Dr. Eyestone Heads NHI Primates Program; Dr. Holden Promoted

Dr. Willard H. Eyestone, Chief, Laboratory Aids Branch, DRS, has joined the Grants and Training Branch, NHI, where he will be in charge of the Primates and Veterinary Grants Program. His appointment was effective on October 27.

D. Preston Holden has been appointed Chief of the Laboratory Aids Branch to succeed Dr. Eyestone. Prior to his appointment he was Assistant Chief of the Branch.

Two Centers Planned

In the development of primate research, Dr. Eyestone plans to encourage establishment of two primate research centers, at locations to be selected in the near future. Two million dollars has been earmarked for the program, and further expansion is contemplated, including development of breeding centers.

Dr. Eyestone, who became a PHS Commissioned Officer in May, 1959, came to NIH in 1949 as a veterinarian with NCI. In 1955 he was appointed Chief of the Laboratory Aids Branch, then a function of the Office of the Director.

A member of the National Ad-

Dr. Joseph Smadel

Dr. Joseph E. Smadel, Associate Director for Intramural Research, NHI, has been selected to receive the 1959 Stitt Award.

The award is named in honor of the late Rear Admiral Edward R. Stitt, U. S. Navy authority on tropical medicine. Dr. Smadel's citation will read: "... for his many contributions in microbiology and immunology."

Dr. Smadel is recognized as the leading force behind the studies in Malaysia in the late 1940s which proved the efficacy of chloramphenicol in the cure of scrub typhus (taiwugamushi disease) and typhoid fever. He is one of the world's authorities on viral and rickettsial diseases and has contributed valuable scientific data on Q fever, influenza, smallpox, Japanese B encephalitis and epidemic hemorrhagic fever.

500 EXPECTED AT CHEMOTHERAPY RESEARCH CONFERENCE

More than 500 scientists and physicians are expected to attend a two-day conference on clinical chemotherapy research, November 11 and 12, at the Statler Hilton Hotel, Washington.

Sponsored by the Cancer Chemotherapy National Service Center, NIH, the meeting will include a series of discussions on recent developments in the cooperative clinical trials program being carried out under the Center's direction.

Informal presentations on Wednesday morning will include discussions by Dr. I. S. Ravdin, University of Pennsylvania, on "The Cooperative Clinical Program"; by Dr. Bernard K. Baker, Stanford Research Institute, on "Chemical Structure as Related to Antitumor Action"; and by Dr. C. Chester Stock, Sloan-Kettering Institute for Cancer Research, on "Biological Screening for Determination of Antitumor Activity."

The remaining conference time will be devoted chiefly to panel discussions on specific aspects of clinical chemotherapy. There will be panels on therapy of the leukemias and lymphomas, cancer of the lung and breast, and other solid tumors.

Other panel meetings will cover surgical adjuvant chemotherapy, the use of alkylating agents, hormone therapy, some newer techniques and problems in cooperative studies, and the basis for seeking new types and structures for chemotherapeutic agents.

Dr. Sidney Farber, Children's Cancer Research Foundation, will conclude the meeting Thursday with a talk on "The Future of the Cancer Chemotherapy Program."

The conference is open to interested observers and to the press.

Assembly of Scientists Established

Scientists of NIMH and NINDB voted recently to establish an Assembly of Scientists "to help develop and promote the professional excellence and scientific achievements of the Institutes."

The organization is the outcome of several years of discussion and planning. Ratification of a constitution and election of officers were announced at the first annual meeting, October 15.

As presently organized, the Assembly is open to the participation of scientists of the other Institutes on a non-voting membership basis. Its founders anticipate that it will serve to interest other scientists at NIH and possibly foster the development of an NIH-wide Assembly.

NIH Tops UGF Goal

By $771 in 5th Week

For the first time, NIH has attained its UGF goal. As of November 6, the $60,469 quota was exceeded by $771. This represents 101 percent of the quota and 99 percent participation by NIH employees.

Dr. James A. Shannon, NIH Director, expressed his pleasure at the report. "This is a wonderful showing," he said. "I'm confident that each Institute and Division will reach 100 percent within the next week."

According to Dr. Jack Mansur, UGF Chairman here, each employee who has not yet had an opportunity to contribute to the campaign will be reached by a keyman during the early part of November.

During the past two weeks, these groups reached their quotas: NCI, 106%; CC, 103%; NIAMD, 104%; and NINDB, 100%.

Constitution Adopted

Copies of the proposed constitution were distributed for consideration and vote, prior to the October 15 meeting, to 285 scientists in NIMH and NINDB who were eligible for membership. The results, announced at the meeting, were 174 replies received, of which only four were negative.

