the NIH Record

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PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

Harting to Direct DGMS Center For Child Health

Appointment of Dr. Donald Harting as Director of the Center for Research in Child Health in the Division of General Medical Sciences was announced by PHS Surgeon General Luther L. Terry on February 2.

Prior to his appointment Dr. Harting was Deputy Chief of the Public Health Administration Branch in the Bureau of State Services, DHEW.

Dr. Harting

The Center for Research in Child Health was established last year following a directive from President Kennedy that such a program be created within the Public Health Service.

Legislation was introduced last year in both Houses of Congress authorizing a National Institute of Child Health in Human Development, of which the Center would become a part.

Born in 1922 in Wilmington, Del., Dr. Harting received the M.D. degree from Harvard Medical School in 1946. He interned in pediatrics at the Massachusetts General Hospital, Boston, and was a research Fellow in pediatrics

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Dr. Uram, DRG, Killed In Peruvian Air Crash

Dr. Jerome A. Uram, Executive Secretary of the Nutrition Study Section, Division of Research Grants, was killed February 4 in the crash of a Peruvian airliner 200 miles north of Lima. Seventeen other persons lost their lives in the crash, including Dr. Uram's wife, Anne, and Dr. Richard Block of the Boyce-Thompson Institue, Yonkers, N.Y.

Dr. Uram

Dr. Uram was on a year's leave of absence from his DRG post to undertake studies at MIT. He and Dr. Block were in Peru as consultants on a program to develop indigenous Peruvian food supplies.

FASEB to Meet In Atlantic City April 14-18

More than 100 papers reporting results of biological research by NIH scientists have been submitted for presentation at the 46th Annual Meeting of the Federation of American Societies for Experimental Biology, to be held in Atlantic City, April 14-18.

According to information released by the Federation, approximately 13,000 are expected to attend the 5-day meeting. Some 2,990 papers, reporting basic research in all areas of the biological sciences applicable in the fields of medicine and public health, will be presented at the meeting's 284 sessions.

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Dr. Ribi to Give The NIH Lecture February 28

Dr. Edgar E. Ribi, Head of the Biophysics Section of the Rocky Mountain Laboratory, Hamilton, Mont., will deliver the next in the series of National Institutes of Health Lectures on Wednesday, February 28, at 8:15 p.m. in the Clinical Center auditorium.

Dr. Ribi

Dr. Ribi's subject will be "Relationship Between Structure and Host-Reactive Properties of Microorganisms." He will discuss investigations at his laboratory which conceivably could lead to significant improvement in both safety and potency of conventional bacterial vaccines.

Cites Progress

Considerable progress has been made in these investigations toward elucidating the finite chemical and physical nature of certain cellular components, particularly bacterial endotoxin, Dr. Ribi says.

They may lead, he points out, to a clarification of those chemical and physical attributes of biologically active substances which are requisite for host-reactivity and immunogenicity.

In these investigations, Dr. Ribi has worked closely with Dr. Maurice Landy, Head of the Immunology Section, Laboratory of Chemical Pharmacology, National Cancer Institute.

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Joint BSS-NINDB Program to Advance Application of CNS Research Findings

A program to advance the application of research findings in the field of neurological and sensory disorders has been established within the Public Health Service, according to a recent announcement by Surgeon General Luther L. Terry.

The new unit, to be known as the Neurological and Sensory Disease Service Program, will be administered by the Bureau of State Services, Division of Chronic Diseases, in collaboration with the National Institute of Neurological Diseases and Blindness. The Program will be supported by professional and technical assistance funds from NINDB.

The new Program, in the Division of Chronic Diseases, will be headed by Dr. Eugene H. Guthrie, Chief Program Officer in the Bureau of State Services since 1959. Dr. Guthrie has been a PHS career officer for 10 years, with health department experiences on local, State and national levels.

Guthrie Heads Program

As Chief of the new Program, Dr. Guthrie also will serve in an advisory capacity to Dr. Richard L. Masland, Director of NINDB, in matters of professional and technical assistance.

The dual appointment will enable Dr. Guthrie to see that the results of research conducted or supported by NINDB are promptly introduced into the new service program.

Dr. Raymond Hofstra, who formerly directed vision and hearing conservation activities in the Division, has been appointed Deputy Chief of the expanded program.

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NCI Scientist Leads Busy Double Life, Combines Army Duties, NIH Research

Dr. Mearl F. Stanton of the National Cancer Institute's Laboratory of Pathology is leading a double life these days—professionally speaking, that is.

Although recalled to active military duty last October and assigned as Head of the Laboratory of the 354th Army General Hospital at Fort George G. Meade, Md., the NCI scientist has nevertheless managed to continue his research here.

By day he is Major Stanton at the 1,000-bed hospital recently reactivated for Army and National Guard units that are being called to duty. But several evenings a week he returns to his NCI laboratory to carry on his investigations. He also keeps in touch with his research colleagues by telephone.

Dr. Stanton is particularly interested in extending knowledge of tumor development and believes that malignancy may depend on factors in addition to the cancer-causing agent itself.

Recently, for example, work in

(See NCI SCIENTIST, Page 2)

Army Band to Present Concert February 22

The U. S. Army Band will give a concert in the CC auditorium Thursday evening, February 22, at 7:30 p.m.

NIH employees, their families and friends are invited. The concert is primarily for CC patients and was arranged by Arnold Sperling, Chief of the CC Patient Activities Section.

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'PERSONNEL' TO PERSON

THE Civil Service Commission has published changes in the Annual and Sick Leave Regulations, effective January 9, 1962, affecting employees who have had a break in service. These changes are summarized as follows:

Formerly, an employee who had a break in service of more than one year could not have his previously earned sick leave recredited to his account. Now, however, the period for recrediting sick leave is extended to three years, following a break in service.

This same liberalization of the Regulations applies to sick leave in the case of an employee who transfers to a position under a different leave system. If he is permitted to carry with him only a part of his sick leave to the new system—or none of it in some cases—he will have the untransferred sick leave recredited to his account, if he returns to the original leave system without a break in service of more than three years.

The leave account of an employee who leaves his civilian position to enter the military service can be reestablished in full, if he returns to the Federal service not more than three years after separation from active military duty. The previous limitation was one year after separation.

R&W Lists "Gunga Din" As Third Film Feature

The Recreation and Welfare Association of NIH reports that "Gunga Din," starring Cary Grant, Victor McLaglen, and Douglas Fairbanks, Jr., will be the third in its series of free movies.

The film is scheduled to be shown Saturday and Sunday, February 17 and 18, at 8 p.m. in the Clinical Center auditorium.

Employees, guests, and patients are invited to attend.

NIH LECTURE

(Continued from Page 1)

Dr. Ribi was selected to deliver the NIH Lecture because of his contributions to the biomedical research eminence of NIH. A native of Switzerland, he studied at the Bern State Institute of Technology and received the Ph.D. degree from the University of Bern. A teacher in Sweden as well as in his native country, Dr. Ribi came to the United States in 1950 as a Fellow of the University of Uppsala.

