.

Dr. Steinfeld was a senior staff physician for NCI at the Clinical Center from 1954 to 1958. He served as head of the radioisotope unit, as well as Associate Editor of the *Journal of the National Cancer Institute*. (See REORGANIZATION, Page 7)

Two Cancer Chemotherapy Films at CC Feb. 26-27

Two films on cancer chemotherapy research will be shown in color for all NIH personnel next week at the Clinical Center auditorium.

"The Search," is scheduled Monday, February 26 at 11:45 a.m. and 12:20 p.m.; "The Battle in the Cell," Tuesday, February 27 at 11:45 a.m. and 12:20 p.m.

Both films were produced for the National Cancer Institute by National Educational Television under a PHS contract, and are being telecast on NET stations coast to coast.

Pastoral NIH Unit Designed for Scientific Study and Care of Laboratory Animals

By Kathleen DuBois

In upper Montgomery County, a few miles from White's Ferry on the Potomac, there is a tract of farmland that for years has been known to nearby residents as "Old Cider and Ginger." Since 1965, it has achieved a national reputation under a new name: the NIH Animal Center.

Except for its pastoral setting, the Animal Center has little in common with neighboring farms around Poolesville.

Center Unlike Farm

Instead of the usual farm activities, a visitor to the Animal Center sees a staff of white-coated veterinarians, laboratory technicians, and specialists in animal husbandry from the Division of Research Services, which operates the Center.

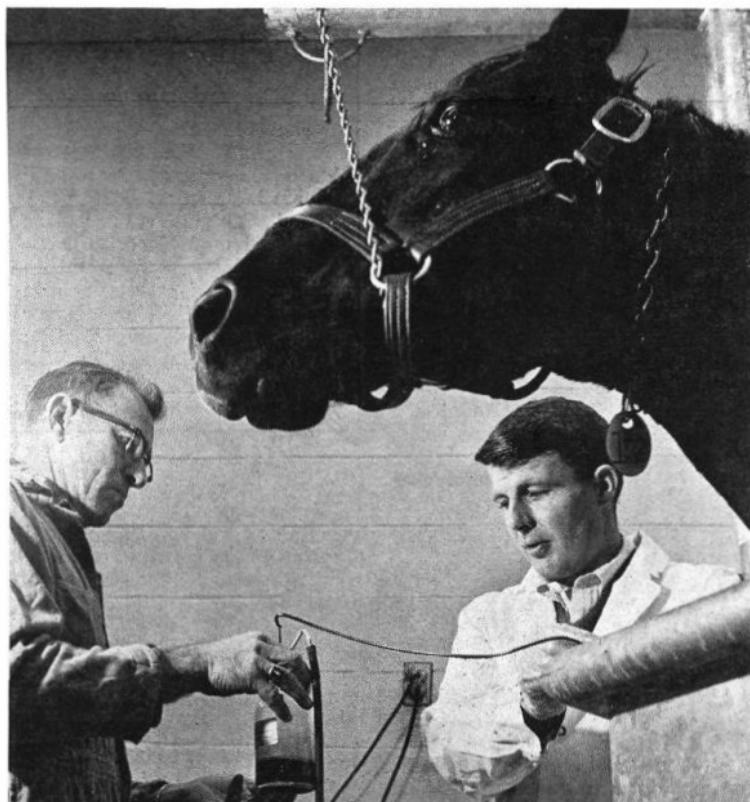
He sees new brick buildings, designed and equipped for the scientific study and care of laboratory animals. And he sees convalescent calves with artificial heart valves;

colonies of dogs, sheep, and cattle whose only function is to give blood periodically; and hundreds of other dogs undergoing quarantine and conditioning in roomy indoor-outdoor runs.

A visitor might also hear exciting plans for the future from Dr. William B. DeWitt, scientific director of DRS, and Dr. Raymond D. Zinn, chief of the DRS Laboratory Aids Branch.

NIH animal facilities were not always so extensive. Following World War II, when NIH entered a period of rapid growth, its need for all kinds of laboratory animals

(See ANIMAL CENTER, Page 4)



Leonard D. Stuart (right), head of the Ungulate Unit, LAB, assisted here by John Plunkard, draws blood from one of the Animal Center's 14 horses.

Dr. Skinner to Give NIH Lecture Feb. 21



Dr. Burrhus F. Skinner formulated the operant conditioning learning theory.

Dr. Burrhus F. Skinner, Edgar Pierce Professor of Psychology at Harvard University, and originator of the operant conditioning learning theory, has been selected to give the 38th National Institutes of Health Lecture. The lecture is to be delivered February 21 at 8:15 p.m. in the Clinical Center auditorium.

Dr. Skinner's formulation of the principles of the operant conditioning and reinforcement theory, so named because of the emphasis it places on reinforcement (reward) in the control of behavior has received wide attention.

Dr. Skinner has applied these principles to many fields of study. (See NIH LECTURE, Page 7)

Dr. Braunwald Receives 'Modern Medicine' Award

Dr. Eugene Braunwald, clinical director of the National Heart Institute, has been named by the journal, *Modern Medicine*, as one of ten recipients this year of its annual awards for distinguished achievement. Dr. Braunwald was cited for leadership in applying basic science disciplines to the study of human cardiovascular physiology.

Dr. Braunwald has been a member of the National Heart Institute. (See DR. BRAUNWALD, Page 8)

the NIH Record

Published bi-weekly at Bethesda, Md., by the Publications and Reports Branch, Office of 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 all news media and interested members of the medical- and science-related fields. The NIH Record content is reprintable without permission and its pictures are available on request.

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NEWS from PERSONNEL

NEW COORDINATED FEDERAL WAGE SYSTEM

The Civil Service Commission has announced a new Coordinated Federal Wage System (CFWS) to be effected gradually during the next 2 years. The new government-wide system will replace the independent wage systems now being used in the various Federal agencies.