Committees were appointed to recommend action on the possible formation of a faculty club, the regulation of human and animal experiments to assure humane treatment of subjects, freedom of government scientists to attend international meetings, relations between scientists and the press, and
INSTRUMENT SPEEDS LAB WORK

A new instrument which mechanizes the pipetting process for bacteriophage typing has been developed by the Instrument Section, DRS, for Dr. Frederick A. Fox, Chief, Clinical Pathology Department of the Clinical Center.

Dr. Fox built a test model of an instrument which enabled him to add suspensions of many different bacteriophages to a single Petri dish simultaneously. From this model, the Instrument Section developed the instrument pictured above.

This apparatus contains 26 syringes which need be removed only for replacement, and the entire instrument can be sterilized in the autoclave. In use, up to 26 phage suspensions are drawn up into the syringes from a nylon filler block. One hundred and sixty typings can be performed from each filling.

The plungers of the syringes are advanced by turning a nut, and the hanging drops formed on the tips of the needles are touched off on the agar surface of the bacterial culture.

The Bacteriology Service of the Clinical Pathology Department does about 200 bacteriophage typings each week. With this instrument, tests which formerly required more than 10 hours may be performed in less than one hour.

The instrument will be reported in the February issue of the American Journal of Clinical Pathology.

Advisory Council Appointments

The following appointments were made recently to National Advisory Councils:

National Advisory Heart Council: Dr. John D. Gewirtz, director of the National Heart Institute; Dr. Robert W. Wilkins, professor of medicine at Boston University School of Medicine; Dr. H. Burr Steinbach, professor of zoology at the University of Chicago.

National Advisory Mental Health Council: Dr. Ralph Winfred Tyler, director of the Center for Advanced Study in the Behavioral Sciences, Stanford, California; Dr. Eli Ginzberg, professor of economics at Columbia University; Dr. E. C. Whitehorn, Henry Phipps professor and director of the Department of Psychiatry at the Johns Hopkins University School of Medicine.

National Advisory Neurological Diseases and Blindness Council: Dr. Roger S. Firestone, president of Firestone Plastics Company, Pottstown, Pa.; Mrs. Robert W. Wilkins, secretary of the National Advisory Neurological Diseases and Blindness Council.

Correction

In the story on presentation of incentive awards, in the October 20 issue, the RECORD inadvertently omitted the name of Glyadis A. Jones from the list of those who shared in a group award to Dr. Karl Fox. The name was erroneously printed as Carl A. Jones. The RECORD extends apologies to both.

The ratio of dentists to population remains below pre-World War II levels, the PHS reports, and the baseline is expected to continue.

Officers of the Assembly of Scientists discuss business of the new organization. From left are Drs. Sanford Palay, Karl Frank, and H. Enger Rosvold.

UGF GOAL

A breakdown of the figures follows:

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Averages: 101

president-elect, Dr. Karl Frank, Laboratory of Neurophysiology, NINDB; secretary, Dr. Sanford Palay, Laboratory of Neuroanatomical Sciences, NINDB.

The elected councilors of the Assembly are Drs. Marian Yarrow, S. M. Sweeney, Armonk, N. Y., who shared in a group award to members of the Budget Management Section, OAM. Her name was erroneously printed as Carl A. Jones. The RECORD extends apologies to both.

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GERM-FREE RESEARCH AT NIH

Three Kinds of Tank, Each with Its Advantages, Complement One Another in Institutes' Studies

Germ-free research (gnotobiotics), although a comparatively new discipline, is now well established and promises to assume a position of increasing significance in biological research. Three Institutes (National Institute of Allergy and Infectious Diseases, National Institute of Arthritis and Metabolic Diseases, and National Institute of Dental Research) have active programs in this field.

The germ-free animal is, as far as can be determined, completely free of the microbes ordinarily associated with all forms of animal life on earth. Because of this, it is a living test tube in which many kinds of biological research can be carried out which would be extremely difficult or impossible with ordinary animals. We can now study, under more controlled conditions, the role of a single microbe, combinations of microbes, or even the absence of any microbe in a variety of diseases.

Although the first germ-free animal was produced in Germany in 1895, it has been only within the last 25 years that techniques have improved sufficiently to permit extensive use of these unique biological tools. Since the 1930's, germ-free research has expanded from a single laboratory at the University of Notre Dame until there are now several such research centers, both in the United States and abroad.

Here at the National Institutes of Health, germ-free animals are now being used in studies on nutrition, dental diseases, and a variety of diseases caused by viruses, bacteria, and parasites.