He joined the staff of the Rocky Mountain Laboratory, the largest intramural research unit of the National Institute of Allergy and Infectious Diseases, in 1952 as a Visiting Scientist and has headed the Biophysics Section since 1959.

DRG Publication Lists $132 Million in Grants

A new publication, Public Health Service Grants and Awards by the NIH—Fiscal Year 1961 Funds, was issued recently by the Division of Research Grants.

The 205-page booklet lists, by State and institution, awards totaling $132,695,575 for advanced training in the medical and biological sciences. Summary tables are also presented, giving totals by supporting Institutes, and totals from each Institute to each State and institution.

The publication is second in a series of three. Part I, issued last fall, lists NIH grants for research projects and research facilities construction. Part III, now in preparation, will contain supplementary summaries for all extramural programs.

Single copies of the summary may be obtained from the DRG Information office, Bldg. 31, Rm. IB32. Multiple copies of the publication — PHS Publication 883, Part II—are available from the Superintendent of Documents, U.S. Government Printing Office, at 55 cents a copy.

Rugged Early Days at RML Recalled By Hilda Holley on Retirement Feb. 1

By Kathryn Mains

Hilda J. Holley, who retired February 1 after 30 years of Government service, spent those three decades as Secretary to the Director of the Rocky Mountain Laboratory in Hamilton, Mont.

An honors graduate from the University of California, Berkeley, Miss Holley taught school in the West until 1932, when she was persuaded by Dr. R. R. Parker, then Director of RML, to remain in the Bitterroot Valley.

Miss Holley

Dr. Parker needed a private secretary, a librarian, and a chief clerk. He offered Miss Holley the pick of the jobs. As it turned out, she was all three for some years, pending staff additions.

In 1932, Miss Holley recalls, the RML consisted of a single building largely devoted to (1) the rearing of infected ticks for the manufacture of Rocky Mountain spotted fever vaccine, (2) the bottling of the vaccine, and (3) facilities for laboratory animal care.

In one room were the bacteriology and serology departments, the glassware washing unit, and the small cubicles used for offices by Dr. Parker and Dr. C. B. Philip, the present Director of RML.

In Miss Holley's rented room adjoining the laboratory grounds, a wooden table, typewriter, and chair were installed. This room served as the office in which for two years she assembled and indexed the mass of spotted fever, tularemia, and tick paralysis case data accumulated by Dr. Parker.

When Dr. Parker wanted to dictate, someone from the laboratory was sent over for Miss Holley. She remembers that the snow was deep that winter and she spent much time donning boots and warm clothing for the journey — and usually worked evenings to make up for lost time.

When a second building was completed in 1934, a room formerly used for rearing ticks was converted into an office for Miss Holley.

Some Ticks Remain

Although supposedly "deticked," this office retained some of its former occupants. Frequently, Miss Holley recalls, she would find a tick crawling across a typewritten page she was taking to Dr. Parker for signature.

In 1940 Miss Holley acquired her first spacious office, complete with new desk and typewriter. With the addition of a full-time assistant and a librarian, she found opportunity to devote some time to special projects.

She prepared a booklet on the history of the Laboratory and another titled "The Rocky Mountain Wood Tick—Beware Its Bite." These were specifically for high school and college students who wrote to the Laboratory for information.

Persuaded to Stay

After Dr. Parker's death in 1949, Miss Holley planned to move to California but was persuaded to stay until the appointment of a new Director. When Dr. Carl L. Larson came to Hamilton in that capacity, Miss Holley was again persuaded to remain.

In 1958 she received a cash award from NIH for suggesting an improved method of distributing publications.

Miss Holley stayed through still another transition, when Dr. Larson last year returned to Bethesda and Dr. Philip became Acting Director.

In retirement Miss Holley plans to remain in Hamilton. When asked how the Laboratory will get along without her, she replied, "The real question is: how will I get along without the Laboratory?"

For a long time to come, she is likely to be called upon as an unofficial consultant on both Laboratory history and current affairs.

NCI SCIENTIST

(Continued from Page 1)

his laboratory has shown that tissue undergoing repair in the lungs of rats may play a major role in induction of tumors similar to human lung cancers.

He is presently studying the natural history of tumors that are developing in the eyes of 500 Hereford cattle in Lewes, Del.

Such interests seem rather remote from Dr. Stanton's present military mission of setting up a pathology laboratory for an Army General Hospital. However, he says, "I have been spending much of my time treating personnel on the post, and practicing good old-fashioned medicine may be one way for a pathologist to get ideas for further research."

A Major in the Army Reserves, Dr. Stanton served three years as a Private in World War II, and two years as a Medical Officer-Scientist during the Korean War. He received the M.D. degree from St. Louis University in 1948 and has been on the NCI staff since 1957.

Federal Woman's Award Won by Dr. Thelma Dunn

Dr. Thelma B. Dunn, Head of the Cancer Induction and Pathogenesis Section of the Laboratory of Pathology, National Cancer Institute, was selected as one of six recipients of the second annual Federal Woman's Award, announced February 5.

The awards, established to honor career women in the Federal Government, will be presented February 27 at a banquet in Washington's Statler-Hilton Hotel.

Dr. Dunn

Dr. Dunn will receive a plaque and a citation commending "her distinguished career in experimental cancer research, and particularly her highly significant studies of the origin of cancer in animals."

65 Women Nominated

Mrs. Katie Louchheim, Chairman of the Federal Woman's Award Board of Trustees, said the winners were chosen for their outstanding contributions to the Federal career service, their influence on major Government programs, and their personal qualities of dedication, judgment, integrity, and leadership.

The selections were made from among 65 career women nominated by Federal agency heads, Board members, and the public.

The other recipients of the award are employees of the U. S. Civil Service Commission, the National Aeronautics and Space Administration, and the Departments of State, Justice, and Agriculture.

Is International Authority

Dr. Dunn is a world authority on the pathology of the laboratory mouse, the animal most commonly used as a tool for the study of cancer. In addition to conducting her own research, she advises a staff of investigators in planning and evaluating studies on the induction and pathogenesis of cancer.

The author of over 100 research papers, Dr. Dunn has received many honors in her 20 years of service with NCI. This year she is President of the American Association for Cancer Research, the first woman to hold this office.

She was elected President of the Washington, D. C., Society of Pathologists in 1960. In 1959, she was named "Medical Woman of the Year" by the American Medical Women's Association, and in 1958 was selected to represent NIH as member of a delegation of distinguished American women physicians on a trip to the Soviet Union.

Born in Renan, Va., Dr. Dunn received the B.A. degree from Cornell University and the M.D. degree from the University of Virginia School of Medicine. She spent several years as a pathologist on the medical faculties of the University of Virginia and George Washington University before joining the NCI staff.