In the past the Army-Air Force Wage Board System and a non-Defense agency adaptation have been most commonly followed. Over 2,000 employees at NIH work under the present wage system developed by the DHEW.

CFWS Corrects Inequities

The new system is designed to correct inequities, such as payment of different wage rates for the same jobs in the same locality in different departments and agencies.

The regular pay plan, which is part of the new system, will cover employees presently paid from regular, custodial, laundry, and service schedules, both supervisory and non-supervisory. However, the present special schedule for printing and lithographic workers will be continued pending the results of further study.

Wage schedules, as at present, will reflect the general level of rates paid by employers in the same local wage area for kinds and levels of work performed in the Federal service. No reduction in pay will result because of conversion to the new system.

The new CFWS will replace the present wage systems on an area-

by-area basis. NIH Wage Board employees at Bethesda are included in the Washington, D.C. Metropolitan Area.

Concerned employees and their supervisors will be notified when the change will take place.

REQUEST FOR EXCLUSIVE RECOGNITION

The Washington Area Metal Trades Council has requested exclusive recognition for a unit comprising non-supervisory custodial laborers and those performing related building services in the following organizational segments at the NIH:

- Clinical Center, Department of Environmental Sanitation Control
- Clinical Center, Administrative Management Branch, Property Management Section
- Office of Administrative Management, Office Services Branch, Housekeeping Section

This request is now under consideration by the National Institutes of Health.

EXTENSION OF TIME LIMITS FOR APPEALS

The Civil Service Commission recently extended the time limits for filing of appeals to 15 calendar days, enabling Federal employees to present more complete appeals without having to request additional time. At the same time DHEW announced the extension of the time limit which employees in the Department will have to reply, either orally or in writing, to notices of adverse action.

These extensions apply to all actions for which time limits of less than 15 calendar days had previously been in effect. These include, for example, appeals from actions already taken or replies to notices of proposed adverse action.

Specifically, the extension of

DCRT Unit at Westwood Gets Award



DCRT employees display citations for sustained superior work. Front row (l to r) are: Dr. Mohler (who presented the award), John A. Haggerty, Norman E. McLean, Roger H. Dailey, David S. Blessley, Harvey R. Balderson. Rear row: Mr. Juenemann (acting chief, CDPB), Leonard J. Mihalko, John L. Adams, Anthony Maltagliati, Prentice W. Savage. Marvin T. Talley was not present for the picture—Photo by Ed Hubbard.

A group award for Sustained Superior Work Performance was presented recently to the Westwood Electrical Accounting Machine Unit of the Computation and Data Processing Branch, Division of Computer Research and Technology.

The presentation was made by Dr. William C. Mohler, associate director for Program Operations, DCRT, and Henry J. Juenemann, acting chief of the branch.

Employees in this unit provide project planning and EAM services to institutes and divisions of NIH engaged in extramural pro-

Employees Give 287 Units To CC Blood Bank in Jan.

The Clinical Center Blood Bank reports that 287 units of blood were received from NIH donors in January. During this period CC patients received 2,472 units of blood.

Three NIH staff members and one NLM employee have joined the "Gallon Donor Club": Richard Dugas, OD; Lawrence White, DCRT; Willard Whitehouse, CC; and Harold King, NLM.

time applies to such actions as an agency's determination that an employee has not maintained an acceptable level of competence for a within-grade increase; reduction-in-force actions; actions related to restoration after military service; position classification changes involving downgrading or loss of compensation; salary retention; adverse actions either by the Commission or by the agency; administrative appeals under an agency appeal system; and all other appeals for which time limits were previously not prescribed.

The extensions of limits became effective January 30, 1968.

gram management at the Westwood Building.

The citation noted that in spite of limited personnel, the employees exceeded normal requirements in meeting tight deadlines and schedules.

NIH Folk Dance Group To Meet Each Thursday

The NIH Folk Dancers will resume classes in international folk dancing on Thursday, March 7, from 8 to 10:30 p.m., in Wilson Hall auditorium in Bldg. 1. The classes will continue every Thursday until summer.

All interested persons are invited to join. Since each class will have a teaching session, no experience is necessary. Participants may come with or without partners.

International Dances Taught

Larry Weiner, DCRT, and Marjory Weiss, NIAMD, professional instructors, will alternate in teaching the dances of many countries including Greece, Yugoslavia, and Israel.

The fee is 75 cents for R&W members and their immediate families and \$1 for others.

For further information, contact NIH Folk Dance Chairman Irv Shapiro, Ext. 63583.

Latest Participants in NIH Visiting Scientists Program Listed Here

2/5—Dr. Kiyoi Nakata, Japan, Laboratory of Molecular Biology. Sponsor: Dr. Robert A. Lazzarini, NINDB, Auburn Bldg., Rm. 125.

2/7—Dr. Michael J. Cantz, Germany, Clinical Pathology Department. Sponsor: Dr. George Z. Williams, CC, Bldg. 10, Rm. 1N256.

Flash—Traffic Light Coming To Old Georgetown Road-Center Drive Intersection!

NIH employees will be glad to know that hit-or-miss traffic control at the Center Drive-Old Georgetown Road intersection will soon be replaced by a signal light.

According to Stanley W. Oliver, assistant chief, Plant Engineering Branch, Division of Research Services, the new traffic light will be installed next week.

Hopefully, this will end the rush hour tie-ups that have prevailed ever since the widening of Old Georgetown Road necessitated removal of the original traffic light almost 2 years ago. Temps, as well as traffic, are expected to improve.

Montgomery County will install and maintain the traffic light.

Cancer Council Report Available

Copies of the National Advisory Cancer Council's report, "Progress Against Cancer 1967," which have been returned to NCI undelivered by the postal service are available free of charge to NIH employees. Copies may be obtained in Building 31, Room 10A-31.

DRS Observes National Engineers Week; Achievements of Alfred Perkins Noted

"Engineering—design for world health" is the theme for National Engineers Week, being observed at NIH this week by the Division of Research Services.