Infection and Immunity

In the field of infection and immunity, these animals have already shown us, for example, that the organism which produces amebic dysentery cannot survive in the intestine unless bacteria are present. On the other hand, animals that have not had to cope with the variety of microbes usually associated with ordinary contaminated animals tend to be more susceptible to certain bacteria, protozoa and worm infections.

Nutrition

The harmful effect of certain pathogenic organisms in the gastrointestinal tract has long been recognized. However, nutritionists have also considered the possibility that certain of the intestinal bacteria may have beneficial effects. For example, there was speculation some decades ago that a portion of the population in Bulgaria had a longer than usual life span because a beneficial microbial flora had been established and maintained through the use of cultured milk. Widespread use of cultured milk and yogurt resulted. There was further speculation that some essential vitamins might be obtained by humans as well as animals from intestinal bacteria.

In this connection, germ-free experiments of the last few years in the United States and Sweden have demonstrated that in experimental animals certain vitamins, in particular vitamin K and folie acid, are synthesized by intestinal bacteria and made available to the host animal.

Dental Diseases

Because of the wide variety of bacteria normally present in the mouth, scientists have been unable to determine which organisms cause tooth decay or pyorrhea. Since it has been found that the germ-free rat does not develop tooth decay, it is now possible to study these problems by introducing suspected microbes into the mouth of germ-free animals and determining their effect on the teeth and oral tissues.

We have now seen one type of streptococcus which will specifically cause dental caries when it is the only organism present in the animal. Studies are being continued to discover how many other microbes may also be involved in the production of tooth decay and pyorrhea under normal conditions.

Germ-Free Equipment

Three types of germ-free animal chambers are currently in use at the National Institutes of Health. All three types of chambers have the same essential features in common: (1) A main sterile tank, or chambers, in which the animals are bred, housed, and studied, (2) a means of sterilizing, the air supply, and (4) a sterile lock through which animals and supplies may be passed into and out of the chamber.

Each of the chambers has specific features which makes it useful for a particular purpose.

The plastic chamber developed recently at the University of Notre Dame is lightweight, relatively inexpensive, transparent, and quite suitable for short-term experiments. The chamber and the access lock are sterilized by germicidal chemicals such as peracetic acid.

(See GERM-FREE, Page 4)
New Method Found for Dissolving Carcinogens in Human Lipoproteins

A method for incorporating cholesterol into human lipoproteins in vitro has been recently developed by Dr. Joel Avigan of the National Heart Institute’s Metabolism Section.

An immediately useful consequence of this advance is the availability of better cholesterol preparations for intravenous injection in studies of lipid metabolism. (The lipoprotein—a “natural” vehicle for cholesterol transport—is superior to the detergent-stabilized cholesterol suspensions previously used when this insoluble lipid had to be injected into the circulation.)

More recently Dr. Avigan has found that the water insoluble cancer-producing hydrocarbons also can, like cholesterol, be dissolved in human or animal serum, where they are similarly incorporated into the lipoproteins. This suggests lipoproteins might represent the vehicle by which such cancer-producing agents are ordinarily transported throughout the body.

In the journal Cancer Research, where he recently published another method for incorporating the carcinogenic hydrocarbons into lipoproteins, Dr. Avigan also suggests uses for the method in cancer research.

“The transport mechanism of carcinogens and the relative affinities of the tissue cells for the various compounds could be conveniently studied with the aid of the soluble preparations....” he says.

Among the cancer-producing hydrocarbons studied were a number of anthraccenes, related to the carcinogens in coal tar, as well as fluorine derivatives, including 2-acetylaminofluorene.

Since 1915, when application of coal tar to the ears of rabbits led to the first reported instances of experimental cancer, hundreds of industrially produced and naturally occurring hydrocarbons and their derivatives have been tested and a large proportion have been found capable of causing cancer in experimental animals. Such cancer-producing hydrocarbons are found in many substances obtained from coal tar and petroleum, as well as in exhaust-paving materials and in the atmosphere.

Like cholesterol and most of the body’s other normally occurring fatty substances, the hydrocarbons producing hydrocarbons do not generally dissolve in water—yet, when orally administered, they may be absorbed into the aqueous medium of the blood and distributed throughout the body.

Past attempts to follow orally administered hydrocarbons in the circulation did not work because they were made soluble in the blood. Incorporation into the lipoproteins appears to be the answer, Dr. Avigan’s findings suggest.

Fear Motivizes Fatty Acids from Body Fat

A study showing that fear increases the free, unesterified fatty acids in the blood has been reported by scientists from two Institutes. This free form is the one in which fatty acids are normally transported from the tissues to the blood to provide energy for life processes.