She is married to a physician, Dr. W. Leroy Dunn. They have two sons, John, a physician; and William, a lawyer; and a daughter, Mary, a student in linguistics at Yale University.

Andrew Morrow, NHI Surgery Chief, Receives Flemming Award Thursday

Dr. Andrew G. Morrow, Chief of the Surgery Branch of the National Heart Institute since 1953, has been named one of the 10 winners in the nation-wide Arthur S. Flemming Awards Program.

The annual awards, sponsored by the Washington Junior Chamber of Commerce in honor of Dr. Flemming, former Secretary of the Department of Health, Education, and Welfare, are presented annually to outstanding young men (under 40) in the Federal Government.

Dr. Morrow will receive his citation and a plaque at an awards luncheon in the Statler-Hilton Hotel this Thursday. He was among some 70 nominees in the administrative and scientific fields whose names were submitted to the judges of the awards program by various Federal agencies.

Dr. Morrow was cited as having "ability which is unique among surgeons, to apply basic physiological principles to problems in experimental and clinical surgery."

Dr. Morrow views X-ray films in the NHI Surgery Suite.—Photo by Lee Bragg.

Accomplishments Are Many

Among the accomplishments leading to Dr. Morrow's selection were: development and appraisal of new cardiovascular operations; detailed clinical and hemodynamic studies on patients following cardiac surgery; physiologic assessment of the consequences of cardiac operations; and the development and appraisal of new cardiovascular diagnostic techniques.

Dr. Morrow was born in Indianapolis, Ind. He received an A.B. degree in chemistry and mathematics from Wabash College, Crawfordsville, Ind., in 1943 and an M.D. degree from John Hopkins University School of Medicine in 1946.

Prior to joining NHI he served one year as Senior Registrar in thoracic surgery at the General Infirmary, Leeds, England, and four years at Johns Hopkins Hospital. His professional society memberships include the American Surgical Association, Society for Vascular Surgery, American Association for Thoracic Surgery, Society of University Surgeons, and the Society of Thoracic Surgeons of Great Britain and Ireland. Presently, he also holds the rank of Associate Professor of Surgery at Johns Hopkins University.

Folder Found in Library

A manila folder containing handwritten tables, graphs, and notes relating to word tests on old and young subjects has been found in the NIH Library. It may be claimed from the DGMS Information Office, Bldg. 31, Rm. 4A35.

3 Appointments Made To Allergy Council

Surgeon General Luther L. Terry has announced the appointments of three new members to the National Advisory Allergy and Infectious Diseases Council. The appointments, effective February 1, are for four years.

The new members are Drs. Norman F. Conant, Professor of Microbiology, Duke University School of Medicine; Clayton G. Loosli, Dean of the University of Southern California School of Medicine; and Leon H. Schmidt, Director of the Christ Hospital Institute of Medical Research, Cincinnati, Ohio.

The Council is one of nine which serve in advisory capacities to the Institutes and Divisions, reviewing and making recommendations to the Surgeon General of the Public Health Service on grant applications submitted to NIH.

Stress Response Produced in Body By Reserpine

Studies by scientists of the National Heart Institute indicate that reserpine, a widely used tranquilizer and anti-hypertensive drug, can interact with the body's nervous and hormonal mechanisms to produce a biochemical picture almost indistinguishable from the classical "stress" response evoked by prolonged exposure to cold, pain, and similar unpleasant stimuli.

These findings are reported in a recent issue of the Journal of Pharmacology and Experimental Therapeutics by Drs. Roger P. Maickel and Bernard B. Brodie of the Laboratory of Chemical Pharmacology, and Dr. Erik O. Westermann, a visiting scientist formerly with LCP.

More Knowledge Sought

The work cited is part of a program of research being conducted under Dr. Brodie's direction, and aimed at a fuller understanding of the biochemical basis of behavior, particularly of those biochemical mechanisms that enable the organism to adapt to environmental changes.

The studies showed that reserpine, when given to rats, could cause excessive secretion of the pituitary hormone ACTH, the release from the adrenal glands of large quantities of corticosterone, and the mobilization of free fatty acids from the body fat depots. These responses to reserpine are strikingly similar to those evoked by prolonged exposure to cold, pain, and similar "stresses."

Even more paradoxical were the subsequent findings that the stress responses were set off only by doses of reserpine large enough to produce sedation, and apparently resulted from the same action of reserpine responsible for its tranquilizing effects.

Responses Prevented

Further, the stress responses to reserpine could be prevented by monoamine oxidase inhibitors, a class of drugs usually employed as antidepressants rather than as "anti-stress" drugs.

The sedative and tranquilizing effects produced by reserpine result from its action on two brain amines: norepinephrine and serotonin. The drug blocks the ability of the brain to store these amines. As a result, large quantities of these amines are liberated to diffuse passively away or to be set upon and destroyed by enzymes. This steady drain even-

(See RESERPINE, Page 6)

Soviet Scientific Papers Translated, Published In New CAR Brochure

A new publication, Second Conference on Gerontology and Geriatrics Moscow 1960, has just been issued by the Center for Aging Research, Division of General Medical Sciences.

The 81-page brochure contains abstracts of 64 papers describing Russian research in the field of aging, presented by Soviet scientists at the Moscow conference in 1960.

Included are reviews of research on the structural, physiological, and biochemical aspects of aging, as well as reports on social aspects of aging and description of physical culture programs for older people.

Need Is Urgent

In a foreword to the booklet, Dr. Joseph H. Gerber, CAR Director, says that "In the growing fields of Gerontology and Geriatrics there is an urgent need for the exchange of information with other countries. This brochure presents some of the current developments in these fields in the USSR. It should be of interest to scientists engaged in aging research as well as physicians concerned with the care and treatment of older people. . . ."

Except for minor editorial changes, the papers are a direct translation from the Russian, prepared by the Translation Section of the NIH Library.

Single copies of the brochure, PHS Publication No. 884, are available without charge from the Center for Aging Research, at the Trunnell Building in Bethesda, Rm. 111, Ext. 4121. Multiple copies at 35 cents each may be ordered from the Superintendent of Documents, U.S. Government Printing Office.

Dr. Carr Elected Fellow Of N. Y. Academy

Dr. Charles Jelleff Carr, Head of the Pharmacology Unit, Psychopharmacology Service Center, National Institute of Mental Health, was recently elected to Fellowship in the New York Academy of Sciences. A limited number of members who have made outstanding contributions to the advancement of science are elected to Fellowship.

Dr. Carr's major research interests have been in the development of a new series of volatile general anesthetics. Since joining the NIMH staff in 1957, he has developed programs to support the initiation and continuance of both basic and clinical research in psychopharmacology.