DRS, which employs most of the 150-plus engineers at NIH, is displaying exhibits, equipment, and posters featuring the accomplishments of its engineers.

In the lobby of the Clinical Center, the DRS Environmental Services Branch has set up a portable, plastic shedding tent. The unit is designed to detect potential carriers and shedders of harmful microorganisms, thereby eliminating them from the hospital environment.

Display in Bldg. 31

The DRS Biomedical Engineering and Instrumentation Branch has a psychophysiological monitoring system for infants on display in the lobby of Building 31. The unit records indications of sleep patterns and the earliest responses of infants such as hearing and feeling. DRS staff members will explain operations of both the shedding tent and the infant unit this week from 11:30 a.m. to 1:30 p.m. daily.

As part of the observance, DRS is extending special recognition to

(See ENGINEERS, Page 6)

Alvin Wade Appointed DCRT Personnel Officer

Appointment of Alvin Wade as Personnel Officer for the Division of Computer Research and Technology was announced recently by John M. Sangster, chief of the Personnel Management Branch, and Dr. Arnold W. Pratt, Director of DCRT.

Mr. Wade replaces Richard P. Striker who has been appointed Personnel Officer for the Office of Administrative Management.

Since he joined NIH in June 1967, Mr. Wade has served as Personnel Management Specialist in the Office of Administrative Management.

Previous Positions Noted

Prior to coming to NIH, he served as Personnel Staffing Specialist with the Army Material Command, Department of Army. He also served in the same capacity in the Department of the Navy.

Mr. Wade received the B.S. degree in business administration from the University of North Carolina in 1962.



Mr. Wade

WOMEN AT NIH

Dr. Eddy, Eminent Virologist at DBS, Finds Challenge of Research Rewarding

By Faye Peterson

Ask Dr. Bernice Eddy about her scientific publications, and her response will probably be a casual shrug. On the other hand, ask about her new granddaughter, Kathleen Elizabeth Alexander, and she is quite willing to provide the details.

Although a new granddaughter is of considerable importance, Dr. Eddy's research contributions are perhaps more important to the scientific world.

Since she joined the NIH Laboratory of Biologics Control in 1937, Dr. Eddy has engaged in a wide range of studies. She is internationally recognized as an authority on pneumococcus and streptococcus, on influenza and poliomyelitis vaccines, and on tumor-producing viruses. She has published more than 70 scientific papers on her findings.

Dr. Eddy has been with the Division of Biologics Standards since it was created in 1955, and since 1962 has served as chief of the Section on Experimental Virology.

Dr. Eddy's pioneering work on oncogenic viruses is widely recognized. In 1956, with Dr. Sarah Stewart, National Cancer Institute, she initiated experiments in search of a viral cause of certain human tumors, resulting in the identification of the SE (Stewart-Eddy) polyoma virus—which she propagated in tissue cultures of various types. She and her colleagues were able to show that this virus can produce tumors in mice, hamsters, rats, rabbits, and guinea pigs.



Dr. Bernice Eddy is an internationally recognized authority on vaccines.

The virus has been characterized in various ways, and its isolated DNA has been shown to produce tumors in newborn hamsters. The polyoma virus has become an experimental model for the study of factors involved in viral oncogenesis and is now employed in laboratories around the world for such purposes.

In later studies, Dr. Eddy recognized that rhesus monkey kidney cell cultures contained a virus which was capable of inducing tumors in baby hamsters. She subsequently identified this virus as simian virus 40 (SV-40). Because of her work on the characteristics of this virus in tissue cultures and in animals, the newborn hamster is now the preferred animal for testing potentially oncogenic viruses of mammalian origin. The hamster test has, in fact, become the criterion in the appraisal of the safety of viral vaccines.

Work on SV-40 Continues

Dr. Eddy is continuing her work on SV-40 and human adenoviruses that have been found to be oncogenic in animals. She has demonstrated that repeated inoculations of the same oncogenic virus into baby hamsters result in no tumor production, or in considerably less than a single inoculation. This phenomenon is believed to be related to the immune status of the baby hamster. Dr. Eddy is conducting studies to discern the precise mechanisms involved, and their potential application to immunization against cancer.

Dr. Eddy did not originally intend to become a virologist. She

(See DR. EDDY, Page 8)

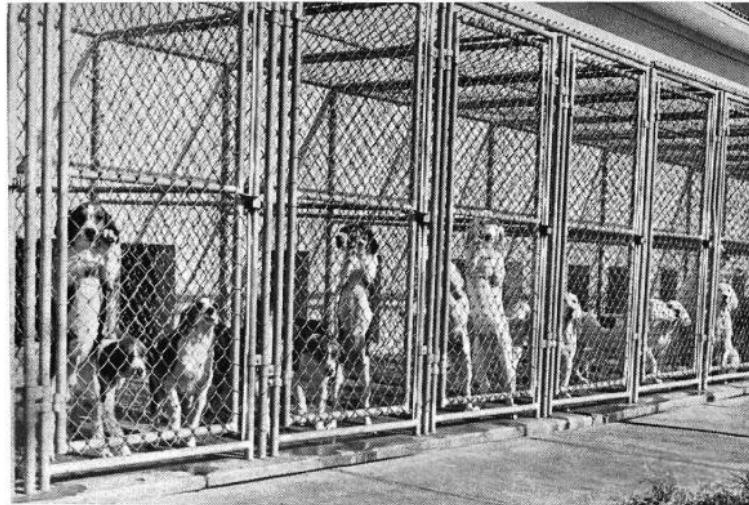


Three DRS staff members inspect the almost completed NCI Virus Isolation Facility (l to r): R. R. Holliday, acting associate director for Engineering Resources; Chris A. Hansen, DRS Director; and Alfred Perkins, chief, Engineering Design Section, Plant Engineering Branch.—Photo by Ralph Fernandez.

NIH ANIMAL CENTER

constructed und

Photos by Roy



This group of dog donors gives A-negative blood for surgical procedures.