"Confronted by an emergency," the investigators suggest, "an individual burns fat, which is soluble and conserves glucose for use by the central nervous system, expecting, as it were, not to exit until the emergency passes."

Studies conducted at National Heart Institute over the past few years indicate that the fatty acids stored in adipose tissue are made available for life processes only after they have been released into the blood in an "unesterified" state (not bound, as esters, to cholesterol and other lipids in the lipoproteins). Studies conducted at National Institutes of Health in 1957 by Dr. Robert S. Gordon, Jr., of NIH indicate that these unesterified fatty acids (UFA) increase in the blood during fasting, reaching levels sufficient to provide energy for life processes.

In most of the subjects this hormone produced a rapid rise in the plasma UFA to peak levels within 10 minutes. In some the UFA more than doubled (two subjects) or tripled (one subject).

The findings from this study are published by Drs. Cardon and Gordon in the Journal of Psychosomatic Research.

"On the basis of the data presented we believe that psychic phenomena can change plasma fatty acid levels and, consequently, they write. "It is reasonable to infer that in a large majority of individuals plasma UFA increases when fear is experienced."

GERM-FREE

(Continued from Page 3)

Another type of chamber was developed in Sweden (by Professor Gustafson, who is now at NIH as a visiting scientist). This is a thin-walled stainless steel chamber of moderate cost. The chamber together with the necessary food and supplies is sterilized in a large autoclave. The large plate glass top affords excellent visibility. Rapid access and exit to and from the chamber is possible through the built-in germicidal trap.

The first practical one to be produced, and the type currently in widest use (Reyniers, Notre Dame), is especially suited for long-term experiments and the rearing of germ-free animal colonies. Its thick stainless steel walls permit it to be sterilized with steam under pressure. A small autoclave is either built into or can be attached to the chamber for introduction and removal of materials and animals, including direct transfer from other similar units. It also can be fitted with a germicidal trap for the introduction of materials that would be harmed by heat.

History elicited from the parents suggests that the boy had an apparently normal pregnancy and delivery although ensuing study suggested that there may have been a birth injury. Acids are decreased in number, however, and Buskirk will fly to the site of the study.

The leukemia, however, was not the immediate cause of death. Unilateral undevoloped brain convolutions (agyria) were discovered at postmortem examination. Malformation of the brain is a relatively frequent finding in children with cerebral paley, but the majority of cases reported have had bilateral brain involvement.

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Two NIH Men Join In Antarctic Study

To gain firsthand knowledge of Antarctic research, Dr. Dorland J. Davis, Scientific Director, NIAID, and Dr. Elsworth R. Buskirk, physiologist in the Metabolic Diseases Branch of NIAID’s Clinical Investigations, arrived in Antarctica as NIH members of a ten-man party. They left the country October 31 and will return about November 29.

Sponsored by the National Science Foundation, the Antarctic Research Program began on a large scale during the International Geophysical Year, 1957-58. During the current season about 70 scientists will conduct 29 new projects.

The group including Drs. Davis and Buskirk will fly to the site of Little America V.

At the age of seven months, when being treated for chronic constipation, she was found to have a large colon. At the age of 18 months, she began to walk, although with a right limp, and at 2 years began to talk. Between the ages of 3 and 7 years she was seen and treated in the cerebral palsy clinic for right hemiparesis and epilepsy.

At the age of 7, during hospitalization for increased difficulty in bowel movements and a poor general condition, a high white cell count revealed chronic myelocytic leukemia.

The patient died at ten years of age following uncontrollable convulsions. Post-mortem examination revealed the following findings: undeveloped convolutions (agyria) of the anterior part of the left cerebral hemisphere; absence of ganglion cells in the myenteric ganglion, associated with enlarged colon; recent hemorrhagic infarction of the anterior half of the right cerebral hemisphere, and myeloid leukemia.

Agyria is one of the most primitive malformations of the cerebral cortex and is generally considered to be a result of arrested development of the brain before the fetus has reached 14 weeks of gestation.

The estimation of the earliest possible teratogenic period is difficult, although it is unlikely that a noxious factor acting as early as the first weeks of prenatal life could lead to this anomaly.

The authors stated that it is of interest that the right hemiparesis and also the epileptic attacks were attributed to a suspected birth trauma, but the possibility of malformation of the brain was not considered at all.

Children suffering from congenital malformations have a slightly higher risk of developing leukemia than their normal mates.
STUDY FAMILY PSYCHOTHERAPY

Broad Patterns of Relationship Found Consistently Among Members of Schizophrenic Patients’ Families

A method of family psychotherapy has been developed by NIMH scientists as part of a research project for the study of schizophrenic patients and their families.