Hamsters to Hold Tryouts Next Week For Spring Production of 'Li'l Abner'

Tryouts for the musical comedy, "Li'l Abner," the R&W Hamsters Spring production, will be held February 19, 20, and 21 in the Clinical Center auditorium.

Forty-seven actors, actresses, and singers are needed for this rollicking show based on Al Capp's famed comic strip. Also needed are dancers, a choreographer, set designers, prop men and women, make-up artists, and the myriad other essential contributors to a successful production.

Tryouts on February 19 and 21 will be from 11:30 a.m. to 12:30 p.m., and from 8 to 9 p.m. February 20 tryouts will be from 11:30 a.m. to 12:30 p.m Singers should come with their own music on the 19th and the 20th when a pianist will be available.

With Peter Palmer in the title role, "Li'l Abner" opened in New York on November 15, 1956 at the St. James Theater. Its catchy music and lyrics by Johnny Mercer and Gene dePaul, and the gay and witty book by Norman Panama and Melvin Frank insured it a long run on Broadway and have helped to make it popular with little theater groups throughout the country.

Further information on the tryouts may be obtained from the R&W office, Bldg. 31, Rm. 1A18, Ext. 3597.

FEDERATION

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In addition, 20 symposia and special sessions are scheduled including a general session in the ballroom of Convention Hall, at which leading authorities will discuss "Science in the Space Age."

Approximately 275 industrial and scientific exhibits will be displayed on the arena floor of Convention Hall. The Federation Placement Service, located in the lower lobby, will schedule over 1,400 interviews between employers and those seeking positions in the biological fields represented by the six Societies comprising the Federation.

Many Nations Represented

The 7,100 members of these Societies represent all important educational, research, and clinical centers in the United States. The membership also includes biological scientists from Canada, Mexico, and 44 other countries. More than 30 Federation members have been Nobel Prize winners.

Dr. Floyd S. Daft, Director of the National Institute of Arthritis and Metabolic Diseases, is Chairman of the Federation Board, the governing body of the organization, which consists of three representatives of each of the member Societies.

The Federation maintains headquarters at 9650 Wisconsin Ave., Washington 14, D. C. The Executive Officer is Dr. Milton O. Lee. Mrs. Helena B. Lemp is in charge of arrangements for the Atlantic City meeting.

The registration fee for scientists is $15. The complete program for this year's meeting will be available late in March, according to Dr. Sidney S. Negus of the Medical College of Virginia, Richmond, who is Director of Public Information for the meeting.

PROGRAM

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The Program will provide consultation, technical demonstration, training, and educational services to communities directly and through PHS grants. It will also cooperate with State health agencies, medical schools, professional organizations, and other private and public non-profit groups.

Dr. Guthrie and his staff will be concerned with the stimulation, development and support of activities aimed at prevention, diagnosis, treatment and rehabilitation of a wide variety of diseases and disorders.

These include epilepsy, cerebral palsy, multiple sclerosis, Parkinson's disease, mental retardation, various types of vision, speech and hearing defects, and other disorders of the central nervous system.

Purpose Explained

In making the announcement of the new Program, Dr. Terry said that "There are more than 10 million persons in our country suffering from these disorders, and we know that a great percentage of them can benefit from the research findings that are in existence but not being fully applied. The purpose of the new Program is to find ways of increasing the use of that knowledge."

He said that the Program will offer aid to medical schools and other medical facilities for setting up projects, staffed with specialists, to concentrate and coordinate community diagnostic, study and treatment activities for persons with neurological and sensory disorders.

These projects will give physicians, nurses, and other health personnel an opportunity to learn more about new techniques of prevention, diagnosis, treatment and rehabilitation.

Other activities of the Program will include surveys and studies of the prevalence and location of cases and the number and types of personnel and facilities needed to promote the application of present knowledge. Community services, such as glaucoma screening programs, will be emphasized.

More Sensitive Method Found for Testing Polio Vaccine Safety

Division of Biologics Standards findings indicate that by intraspinal inoculation of concentrated vaccine in the monkey safety test, infectious poliovirus which might not be detected by current procedures could be demonstrated.

DBS studies showed that intraspinal inoculation of monkeys with concentrated inactivated poliomyelitis vaccine is more sensitive than the original monkey safety test or than cell cultures to detect poliovirus in some vaccine lots. The studies, conducted by Drs. Gerald L. Van Hoosier, Jr., and Ruth L. Korschstein and coworkers, were recently published in the American Journal of Hygiene.

Previous studies by the investigators had shown the intraspinal inoculation route to be the most sensitive in detecting minimal amounts of live virus in formaldehyde-treated vaccine. In this study, this route was used to determine the effect of larger volume of the poliovirus vaccine in the monkey safety test.

Increased Amounts Used

Previously, 50 ml. of each vaccine were injected into 20 monkeys for the monkey safety test, and 4,500 ml. were used for the tissue-culture test. In order to use increased amounts of poliomyelitis vaccine for intraspinal inoculation as part of the monkey safety test, a method of vaccine concentration (ultracentrifugation with added gelatin) was used. This procedure indicated a considerable enhancement of the sensitivity of the monkey safety test.

The findings indicated the advantage of the use of concentrated vaccine in the monkey test over current procedures for detecting, at a low level, certain types of live virus which may persist after formalin treatment. The findings also provided a sensitive *in vivo* method comparable to the tissue culture safety test for detecting live virus in large-volume samples of poliomyelitis vaccine.

These studies indicate the possibility of increasing the margin of safety of the monkey test. It should be noted, however, that present methods have been satisfactory as judged by the favorable results obtained since 1955.

Work of NIH Scientists May Help to Clarify B-12 Nutritional Role

A series of studies that may help to clarify the vital but still mysterious role of vitamin B_{12} in human nutrition was summarized January 26 by Dr. Herbert Weissbach of the National Heart Institute.

At the New York-North Jersey Regional Meeting of the American Chemical Society, Dr. Weissbach cited the findings of studies done in collaboration with Dr. H. A. Barker of the University of California, and more recent studies done in collaboration with Betty Redfield of the NHI Laboratory of Clinical Biochemistry, and Dr. Alan Peterkofsky of the National Institute of Dental Research.

Coenzyme Isolated

These studies led to the isolation of the biologically active coenzyme derived from vitamin B_{12}, to the definition of its chemical properties, and to the development of methods for measuring its enzymatic activity. The work has also contributed to the determination of the coenzyme's chemical structure and to the clarification of its role as a catalyst in biochemical reactions.

Like many essential vitamins, B_{12} functions biologically as a coenzyme. When coupled with a specific enzyme protein, the coenzyme forms the enzyme's prosthetic group. Both the protein and prosthetic group are essential to the enzyme's function as an organic catalyst that allows the complex reactions of metabolism to take place under the stringent biochemical conditions imposed by the body.