(Continued from Page 1)

accelerated. The use of monkeys and dogs in long-term scientific experiments and of horses and sheep to provide serum and blood gained acceptance.

Formerly at Casey Farm

So as a temporary measure, NIH established an animal facility near Gaithersburg on a 6-acre dairy farm lent the Government by an interested citizen, Eugene Casey. For 12 years the Casey farm provided cost-free space for NIH research animals.

In time, NIH outgrew the Casey Farm, and additional facilities for holding, conditioning, and breeding animals were needed. In 1960, the 513-acre "Old Cider and Ginger"

was purchased.

Planners in 1960 visualized the Animal Center as a group of modern buildings surrounded by wooded and open fields, where the Institute scientists would conduct investigations related principally to large animals. They also projected transferring facilities for the production of rodents and rabbits and for quarantining and conditioning dogs, cats, and primates from Bethesda to the new Center.

Operation of the Center, custodial care, and animal production are the responsibility of DRS. The DRS Laboratory Aids Branch produces and/or supplies most of the animals, large and small, used in

Institute laboratories, and cares for most of the large animals used in current studies.

LAB's veterinary services include safeguarding and defining the health status of animals produced and maintained in central facilities, along with consultative services to the Institutes. LAB also operates central surgical facilities for carnivores and subhuman primates at Bethesda and an ungulate surgery at the Center. The study of the naturally occurring diseases of laboratory animals is a continuing responsibility of LAB.

Only Portion Visible

Construction of the Animal Center was set up on a 10-year plan, so today's visitor sees only the completed portion of the total project.

The Farm Animal Building has a central service area and two wings with associated outdoor pens and pastures to house 400 cattle, horses, sheep, goats, burros, and swine. It contains 34 box stalls, 10 of which have radiant-heated floors for convalescent animals.

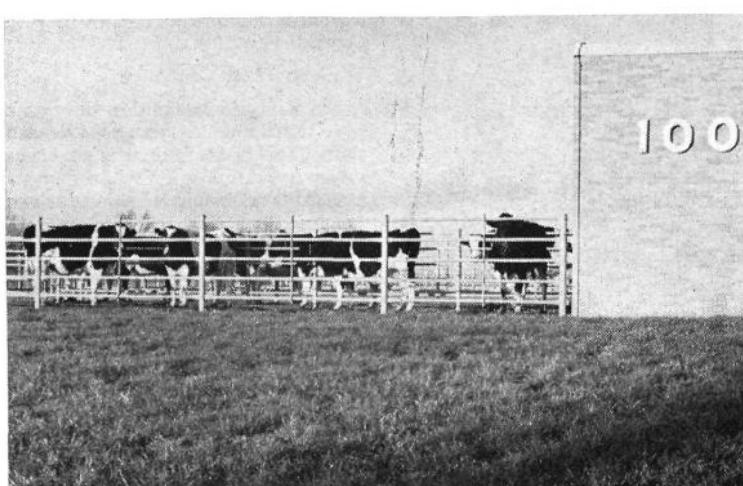
In the service wing are an X-ray and operating room where Institute studies may be conducted, a pharmacy, an autopsy rooms, and offices. Dr. Stephen Potkay, acting chief of the Animal Biologics Section, and Leonard D. Stuart, head of the Ungulate Unit, direct these activities.

Dogs and Cats Conditioned

Nearby is the Kennel Building, for the conditioning of random-source dogs and cats. In this facility Dr. Wendell Niemann, chief of the Animal Conditioning Section, and Dr. Richard Morehouse, head of the Dog and Cat Quarantine Unit, direct the 45-day quarantine of the 5,000 dogs and 3,000 cats required yearly for NIH research needs. To supply these quantities, some 700 dogs and 500 cats are in residence at all times throughout the year.

The Kennel Building consists of a central service area and two wings with a total of 200 combination indoor-outdoor runs. In the service area are surgery and treatment rooms, six cage rooms with a total of 240 cages for cats, a pharmacy, a clinical pathology laboratory, and offices. The building is designed so that four additional kennel wings can be added as required.

A third building at the Animal Center houses a unique colony of dog blood donors and a group of



A herd of 40 cattle is maintained at the Animal Center. One of their uses is for blood donors for open heart procedures on calves.



On Elmer School Road, Poolesville, a sig

dogs being bred specifically for rese by Dr. Chester Anderson, head of t

The dog breeding program was Zinn. He selected the American Foxhound characteristics, as the basic genetic animals. The American Foxhound



Dr. Raymond D. Zinn (seated left), chi and Dr. William B. DeWitt (seated right), director of DRS, discuss plans for futu with Dr. Stephen Potkay, acting chief Dr. Wendell Niemann, chief of the

er 10-year plan, due for completion in late 1970

erry



marks entrance to the Animal Center.

rch. These activities are directed to the Carnivore Unit. It was initiated two years ago by Dr. Zinn's. The American Foxhound, with its many desirable qualities, is well suited for producing large research subjects. It is a well-muscled dog with a good



of the DRS Laboratory Aids Branch (right), associate director and scientific director of the Animal Center, and the construction at the Animal Center of the Animal Biologics Section, and the Animal Conditioning Section.

chest capacity. Its hardiness is well known, and its temperament is excellent.

The dog blood donor program, now in its third year, is another innovation of Dr. Zinn's. Again starting with American Foxhound breeding stock, he studied the blood grouping system and established a breeding activity to produce A-negative donors.

Blood Methods Studied

Also studied were the permissible frequency and maximum quantities of blood that could be taken and the most acceptable way of collecting and storing it.

Now that the program is well established, blood from the donor colony is used routinely in animal heart-lung procedures, casual surgical procedures, and physiologic studies.

At present, 100 hounds are on a regular bleeding schedule. By mid-1971, LAB plans to have a colony of 300 normal donors supplying 5100 units of blood annually. Maintaining a donor colony of this size will reduce NIH's needs for dogs by 50 percent.