When the project started, the research was focused on the intense interdependence existing in the relationship between schizophrenic patients and their mothers. Three mother-patient pairs, who had been brought to live in the Clinical Center ward for study and treatment, were given individual psychotherapy on the premise that this would permit each to mature and grow away from the other. Observations made by the psychiatrists suggested that the phenomenon they were studying went beyond the mother-patient relationship, that the fathers also played an important part in it, and that several family members. Accordingly, the research plan was changed so that fathers and, in some cases, brothers and sisters were brought into the research plan. Family psychotherapy was also introduced in which the family would be viewed and treated as a unit. The new procedure was based on the hypothesis that the patient is a symptom manifestation in one person of an active process that involved the entire family.

During the 4-year course of the project, three mother-patient families and eight father-mother-patient families (some with normal brothers or sisters) lived in residence on the ward for periods as long as 33 months. An additional eight families, including fathers, mothers and moderately disturbed psychotic patients, were treated in outpatient family psychotherapy for periods up to 2½ years.

In observing the 16 research families the scientists noted some broad patterns of family relationships which occurred with such consistency that they incorporated these phenomena into the principles of family psychotherapy.

The most striking observation was that in each of these families with a schizophrenic son or daughter, the father and mother were separated by an emotional distance which they described as an “emotional divorce.” There was considerable variation in the way the parents maintained this distance. Some presented a surface appearance of closeness and harmony but carefully maintained a formal, controlled distance in dealing with each other where their personal feelings and emotions were concerned. At the other end of the scale were emotionally-separated parents who could not remain long in physical proximity without open arguments, shouting and disagreement. In the middle of the scale were parents who had personal differences which they could not discuss without heated disagreement but who consciously avoided getting close at these touchy points so that they could keep arguments and fights to a minimum.

The greatest conflict between the parents concerned their convictions about the proper treatment of the patient. In all the families, the parents held these emotionally charged, intense, opposite viewpoints about what should be done for the patient. While the parents could not become close to each other, either could develop a close relationship with the patient if the other parent would permit.

Another clinical observation was that in family living from day to day, one parent functioned in an over-adequate way, and the other was consistently inadequate. In the families studied, the one most often assumed the adequate position in relation to a helpless, hostile infantile patient and the father remained outside the immediate father-patient triangle.

In family therapy as developed on the NIMH project, the group attending therapy sessions consisted of the primary family three—father, mother and patient. (Normal siblings participated in the family studies but the intense conflict observed in these families was found to be very much confined to the father, mother, and patient.) The treatment situation was structured so that the family group worked on its own problem in the hour. Viewing the family as a unit the therapist observed and analyzed relationships between family members as they affected the family as a whole, much as a football coach observes how individual players function as parts of a team. He used his observations to help the family work out its problems together.

In this therapeutic situation, changes were observed in the functioning of the family members. In the usual family, the initial conflict was between mother and patient ascribed to the mother-father relationship. Then, when the two parents could become more invested in each other than either was invested in the patient, the patient made rapid gains.

Dr. Murray Bowen was the director of the project. Associated with him were Dr. Robert Dy-singer, Dr. Warren Brodsky and Mrs. Betty Basmanian, Dr. Bowen and Dr. Brodsky, who until recently were serving in the Adult Psychiatry Branch of NIMH, are now associated with Georgetown University where they are continuing their work in this area. Dr. Bowen as Clinical Associate Professor of Psychiatry and Dr. Brodsky as Clinical Assistant Professor.

The transparent chamber technique gives scientists a “window,” as shown in this picture, through which many important observations can be made.

Electric Shock Helps Explain Age Difference In Reaction Time

In a study aimed at validating, under varying test conditions, previous findings regarding the effect of a mild electric shock stimulus on the reaction time of old and young subjects, investigators in the National Institute of Mental Health’s Laboratory of Psychology found that the regularity or irregularity of the preparatory interval was a key factor.

When the time interval between the warning signal and the shock stimulus was kept constant, the performance of older subjects (measured in terms of speed of response) improved even more significantly than did that of the younger subjects. The studies were reported by Joseph F. Brinley, Joseph S. Robbin, and Jack Botwinick, Ph.D., at the American Psychological Association meeting in Cincinnati.

The patient, the patient made rapid gains.

NCI Biologists Induce Tumors Resembling Multiple Myeloma

One of the striking characteristics of human multiple myeloma is the frequent production of large amounts of abnormal plasma proteins. Since plasma-cell tumors also produce these abnormal plasma proteins in animals, a better understanding of multiple myeloma may be possible through studying experimental plasma-cell neoplasms.