Performs Vital Function

A deficiency of vitamin B_{12} causes pernicious anemia. The vitamin has also been implicated in the body's production of proteins and of DNA, the master genetic material that is the very basis of life. However, the specific functions of B_{12} in nutrition had previously defied clarification because the biologically active coenzyme derived from this vitamin had not been isolated and identified.

A problem that had foiled earlier attempts to isolate the B_{12} coenzyme was its extreme sensitivity to visible light, which causes it to decompose. Drs. Barker and Weissbach, the first to recognize and solve this problem, succeeded in isolating the first B_{12} coenzyme. From their work with this coenzyme, the two scientists also arrived at a very close approximation of its chemical structure. Its exact chemical structure was later worked out by Dr. Dorothy Hodgkin of England.

Vitamin B_{12} is a large, complex molecule containing a single atom of oxidized cobalt near its center. Attached to this cobalt atom is a cyanide radical. The B_{12} coenzyme differs from the vitamin in that this cyanide group is replaced by a much more complex compound called adenosine, and the cobalt is in the reduced state.

Studying the enzymatic conversion of vitamin B_{12} to the B_{12} coenzyme, Dr. Peterkofsky, Dr. Weissbach, and Mrs. Redfield showed that the adenosine of the coenzyme was derived from adenosine triphosphate (ATP), an all-purpose source of energy that powers virtually all of the body's energy-consuming processes. In coenzyme B_{12} synthesis, the vitamin is reduced and then reacts with ATP to form the coenzyme.

The B_{12} coenzyme, shown by Drs. Weissbach and Barker to catalyze one biochemical reaction, has since been shown by other workers to take part in at least two others. Further studies on the role of coenzyme B_{12} as an organic catalyst may clarify the mechanism by which it acts, and may clear up the mystery of the vital role of vitamin B_{12} in normal nutrition and in pernicious anemia.

Two Special-Purpose NCI Laboratories Designed by Plant Engineering Branch

The Plant Engineering Branch has designed two special-purpose laboratories for the National Cancer Institute. One is the virus diagnostic laboratory now being installed in the sub-basement of Building 6, and the other is a tissue preparation laboratory located on the first floor of Building 8.

The purpose of virus identification in cancer research is to attempt to characterize viruses isolated from cancerous lesions in order to determine whether they might be etiologically related to the neoplastic disease or whether they are simply contaminating agents of known viral types.

Working Conditions Considered

In designing the virus diagnostic laboratory, PEB engineers took into consideration the high infectivity of viruses handled in identification studies and the need for a healthful and comfortable working environment despite the requirement that air velocity be maintained at a low level.

The laboratory has cubicles designed to provide sterility and the isolation of viruses from animal and human tissue. The ventilating, heating, and air-filtering system has been carefully designed to eliminate air transfer and cross contamination between the sterile and the nonsterile areas.

The design of the second laboratory incorporates mechanical refinements in the air-conditioning and heating systems which reflect the sensitive nature of tissue preparation.

Precise Control Essential

In preparing tissue sample, very small tissue particles encased in paraffin are cut into microthin sections and affixed to glass slides. One of the chemicals used in the process is xylol, a benzene derivative that gives off corrosive and noxious fumes. As precise heat control and air-flow control are required for the cutting and preparation process, the air supply and exhaust system had to be designed to pull off corrosive xylol fumes without creating drafts or disturbing air currents.

Designing the structural alterations and mechanical systems for these two laboratories and for other special-purpose facilities at NIH is a service provided by PEB's Engineering Design Section, headed by Alfred L. Perkins.

CHILD HEALTH

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there until September 1949.

Dr. Harting was commissioned in the U. S. Public Health Service in November 1947. He took his postgraduate training in maternal and child health at the Johns Hopkins School of Public Health, Baltimore. He received the M.P.H. degree in 1950 and spent a year in residency training in clinical pediatrics at the University of Colorado Medical Center, Denver.

From November 1951 to June 1954 he was Regional Medical Director of the U. S. Children's Bureau for the Midwestern States with headquarters in Chicago.

Has Wide Experience

Since June 1954, Dr. Harting has served in the Bureau of State Services, Washington, D. C., as Chief of State and Local Health Services in the Division of General Health Services, as Chief of the Program Development Branch, and as Deputy Chief of the Public Health Administration Branch of the Division of Community Health Practice.

Dr. Harting served as special consultant to the Subcommittee on Migratory Labor of the Committee on Labor and Public Welfare, United States Senate, in the Eighty-Seventh Congress.

He is a member of the Federal Interdepartmental Committee for Children and Youth, serving as Chairman of the Subcommittee on Selective Service Rejectees, and is one of the five Federal representatives on the National Committee for Children and Youth. He also headed a research team studying public health needs and practices in the Great Plains area of the United States.

Dr. Goldstein to Direct Extramural Programs For Neurology Institute

Appointment of Dr. Murray Goldstein as Associate Director for Extramural Programs, National Institute of Neurological Diseases and Blindness, was announced recently by Dr. Richard L. Masland, NINDB Director.

Dr. Goldstein

Dr. Goldstein succeeds to the position formerly held by Dr. John Sherman, now Associate Director for Extramural Programs, National Institute of Arthritis and Metabolic Diseases. The appointment was effective Jan. 15.

Prior to the appointment, Dr. Goldstein was Chief of the Special Projects Branch, NINDB.

In his new capacity, Dr. Goldstein will be responsible for directing the Institute's nationwide and foreign research grant, training grant, traineeship, and fellowship programs.

Investigations Stimulated

These programs furnish support to research in medicine, biology, and other health-related fields by making Federal funds available for such research and by stimulating scientific investigation of health problems on which urgently needed information is lacking.

A PHS Commissioned Officer, Dr. Goldstein holds the rank of Medical Director in the Corps. He came to NIH in 1953 as Assistant to the Chief of the Grants and Training Branch, National Heart Institute. He later became Assistant Chief of that Branch.

He has also served as Program Director of the Epidemiology and Biometry Training Grant Program, and Assistant Chief of the Research Grants Review Branch, both in the Division of Research Grants.

Goldman Joins NIAID

Dr. Morris Goldman, an authority on fluorescein tagging for diagnosis of parasitic and other infections, recently joined the staff of the Laboratory of Parasitic Diseases, NIAID.

A PHS Commissioned Officer, Dr. Goldman, formerly was on the staff of the Communicable Disease Center.

Former DBS Employee Killed at Andrews Field In Freak Accident

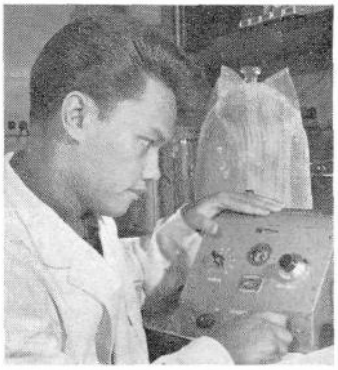
The first casualty among NIH personnel called to active duty in the recent increase of U.S. military strength was Airman 3/c John O. Cabigas who was killed in a freak accident at Andrews Air Force Base on January 8.