Scheduled for construction starting later this year is Phase IA of the building program, consisting of a primate building, designed to hold 1500 animals, and structures for the NIMH.

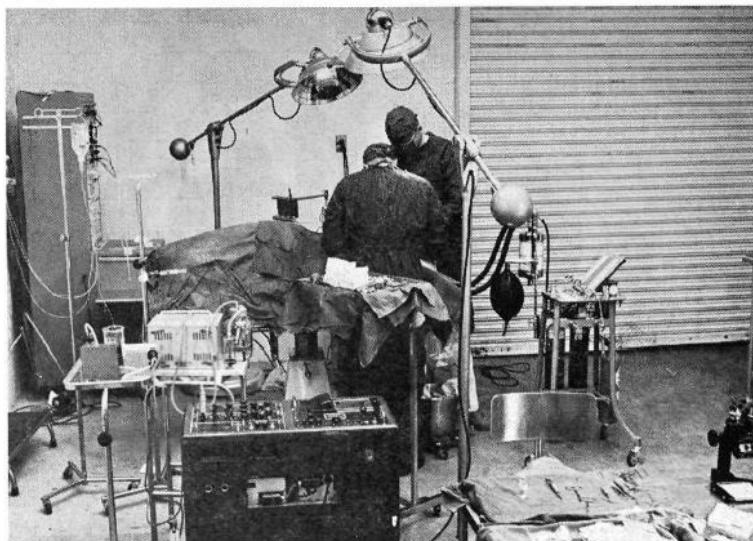
The NIMH area is for comparative studies of brain and behavior on animals living freely in a seminatural habitat. Under design now are an Animal Behavior Laboratory, a General Laboratory Building, and a Waterfowl Habitat.

Breeding Flexibility Possible

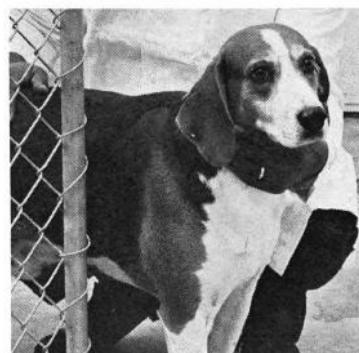
Basically the primate building is planned as a conditioning facility. It will, however, have built-in flexibility for meeting future breeding requirements. If fetal and neonatal studies assume more prominence in research, breeding units can be established.

Sometime this winter an architect will start design of Phase II of the Animal Center, a feature of which is to be a production facility for specific pathogen-free rodents. Its completion in late 1970 will give LAB additional capacity to meet expanding research needs.

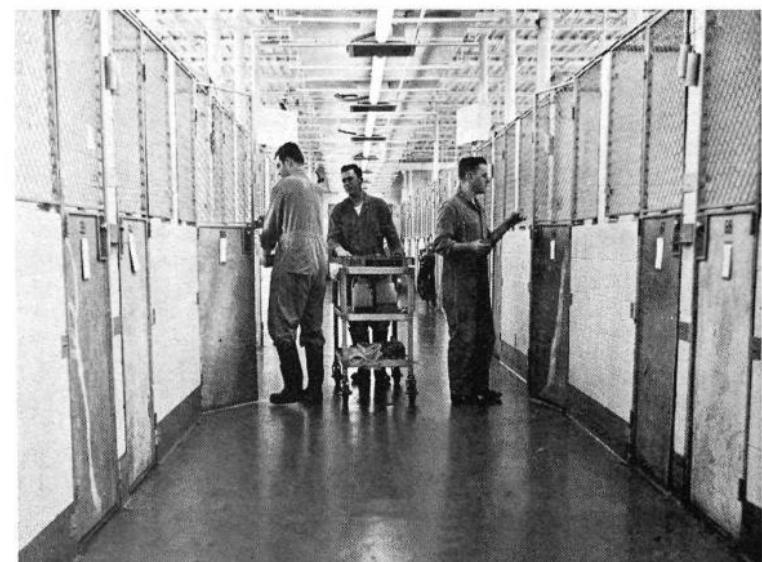
NIH has long been considered a pioneer in defining what constitutes an acceptable research animal and in updating research animal facilities. There is little doubt that when 1970 comes NIH once again will have produced new models in both areas.



The ungulate surgery in the Farm Animal Building is well equipped.



Left—
The thoroughbred American Foxhound was chosen as the basic genetic stock for producing large research subjects and blood donor hounds.



Caring for 700 dogs in quarantine requires many trained workers. Gary Burrier, Charles White, and Eugene Fisher (left to right) are a part of the Animal Conditioning Section staff.

ENGINEERS

(Continued from Page 3)

Alfred Perkins, chief of the Engineering Design Section, Plant Engineering Branch.

Mr. Perkins supervises a staff of 30 to 35 engineers, technicians, and clerical personnel who plan, analyze, and design projects for the construction of new special purpose buildings, and for the construction of improvements, alterations, and repairs to existing NIH facilities. He is cited for his outstanding capability and initiative in developing improved work flow procedures and formats, and for meeting work schedules.

Mr. Perkins' Efforts Cited

His efforts in planning, scheduling, and directing staff work have resulted in the completion of an exceptionally large number of projects including the NCI Virus Isolation Facility, Building 41. This facility was planned and a contract awarded for construction in less than 6 months to meet urgent program needs. Normal time allotted for a project of this type is 10 to 12 months.

NIH Engineers Praised

Chris A. Hansen, DRS Director, noted that Mr. Perkins exemplifies employees who have taken advantage of the unusual opportunities offered engineers at NIH. "We can be proud of our engineers at NIH and the daily contributions they are making to the solution of disease problems," he added.

DRS engineers are skilled in many fields—biomedical, electronic, electrical, chemical, civil, sanitary, architectural, and mechanical. The four (of seven) DRS branches now engaged in engineering work are: Research Facilities Planning, Plant Engineering, Environmental Services, and Biomedical Engineering and Instrumentation.