Dr. Ruth M. Morwin and the late Dr. Glenn W. Algire, of the National Cancer Institute’s Laboratory of Biology, have reported the unexpected occurrence of plasma-cell tumors in BALB/c mice, in an experiment originally designed to study passage of the mouse mammary tumor agent through diffusion chamber membranes.

These induced plasma-cell tumors are of particular interest because they are transplantable—four have been maintained in two or more transplant generations—and they synthesize abnormal proteins.

Microscopic examination of the plasma-cell neoplasms revealed large cells with plasma-cell characteristics. Metastases were found in the ovary, pituitary gland, spleen, and lymph nodes. One tumor line of the plasma-cell tumor produced a myeloma-type change in the kidney, while another caused osteolytic lesions.

The results were reported in the Proceedings of the Society for Experimental Biology and Medicine.
Chromium Essential Diet Factor in Rats

Identification of a trace element, chromium, as the active ingredient of a dietary factor necessary for the maintenance of normal glucose tolerance in the rat, and possibly other mammalian organisms, is reported in the current and possibly other mammalian or animal glucose tolerance in the rat, necessary for the maintenance of normal glucose tolerance in the rat.

The rate of disappearance from the animal's blood stream of intravenously injected glucose was 2.5 percent or less per minute in GTF-deficient rats as compared to 4.0 percent in normal control animals fed a diet which included the required factor.

Studies of GTF since that time demonstrated that it can be fractionated by physical and chemical means from natural source materials such as brewer's yeast or pork kidney powder. Through six to 12 steps of fractionation, GTF concentrates were prepared which reconstituted normal glucose tolerance in mice fed semipurified sucrose and indicated that the trace element was necessary and provided a normal glucose tolerance in the animal.

Shigellosis as the cause of severe dysentery and death was demonstrated in a family outbreak investigated by the National Institute of Allergy and Infectious Diseases, Rocky Mountain Laboratory. Nine members of a single family of 10 developed acute shigellosis. Only the father escaped infection, while the mother and eight children ranging from 1 to 10 years of age developed typical symptoms. One child died before and the other after hospitalization. The patients were treated with various antibiotics.

At the time of examination by investigators from Rocky Mountain Laboratory, it was not possible to demonstrate organisms in the stools or antibodies in the body. After antibiotic therapy was discontinued and a safe time had elapsed, it was possible to demonstrate Shigella sonnei in the stools of four individuals and antibodies against this organism in blood specimens of all survivors. The father had neither organisms nor antibodies.

This study demonstrates that shigellosis may be a severe and fatal disease, and may present problems in diagnosis, especially in antibiotic therapy is started before stool specimens are taken for bacteriological examination.

Nutrition Survey Team Find Orient Natives Well Nourished

Nutrition survey teams sponsored by the Interdepartmental Committee on Nutrition for National Defense (ICNND) have now completed studies of the nutritional problems in Peru and Ecuador.

The surveys, patterned after previous ones done by the ICNND, have been expanded to include large samplings of the civilian as well as military population, and include physical examinations, dietary studies and biochemical work-ups. The surveys were completed at the request of the Peruvian and Ecuadorian governments.

The ICNND, which operates administratively through the National Institute of Arthritis and Metabolic Diseases, has designed the surveys to help each country assess the nutritional status of its people and aid in the establishment of a nutrition service to continue the work.

The survey team in Peru examined approximately 8000 troops. In general, they were found to be in good health, although there was evidence of a riboflavin deficiency in some locations, and anemia in certain jungle areas. The anemia, apparently associated with parasitic infections, did not respond to vitamin therapy. Research is being done to see if other nutritional factors are involved.

The survey team in Ecuador found riboflavin and thiamine deficiencies to be fairly common in the 2500 military personnel and 6000 civilians that were examined. A highlight of the Ecuadorian survey was the examination of natives in the Oriente, the thick jungle region of Ecuador where several missionaries were killed. The natives were one of the healthiest groups in the country, and from a biochemical standpoint had a higher level of nutrients than has been found in any of the countries previously visited by the ICNND surveys.

The sampling of the civilian population as well as the military began in Ethiopia where the ninth ICNND survey was made (Oct.-Dec. 1958). It has now become an integral part of the teams' operations.

Evidence pertinent to the complex question of live vs. killed virus vaccines is provided in the work of Dr. Leon Jacobs and Marjorie Mehlen of the Laboratory of Paralytic Diseases, National Institute of Allergy and Infectious Diseases. Their studies were reported at the meeting of the American Society of Tropical Medicine and Hygiene in Indianapolis.