Airman Cabigas, 22, a former DBS medical technician, called to active duty in the District Air National Guard last October, was fatally injured when a Navy jet training plane struck an Air Force fire truck and its crew at the end of a runway during a landing. The crew was making adjustments to a runway nose-wheel arresting device to stop planes which might be about to go off the 9,000-foot runway.

Airman Cabigas was the son of retired M/Sgt. Osmundo Cabigas who is an employee of the Armed Forces Institute of Pathology at Walter Reed Army Medical Center. His mother died two years ago.

The Filipino family came to Washington in 1953 from Japan, where the father had been stationed. Airman Cabigas was a 1958 graduate of Coolidge High School, where he was a member of the football team.

He is survived by his father and two sisters, Carolina Cabigas and Mrs. Corazon Landicho.



Airman Cabigas.—Silverman photo

Dr. Louis Olivier, NIAID, On Mission for WHO

Dr. Louis J. Olivier of NIAID's Laboratory of Parasitic Diseases is on a 2-month assignment for the World Health Organization, investigating areas of schistosomiasis, in Trinidad, British Guiana Venezuela, and Brazil.

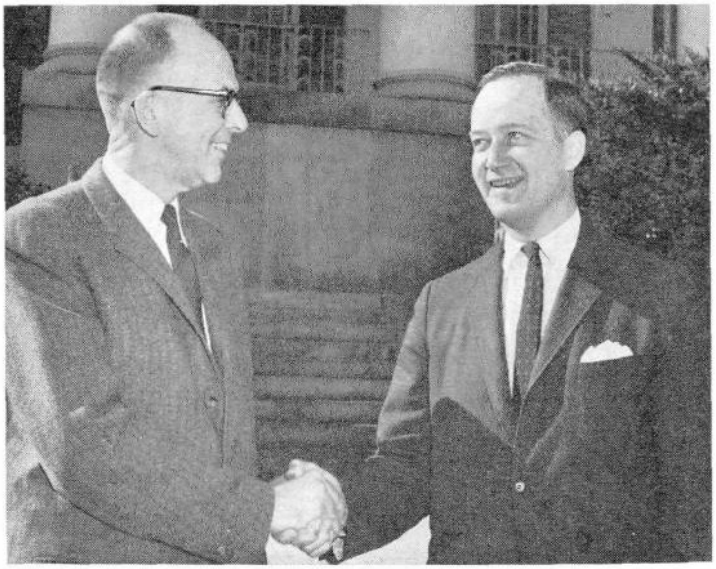
Schistosomiasis, one of the world's most prevalent parasitic diseases, is estimated to afflict 150 million people around the globe.

Dr. Olivier will make recommendations to WHO on the problem of control of the disease.

Accompanying Dr. Olivier is Mr. Z. S. Buzo, sanitary engineer on the schistosomiasis program of WHO in Geneva.

Dr. Olivier expects to complete his work and return by mid-March.

AREA'S CONGRESSMAN VISITS NIH



Congressman Charles McC. Mathias, Jr., of Frederick, Representative of the Sixth Maryland District (right), is greeted by Dr. David E. Price, Deputy Director of NIH, on arrival here last week for a "get acquainted" visit to this Public Health Service research center, located within the Sixth Congressional District. After lunch with Dr. Price, Congressman Mathias was escorted on a tour which included the Administration Building, the Clinical Center, and Building 31.—Photo by Ed Hubbard.

RESERPINE

(Continued from Page 3)

tually depletes the brain of most of its norepinephrine and serotonin.

A preponderance of free norepinephrine in the brain is usually associated with arousal and with active behavioral patterns, a preponderance of free serotonin with sedation, tranquility, and recuperative behavior patterns.

Reserpine attacks the storage sites of both amines indiscriminately. However, as the brain levels of both decline, free serotonin predominates over free norepinephrine. This occurs because serotonin is made at a faster rate by the brain than is norepinephrine. The result: tranquility and sedation—up to a point.

The NHI studies showed that, when brain amine levels dropped to about 50 percent of normal in reserpine-treated animals, the pituitary and adrenal glands abruptly entered the picture. The pituitary began to release large quantities of ACTH, which, in turn, triggered the release of corticosterone and other steroid hormones from the adrenal cortex.

These hormones, acting in concert with catechol amines from the adrenal medulla or released locally in adipose tissue, led to the mobilization of free fatty acids. In short, these animals—outwardly tranquilized, even stupefied—were exhibiting most of the classic biochemical responses to stress.

Subsequent studies on this state of "stressful tranquility" showed that the pituitary-adrenal responses did not result from a direct action of reserpine. They were related, however, to the drug's depletion of brain amines, specifically serotonin. Whenever brain serotonin levels fell below 50 percent of normal, the stress responses were elicited. They were not elicited by drugs which selectively depleted brain norepinephrine but not brain serotonin.

Monoamine oxidase inhibitors, widely used as antidepressant drugs, could block the pituitary-adrenal responses to reserpine. They did so by blocking the enzymatic destruction of the free amines released by reserpine. This action slowed the decline of brain amines and usually prevented them from falling as far as the magic 50 percent level.

The pituitary-adrenal response to reserpine would also disappear eventually even if further reserpine were administered. The pituitary, it appears, could not stand the strain forever, and eventually ran out of ACTH to secrete.

Reserpine, grain alcohol, and a number of other so-called depressant drugs have been found to trigger the excessive secretion of ACTH by the pituitary that sets these "stress responses" in motion. How they do it is not yet known, but the NHI scientists are trying to find out. Basic knowledge about the interaction of drugs with the body's nerve and hormonal mechanisms is becoming increasingly essential to the proper therapeutic evaluation of new drugs.

NCI Investigators Find Blood Flow in Tumors Less Than Suspected

Evidence that much less blood flows through tumors than had previously been assumed has been produced by National Cancer Institute investigators through studies of transplanted neoplasms in mice and rats.

This finding may have an important bearing on cancer chemotherapy since it suggests that less than five percent of a substance injected into the host reaches the tumor. Moreover, some metabolic findings that have been explained as properties of the tumor cell may, in part, be secondary to the conditions of exchange of fluids between host and tumor.

Although the minimum requirement of blood for growing tissues remains unknown, the investigators found that the neoplastic tissue requires a surprisingly small amount of blood during rapid growth.

Uniformity Observed

They observed also a tendency toward uniformity in rate of blood flow through the tumors studied, regardless of histologic type, size of the neoplastic mass, or the organ in which the tumor grew. This has led them to investigate the factors that control new formation of tumor vessels and the blood flow in them.

Two approaches to the problem of determining the blood flow through tumors were used. Certain radioactive elements administered in a single, rapid intravenous injection are initially distributed to the organs of an animal in proportion to their blood supply.