NIAID SCIENTIST PRESIDES AT MEETING. Dr. Cornelius B. Philip, medical entomologist at the NIAID's Rocky Mountain Laboratory, was elected chairman of a recent World Health Organization seminar on the Ecology, Biology, and Control of Ticks and Mites of Public Health Importance held at Geneva, Switzerland. He also presented papers at three seminar meetings. Dr. Willy Burgdorfer, another RML scientist, participated too. Reports and discussion of the meeting, which attracted delegates from 13 countries will be published as a special issue of the WHO Bulletin.

Red Cross Hospital Volunteers at CC Honored in Special Graduation Ceremony

Graduation exercises for 29 Red Cross Hospital Volunteers who completed training for Clinical Center service were held recently at the Montgomery County chapter house, American Red Cross.

Lt. Gen. Lewis B. Hershey, chapter chairman, awarded pins and certificates. Mrs. Edward E. Grimm, Montgomery County ARC volunteer chairman, presented special awards, and Mrs. Quinn Tamm, chairman of the CC volunteer unit, presented gold bars with green ribbons signifying NIH affiliation.

Rev. Kerney Participates

The invocation and benediction were pronounced by Rev. LeRoy G. Kerney, chief of the CC's Department of Spiritual Ministry, who accepted the volunteers on behalf of the Clinical Center.

The Hospital Volunteers, formerly known as Gray Ladies, began their training last October.

Their orientation and on-the-job training were guided by senior volunteers and the CC hospital staff.

Mrs. Tamm said the CC unit now has 130 active members, the largest number in its history.

Other graduates not present when the photograph below was taken are: Mrs. Derek Geake, Mrs. Herbert Haft, Mrs. Carl Jacobs, Mrs. Robert McNeill, Mrs. William Rennebohm, Mrs. John Rodier, Miss Susan Siegel, Miss Sandra Silk, Mrs. Robert Simon, Mrs. Elizabeth Umholtz, Mrs. Estelle Wechsler, and Mrs. Joseph Zegowitz.



Clinical Center Hospital Volunteers shown at recent graduation are, front row l to r: Mrs. Alice R. Michigan, Mrs. Anthony March, Mrs. Curt Heidenreich, Mrs. Karl Mason (CC Volunteer Unit Vice Chairman), Mrs. Quinn Tamm (CC Chairman), Mrs. Marge A. Damboldt, Mrs. Kathryn E. Crandell, Mrs. Ronald Bales, Mrs. Glenn Stangeland, Mrs. Andrew Morrow. Back row: Mrs. Mary Sheldon, Mrs. Boyd Stephenson, Mrs. Fred Witherspoon, Mrs. Robert Watson, Mrs. Ruth Hahn, Mrs. Cleland Harris, Mrs. Constantine Eugenides, Mrs. Jack Davidson, and Mrs. Richard Carver. Painting on wall is of Clara Barton, Red Cross founder.—Photo by Ralph Bredland.

Report of Conference On Nervous Systems Of Invertebrates Ready

Proceedings of a conference on the invertebrate nervous system held recently at the California Institute of Technology are now available in a publication entitled *Invertebrate Nervous Systems: Their Significance for Mammalian Neurophysiology*.

Papers included in the publication are: Specificity of the Nerve Cell; Central Control of Development and Neurosecretion; Neuromuscular Relationships; Neurons and Programming; Visual Networks and Integrations; and the Organization of Patterned Behavior.

The conference, a result of joint action by the Neurology Study Sections, was supported by a grant from the National Institute of Neurological Diseases and Blindness to the California Institute of Technology.

Participants in the conference sought information on nervous system functions at all levels and leads from study of invertebrates to facilitate research on the human nervous system.

According to Dr. C. A. G. Wiersma, California Institute of Technology, editor of the publication and organizer of the conference, conference findings will provide authoritative coverage of neurobiology that conceivably could stimulate new attacks on many of its basic problems.

Invertebrate Nervous Systems: Their Significance for Mammalian Neurophysiology is available from the University of Chicago Press at \$10 a copy.

Dr. Peter H. Bennett, NIAMD, Guest Lecturer At Diabetes Conference

Dr. Peter H. Bennett of the National Institute of Arthritis and Metabolic Diseases was a guest lecturer at the 15th Postgraduate Clinical Conference of the American Diabetes Association held in January in Cleveland, Ohio.

Dr. Bennett, a Visiting Associate at NIAMD's Epidemiology and Field Studies Unit, Phoenix, Ariz., discussed "Genetics and Epidemiology of Diabetes." The NIAMD unit is making extensive epidemiological studies of arthritis, diabetes, and gallbladder disease among the Pima Indians of Arizona.

Previous reports by NIAMD scientists have revealed that the Pimas have the highest prevalence of diabetes ever reported for any population group, about fifteen times that of the general American population. Continuing studies may help shed light on the precipitating factors of diabetes.

NIH LECTURE

(Continued from Page 1)

principles to the development of various devices which have both practical and research usefulness. Perhaps the most famous of these are the Skinner box and teaching machines.

Applications to Behavior Noted

In his lecture, "Operant Conditioning and the Management of Human Behavior," Dr. Skinner will discuss operant conditioning as it is used in the management of juvenile delinquents, retardates, and psychotics, and how operant conditioning can be applied to everyday personal relations.

Dr. Skinner has been professor of psychology at Harvard since 1948. Prior to joining the faculty of Harvard, he was professor and chairman of the psychology department at Indiana University for 3 years. He also held teaching positions at the University of Minnesota from 1936 to 1945.

Received Honorary Degrees

He received the A.B. degree from Hamilton College in 1926, the M.A. degree in 1930, and the Ph.D. in 1931 from Harvard. He has also received various honorary degrees from Hamilton College, North Carolina State, and Ripon College.

Among Dr. Skinner's honors are the Warren Medal of the Society of Experimental Psychology, the Distinguished Scientific Contribution Award of the American Psychological Association, and the Edward Lee Thorndike Award for Distinguished Psychological Contribution to Education, in 1966.