Working with the parasite, Typhus syphilis yonddi, the investigators employed various routes of inoculation and dosages of their experimental vaccines. Results with a live but relatively mild strain of the organism not only enabled guinea pigs to survive later challenge with a virulent strain but prevented these invaders from establishing themselves in guinea pig tissues.

With vaccines prepared by killing the parasites with heat or with chemicals such as phenol or formalin, the guinea pigs did not die, but the T. yonddi parasites introduced at challenge were able to proliferate to some extent.

The ICNND, which operates administratively through the National Institute of Arthritis and Metabolic Diseases, has designed the surveys to help each country assess the nutritional status of its people and aid in the establishment of a nutrition service to continue the work.

The survey team in Peru examined approximately 8000 troops. In general, they were found to be in good health, although there was evidence of a riboflavin deficiency in some locations, and anemia in certain jungle areas. The anemia, apparently associated with parasitic infections, did not respond to vitamin therapy. Research is being done to see if other nutritional factors are involved.

The survey team in Ecuador found riboflavin and thiamine deficiencies to be fairly common in the 2500 military personnel and 6000 civilians that were examined. A highlight of the Ecuadorian survey was the examination of natives in the Oriente, the thick jungle region of Ecuador where several missionaries were killed. The natives were one of the healthiest groups in the country, and from a biochemical standpoint had a higher level of nutrients than has been found in any of the countries previously visited by the ICNND surveys.

The sampling of the civilian population as well as the military began in Ethiopia where the ninth ICNND survey was made (Oct.-Dec. 1958). It has now become an integral part of the teams' operations.

Study Parasitism in Agricultural Laborers

A study of intestinal parasitism in a group of agricultural laborers in the Cleviston, Florida area was conducted by Elizabeth Guinn, National Institute of Allergy and Infectious Diseases, at the meeting of the American Society of Tropical Medicine and Hygiene in Indianapolis.

One hundred and forty stool specimens from British West Indian workers, aged 21 to 48 years, were tested. Miss Guinn and her co-investigators, Drs. Harry K. Boyd and Charles M. Brooks of the Laboratory of Clinical Investigation, found multiple parasites in 66 percent of the specimens.

Hookworm was the most prevalent, occurring in 54 percent of the stools. Workers residing in the United States for less than one year had a higher incidence of hookworm than those living here more than a year—68 and 41 percent, respectively.
Publication Preview

The following manuscripts were received by the SBI Editorial Section between May 25 and June 5.

NCI
Bensfield, W. G.; Davis, C. J.; and Frailzy, D. C. Intracellular and extracellular particles in tissue cultures inoculated with parvovirus tumor agent (parvovirus).
Cendt, P. T.; Berlin, N. I.; and Nathan, D. G. Studies on the folic acid vitamins. VI. The effect of amethopterin or erythrotopolin on man.
Dawe, C. J.; Law, L. W.; and Dunn, T. R. Studies on parvovirus agent in cultures of leukemic tissues of mice.
Law, L. W.; Rowe, C. J.; Rowe, W. P.; and Hartley, J. W. Antibody status of mothers and response of their litter to parvovirus infection (polyoma virus).
Lipsett, M. H. and Bierer, B. Urinary ketosteroids and proteinurial in hirudism.
Mukar, A. S. Tissue and serum aldolase of rats with retrovirus infection.
Shakar, J. The action of deoxyribonuclease II at neutral pH and its significance to the preparation of modelic acid.
Shelton, E. and Dahlon, A. J. Electron microscopy of emperipolits.
Stewart, H. I. Experimental cancer and environmental factors in etiology of cancer.
Watkin, D. M. Protein mutagens in neoplastic disease.
Woods, M. W.; Sanford, K. B.; Burk, D.; and Elvig, W. E. Glycolytic properties of high and low sarcoma producing lines and tissue composed of irreversible postmitotic cells.