Experimental tumors were also grown in a kidney or ovary which had been isolated from surrounding tissue with only a vascular connection to the host animal. Measurements of blood flow were made by diverting the flow between the tumor and host for certain intervals, then collecting, weighing and reintroducing the blood into the circuit.

The work was published in a recent issue of the Journal of the National Cancer Institute by Dr. Pietro M. Gullino and Flora H. Grantham of the Laboratory of Biochemistry, NCI.

Dr. Milton Silverman Dies of Heart Attack In Munich, Germany

Dr. Milton Silverman, 48, a scientist at NIAMD's Laboratory of Nutrition and Endocrinology, died February 3 of a heart attack in Munich, Germany.

Accompanied by his wife, he was visiting the University of Munich to initiate a collaborative study with the University and NIAMD, dealing with the biosynthesis of certain derivatives of folic acid.

Dr. Silverman

Dr. Silverman came to NIH in 1947. One of his first accomplishments here was to show that various metal ions, especially calcium and magnesium, overcame the growth inhibition of the microorganism E. coli produced by atabrine and other drugs.

He then participated in the isolation of "citrovorum factor," a form of folic acid, from horse liver. Citrovorum factor, now produced synthetically as leucovorin, is used to overcome the toxicity of some of the antifolic compounds used in the treatment of leukemia.

Isolates Acid

He isolated formimino glutamic acid from the urine of folic acid deficient rats, thereby showing that folic acid is involved in the metabolism of the amino acid histidine. The excretion of formimino glutamic acid is used at present as an index of folic acid deficiency in human beings.

More recently he demonstrated that vitamin B_{12} and the amino acid methionine were involved in folic acid metabolism of animals.

He also studied the inactivation of folic acid by liver preparations and demonstrated that folic acid was enzymatically reduced to the metabolically active compound tetrahydrofolic acid. This work led to the recognition of the enzyme folic reductase.

Was Commissioned Officer

In his most recent studies he was concerned with the distribution of the various forms of folic acid in natural materials.

A PHS Commissioned Officer, Dr. Silverman was a member of the American Society of Biological Chemists, the Society of American Bacteriologists, and the American Association for the Advancement of Science.

He is survived by his wife, Sadie; a son, Joel David; and a daughter, Ruth, all of the home address, 4306 Ambler Drive, Kensington, Md.

CU Elects Officers, Will Move in March

Four new members were elected to the Board of Directors and three to the Credit Committee at the annual membership meeting of the NIH Federal Credit Union, held recently in the CC auditorium. Each will serve a 2-year term.

New members of the Board of Directors are Robert H. Grant, Assistant Chief of the Office of International Research, OD; Robert B. Lauder, DRS Budget Officer; Ervin J. Liljegren, NIAMD Administrative Officer for Research; and Dr. Harold P. Morris, Head of the Nutrition and Carcinogenesis Section, NCI.

Elected to the Credit Committee were Lloyd J. Bankard of the Planning and Control Section, PEB; Ruth J. Metka, Assistant Chief of the Cancer Nursing Service, CC; and William B. Page, Assistant Chief, DRS.

Dividend Declared

At their December meeting the previous CU Board of Directors declared a 4½ percent per annum dividend. The dividend, paid on a semi-annual basis, was credited to members' accounts January 5.

Early in March the CU will move from its present offices in the Clinical Center to Rooms 1A07 and 1A08 in Building 31.

The new office will consist of two departments. One will be for the banking functions of the CU, and the other will be specifically for loans, with private interview offices.

Dr. Livingston Becomes Assembly President

Dr. Robert Livingston, Chief of the Laboratory of Neurobiology, NIMH, recently assumed office as President of the Assembly of Scientists, NIMH-NINDB, following the resignation from NIH of Dr. Edward Evarts, former President of the Assembly.

Dr. Livingston, who was President-elect for 1961-62, will serve as President during the remainder of Dr. Evarts' term, through 1962.

Other officers of the Assembly for 1961-62 are Dr. Jeanne L. Brand of NIMH, Secretary; and the following Council Members: Drs. Cosimo Ajmone Marsan and Michaelangelo Fuortes, both of NINDB; and Drs. James Birren and Dan Bradley of NIMH. Serving 1961-63 terms are Drs. Samuel Greenhouse, John Campbell, Melvin Kohn, and Louis Sokoloff, all of NIMH.

Dr. Andrews Speaks

At the invitation of the Assembly, Dr. Howard L. Andrews, Chief of the Radiation Branch, NCI, presented an address in the CC auditorium recently on studies of the effects of low-level chronic irradiation.

The meeting, attended by members of other NIH Assemblies of Scientists, was open to all interested persons. It was held in response to a resolution of the NIMH-NINDB Assembly, calling on its Council for a review of the evidence of the effects of radiation on mammalian systems, including man.

Dr. K. S. Cole, NINDB, Elected Vice President Of Biophysical Society

Dr. Kenneth S. Cole, Chief of the Biophysics Laboratory, National Institute of Neurological Diseases and Blindness, has been elected Vice President of the Biophysical Society for 1962-63. By his election he also becomes President-elect, to serve as President in 1963-64.

Dr. Cole

Dr. Cole, who helped found the Society in 1958, will succeed to his new office at the Society's annual meeting, tomorrow through Friday (Feb. 14-16), at the Sheraton-Park Hotel.

A research scientist in biophysics over a 35-year period, Dr. Cole has published numerous scientific papers on the electrical properties in living cells. His recognized findings include the measurements of cell membrane capacity and ion permeabilities at rest and during excitation; one of the first electrical recordings from the interior of a cell; and the measurement and interpretation of ion movements into and out of a cell under various conditions.

Has Teaching Background

Dr. Cole received his A.B. and Sc.D. degrees from Oberlin College, and his Ph. D. from Cornell University. Before coming to NIH, he served on the faculties of Harvard, Princeton, and Columbia Universities, as well as the University of Chicago and the University of Leipzig. He has been guest lecturer at Penn State and Bryn Mawr Colleges, and the University of Brazil.

A member of the National Academy of Sciences, Dr. Cole has published some 70 books and articles.

String Quartet Presents Concert Here Thursday

Three compositions for string quartet will be presented at the next concert of the R&W-sponsored 1961-62 concert series at NIH. The performance will be held at 8:30 p.m., Thursday (Feb. 15) in the Clinical Center auditorium.

The program will consist of "Quartet in C minor, Opus 18, No. 4," by Beethoven; "Quartet No. 6," by Hindemith; and "Quartet" by Debussy.

Mark Ellsworth, Concertmaster of the National Gallery Orchestra, will be first violin; Nancy Ellsworth, second violin; Raymond Montoni, violist; and Jean Robbins, cellist.

Admission price for adults is one dollar. Children under 12 and CC patients and their attendants will be admitted free of charge.

Tickets may be purchased at the R&W Film Desk in the Clinical Center and the R&W office in Bldg. 31, Rm. 1A18.