Published Several Books

Dr. Skinner is the author of numerous scientific publications and several books, including: *Behavior of Organisms*, 1938; *Science and Human Behavior*, 1953; *Verbal Behavior*, 1957; *Schedules of Reinforcement*, 1957; a collection of papers, *Cumulative Record*, 1959, revised 1961, and *Technology of Teaching*, 1968. He has also written a novel, *Walden Two*.

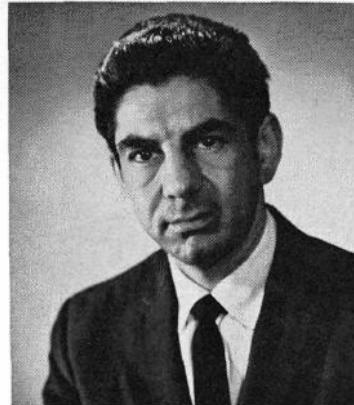
He is a member of the National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences, and other professional societies.

Research Center Seeks Nurse To Care for Newborn Infants

The Child Research Center, NIMH, needs the services of a nurse experienced in use of electronic equipment and in care of newborns. Information can be obtained from Mrs. Audrey Lenderking or Mrs. Miriam Sihvonen on Ext. 64431.

Reorganization Effected at NCI Office

Dr. Greenfield



Dr. Jesse L. Steinfield, NCI's New Associate Director for Program.



Dr. Klein



Dr. Cantarow



Mr. Louis M. Carrese, New Deputy Associate Director for Program at NCI.



Dr. Schneider



Mrs. Bryla



Mr. Terselic

Progress of NIAMD Artificial Kidney Work Evaluated at Conference

Progress in developing simpler, more economical and more effective artificial kidneys through the National Institute of Arthritis and Metabolic Diseases' Artificial Kidney Program was the theme of the first annual meeting of the program's contractors, staff, and consultants January 23-24.

Over 130 conferees met to study progress of existing contract-funded research and development projects and plans for the future.

Research Areas Discussed

In both plenary sessions and workshops, the participants discussed the four main areas of research in the Program: membranes and mass transfer, hardware and instrumentation, blood cannulas and biologically compatible materials, toxic factors in uremia, and dietary management of chronic end-stage renal disease.

Dow Chemical Company scientists, working under an NIAMD contract, are developing a unique hollow fiber capillary kidney. The device has been used to treat two kidney disease patients effectively on a number of successive occasions. It will be introduced soon for extensive clinical evaluation.

Other advances discussed were the modification of membrane supports in the conventional Kili artificial kidney, which, in preliminary laboratory experiments, has increased the efficiency of urea removal by about 40 percent; and newly introduced home-dialysis methods based on repeated reuse of dialyzing equipment without dismantling and resterilization, which decrease the annual cost of dialysis by about \$900.

Services, U.S. Department of Commerce.

Dr. John H. Schneider is head of the Scientific and Technical Information Office. Among other activities, he is conducting an experiment in the Selective Dissemination of Information in cancer research in which approximately one hundred investigators are participating. For the past 2 years Dr. Schneider has prepared a multi-level analysis of projects supported by the NCI.

Dolores Bryla, a statistician in the Scientific and Technical Information Office since 1963, will assist Dr. Schneider, and collect and formulate scientific data for program activities.

Dr. Murray J. Shear, special advisor to the Director, will continue to participate in some planning activities, and will consult with the Program Analysis and Formulation Branch.

problems in the etiology, prevention, diagnosis, treatment, and prognosis of cancer in man. Dr. Greenfield has been with the NCI since 1947. His research interests center on tumor-host relations.

Drs. Michael Klein and Abraham Cantarow will assist Dr. Greenfield as senior research planning officers.

Dr. Klein formerly served in the NCI Extramural Activities area as program director in Chemical Carcinogenesis, in the Awards, Review and Technical Administration Branch.

Other Functions Noted

Dr. Cantarow, who was professor of Biochemistry and head of the Department of Medicine at Jefferson Medical College, Philadelphia, from 1945 to 1966, joined NCI last year.

The Systems and Operations Planning Branch develops and applies systems and operations planning techniques to biomedical research. Mr. Carrese is acting chief, and Richard A. Terselic has been appointed systems analysis and planning officer. Mr. Terselic formerly was program analysis officer in the Office of State Technical

Applications for NIH Associateships Accepted Now Through April 19

The National Institutes of Health is now accepting applications for clinical, research, and staff associates for 2-year appointments beginning in July 1970.

Physicians entering internships in July 1968, as well as those with more experience or training, may apply.

The associateships provide training and experience in clinical and laboratory investigation at the NIH. Most medical specialties and basic science disciplines are included in the career development opportunities.

Successful candidates also may be considered for residency training deferment through the Public Health Service CORD Program until the effective date of an appointment to NIH.

Application deadline is April 19, 1968. Interview period (by invitation only) is June 10 through June 28. Those selected for associateships will be notified July 15, 1968.

Application materials may be obtained from Chief, Clinical and Professional Education, NIH.

DR. BRAUNWALD

(Continued from Page 1)

staff since 1955 and chief of its Cardiology Branch since 1960. He has made contributions to the understanding of factors regulating the output of the heart, mechanical, neurohumoral, and biochemical determinants of heart muscle, contractility, changes occurring in the development of heart failure, and the mechanisms by which the sympathetic nervous system and cardiac stimulants such as digitalis provide support to a failing circulation.

Other Awards Received

Last year Dr. Braunwald received both the Flemming award, presented annually to ten outstanding young men in the Federal Government, and the Abel award, presented by the American Society for Pharmacology and Experimental Therapeutics for his research on the effects of digitalis on the heart.

In addition to his NHI duties, Dr. Braunwald also served as clinical professor of medicine at Georgetown University Medical School and lecturer in Medicine at Johns Hopkins University School of Medicine.

He has been active in the American Heart Association and currently is its vice president as well as chairman of its Publications Committee.