Hunger, Thirst Centers Studied in Mouse Brain

Recent findings by National Institute of Mental Health scientists attempting to map areas in the brain of monkeys in which food ingestion and ejection could be directly elicited by electrical stimulation, indicate that hunger-saiety mechanisms exist not only in the hypothalamus but in portions of the limbic system and thalamus.

Heretofore, research on the functional localization of eating and drinking mechanisms has chiefly focused on the hypothalamus: the lateral area in the initiation of feeding, the ventromedial area in the cessation.

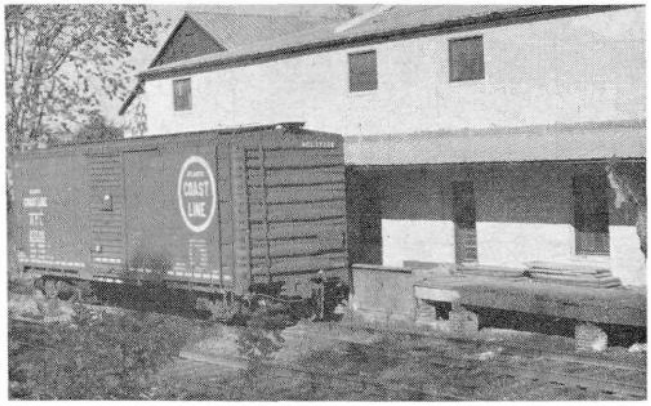
The current studies are reported by Drs. Bryan W. Robinson and Mortimer Mishkin in the Federation Proceedings.

Ten satiated animals were induced to eat and drink at 99 points in the brain outside of the hypothalamus, including the olfactory tubercle, medial preoptic area, substantia innominata and amygdala. The responses were similar to those produced by stimulation of the lateral hypothalamus.

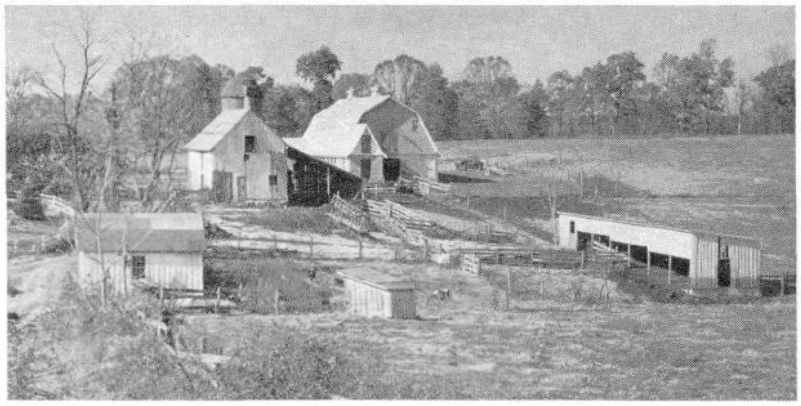
Similarly, seven animals were induced to remove food from their mouths and to stop eating, when stimulated from 113 points outside the ventromedial area, including the lateral hypothalamus, substantia innominata and medial preoptic area.

It is of further interest to note that the scientists also found evidence suggesting that the electrical stimulations evoking intake and ejection reactions are rewarding to the animals, since they will work to obtain this stimulation.

More people are absent from school and work because of respiratory illness than from any other cause.



This freight car at the siding of the Bowman Bros. mill at Gaithersburg, Md., is one mode of transport for disease-carrying mice.

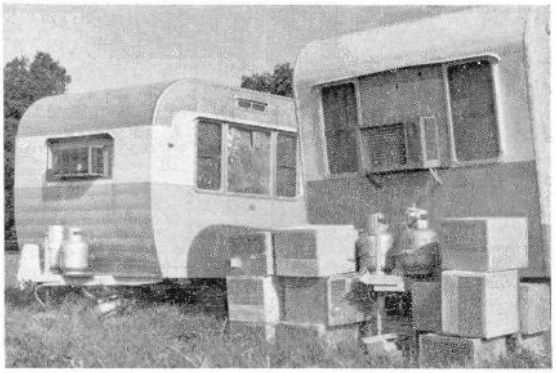


The 80-acre farm of William L. Hurst at Laytonsville, Md., is one of the focal points for NIH studies of virus in mice.

Walter Ashe of the Medical Arts and Photography Branch, DRS, cooperates in the study by sketching the location of grain samples collected by NIAID's William Allen from a barn on the Hurst farm at Laytonsville.

Photos by
Sam Silverman

Dr. Huebner checks the dispatch point of a freight car to determine the geographical origin of a mouse-transported virus.

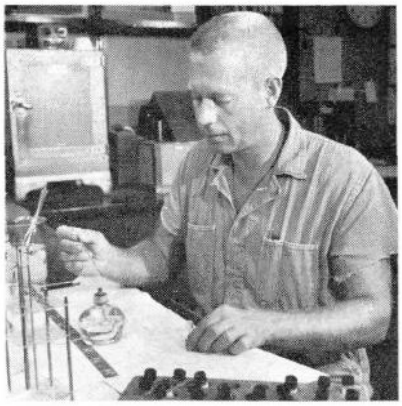


Lab equipment is housed in these trailers on the farm.

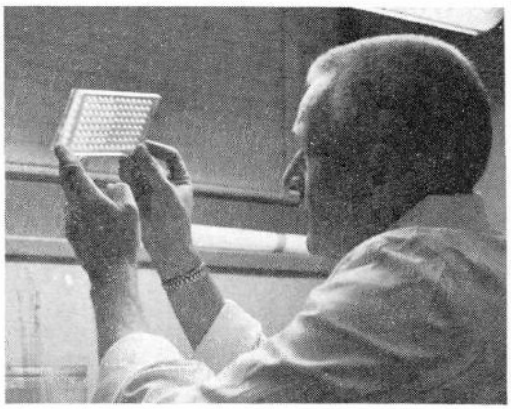
NIH RESEARCH IN A RURAL SETTING

FOR the past two years, several Upper Montgomery County farms and grain mills have been serving as "field stations" for continuing NIH research on virus-carrying mice. Working from laboratory-equipped trailers on rented farm land, scientists under the direction of Dr. Robert J. Huebner, Chief of the Laboratory of Infectious Diseases, NIAID, have been collecting and studying blood from virus-infected mice and samples of livestock grain contaminated by mouse excreta. Of particular interest to the researchers is the significance of the transport of disease-carrying vermin from rural to urban areas and back again by rail and motor freight.

Working in a trailer on the farm, Mr. Allen takes a blood sample from a mouse preparatory to running a serological test.



Serum obtained in the field is diluted in the Laboratory of Infectious Diseases by technician Walter Lee Cline.



Horace C. Turner of the Virus and Rickettsial Section, LID, examines the results of a complement fixation test on mouse serum.