The United States has just completed its first year free of human deaths from rabies originating within its borders, PHS reports.

Microbiologists at Dental Institute Study Dextranase for Prevention of Tooth Decay

A recent development in the long search for ways to control tooth decay (caries) is being studied with interest by microbiologists of the National Institute of Dental Research.

The NIDR investigators, Dr. Robert J. Fitzgerald, Dr. Paul H. Keyes, and Diane M. Spinnel, collaborating with Dr. Thomas H. Stoudt of Merck Sharpe and Dohme Research Laboratories, have just completed preliminary experiments in hamsters showing that the enzyme, dextranase, can prevent formation of plaque (filmy coating on teeth) and tooth decay in these animals.

Damaging Acids Investigated

For some time the search for caries-causing (cariogenic) microbes has centered on the group of streptococci that produces acids capable of damaging tooth enamel and also manufacture the sticky polysaccharide, dextran. Apparently this substance enables bacteria and bacterial by-products to be held against the teeth in the form of plaque. Plaque may harden into calculus, or tartar.

It is not known whether the dextran-producing streptococci can cause tooth decay in humans, although both they and the dextran have been found in human plaque.

Decay on smooth surfaces of teeth, as contrasted with pits and fissures, accounts for more than 50 percent of caries in children from ages 6 to 18. This decay develops under plaque as a result of the metabolic activity of the bacteria clustered there. The investigators therefore speculate that the destruction of the dextran—which gives the plaque its adherent qualities—might prevent caries of this type. At the same time, since only a metabolic product is attacked, rather than the causative agent itself, they felt this type of therapy would not be expected to



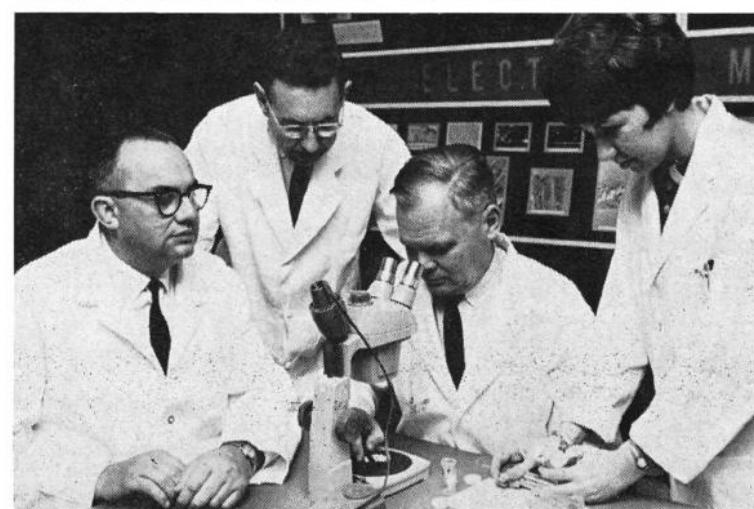
Dianne Spinnel examines a culture of dextran-producing streptococci.

alter the ecologic balance of the oral microflora.

A total of 19 hamsters was employed in the experiments. All were fed on a diet conducive to tooth decay. All but two were infected with cariogenic, dextran-producing streptococci. Plaque formation and decay were arrested or prevented in all seven of the animals given dextranase in food and water, while extensive plaque formation and decay were evident in ten animals not receiving dextranase. The two hamsters not infected with the streptococci did not develop caries, emphasizing the essential role of bacterial infection in most tooth decay.

The investigators note that the progress of decay is so "inexorable" in the test system they use in hamsters that caries control in even a limited number of study animals is impressive evidence that the enzyme, dextranase, provided effective therapy.

The scientists are considering further tests in humans.



Scientists examine teeth extracted from laboratory animals that had received the enzyme dextranase. From l. to r. are: Dr. Thomas H. Stoudt, Merck Sharpe and Dohme Research Laboratories; Dr. Paul H. Keyes, Dr. Robert J. Fitzgerald, and Diane M. Spinnel, all of NIDR.

DR. EDDY

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took premedical courses at Marietta College in Ohio, expecting to become a physician, as were her father and two brothers. But during her senior year she was awarded a fellowship in bacteriology at the University of Cincinnati and this changed her plans. She received M.S. and Ph.D. degrees there and was awarded a Davis teaching fellowship in bacteriology in 1929. During this year she also lectured at the Cincinnati College of Pharmacy (and since then has lectured extensively at numerous universities in this country and abroad).

The next 4 years were devoted to research on leprosy at the PHS hospital in Carville, La. It was here that she first worked with her late husband, Dr. Jerald G. Wooley. Their work brought them together again at NIH, and in 1938 they were married.

Despite Dr. Eddy's demanding professional commitments and the many weekends she spends in her laboratory, she manages time for her hobby—gardening—on her farm near Front Royal, Va., and at her Bethesda home. She also finds time to visit her married daughters—one living in Honolulu and the other in South Carolina—and her grandchildren, James Louis Bowers, age 3 and Kathleen Elizabeth, age 2 months.

Honored for Contributions

Last year, Dr. Eddy received the DHEW Superior Service Medal for her "important contributions to control testing of vaccines for poliomyelitis and respiratory diseases and for her pioneering work on discovery and characterization of tumorigenic viruses." She is also the recipient of an honorary doctor of science degree from Marietta College, and an outstanding achievement award from NIH for her work on poliomyelitis. She was recently named a national honorary member of Sigma Delta Epsilon.

She is a member of 15 professional organizations, and a Fellow of the Washington Academy of Sciences, the American Public Health Association, and AAAS. She is a Diplomate of the American Board of Microbiology.

Dr. Eddy believes a scientific career can be extremely rewarding for a woman. But, she points out, it also presents many challenges, and some distressing problems.

Dr. Eddy feels strongly that an intense desire to pursue research is the most important factor in any scientist's career, and that established researchers should help aspiring young scientists whenever they can. Because of this belief she is never too busy to respond to requests for advice or help from junior scientists and students.