NIAMND
Amsel, B. N.; Garry, R.; and Heersen, L. The kinetic control of the enzymes of histidine biosynthesis in Salmonella typhimurium.
Beaver, D. L. Der einfluss verschiedener fischerungsmittel auf die histologische und histochemische der pseudotuberkulosen der rate.
Becker, E. D. Immunoassay studies of the self-association of chloroform.
Cohen, L. A.; Daly, J. W.; Ray, H.; and Wilcox, B. Nuclear magnetic resonance spectra of indole.
Glenner, G. G. A nitronebromation for tyrosine and related compounds in tissue sections.
Hodeland, E. and Emmart, E. W. The localization of myosin in the conduction of the heart of the beef.
Lerner, E. M. Arthritis caused by streptococcal and phoruroguanidinic acid in small rodents.
Pederson, C. and Fletcher, H. G. Jr. A 2,4,6-tri-O-benzoyl-D-L-ribofuranosyl fluoride and a transformation from the L-ribofuranosyl to the L-ribofuranosyl series induced by hydrogen fluoride.
Ramachandran, L. K. and Wilcox, B. Selective cleavage of C-tryptophyl peptide bonds in proteins and peptides.
Rowe, R. O. Fat metabolism in experimental diabetes.
Spicer, S. H. A histochemical study of cortisone and non cortisone steroids.
Warren, W. and La D, B. N. The tyrosine oxidation system of liver. IV. Studies on the inhibition of p-hydroxyphenylpyruvic acid by esoxin.

NIDR

NIMH
Andrew, W.; Shook, N. W.; Barrows, C. H.; and Newton, M. J. Biochemical and histological changes with age in a selected group of mental patients.
Olivier, L. Factors affecting the survival of avianizing plumes vectors of schistosomiasis.
Stone, S. H. and Friend, J. Hemorrhagic reactions in guinea pigs sensitized with ovalbumin in adjuvants containing mycobacteria. II. Relation to "delayed" hypersensitivity.
Young, M. D. The effect of small doses of phenothiazine upon malaria infections.

WHERE IS IT?

This service tunnel, about 2000 feet long, runs from the B-2 level of the Clinical Center to service areas of Bgs. 11, 13, and 14. Supplies and laundry; animal feed, bedding, and cages are delivered through the tunnel to the CG, and cages are returned to Bg. 14 for washing. At left, two members of the Transportation Section are moving supplies in an electric battery-operated "mule." Parallel to this passageway, a utility tunnel carries chilled water, steam, and compressed air to laboratories and offices from Bg. 11.

Health Benefits Act Effective July 1

The Federal Employees Health Benefits Act, signed by President Eisenhower September 28, offers Federal employees the opportunity to buy health insurance for themselves and their families, with the Government paying up to half the cost.
The Act becomes effective July 1, 1960, and full details will be available before that date. Until then, employees are advised to continue their present health benefit programs. The new plan is not compulsory.

Employees will have choice of insurance plans, and they will pay premiums through payroll deduction. Coverage can be continued after retirement if an employee has 12 years of Federal service, five of which must be civilian service, and continues to pay the premiums.
The Civil Service Commission has established a new Bureau of Retirement and Insurance to administer the program.

Memorial Lectures Given for Chapman

A series of six memorial lectures dedicated to the late Dr. Kenneth W. Chapman is being presented at the Bethesda First Baptist Church during October and November.
Dr. Chapman was Associate Director of the Clinical Center at the time of his death, September 18. He was also active in the Bethesda First Baptist Church, serving as superintendent of the Sunday church school and as a deacon.
The memorial lectures honor his significant contributions to Christian education.
Speaker in the last half of the lecture series and their subjects and dates include Howard D. Rees, Baptist Student Union, "Are We Really Trying to Understand Our Young People?" on November 15; Chaplin William R. Andrew, NIH, "Religion in Medicine," November 22; and Dr. Joseph M. Bobbitt, NIMH, "Human Relations for Everyday Living," November 29.

V. E. Jay Will Speak to NFFE Meeting

Vincent E. Jay, national representative of the Native Federation of Federal Employees (NFFE), will speak at a meeting of the NFFE branch of the NIH on November 19, in Wilson Hall.
Mr. Jay, a former government management analyst, will speak on "Recent Growth of the NFFE in the Washington Area." He recently helped to organize a branch of the NFFE in the Department of Health, Education, and Welfare. Election of officers will be held following the talk. The meeting is open to all interested NIH employees.

The first PHS Medical Officer, Dr. Thomas Walsh, was appointed by President Adams in 1799 as the first medical officer of the newly-created Marine Hospital Service. A physician in the Continental Army during the Revolutionary War, Dr. Walsh also had a contract with the Secretary of War for attending the sick of the troops on Castle Island in Boston Harbor.
Dr. Erich Mosettig, Chief of the Sterile Section, Laboratory of Chemistry, NIAID, left on October 11 for a two-month lecture and study trip through Japan, India, and the Near East. Part of his trip is on behalf of the Cancer Chemotherapy National Service Center, NCI, to talk with scientists working with synthetic and natural products of potential therapeutic value.

Dr. M. Katherine Cook, Laboratory of Infectious Diseases, NIAID, left early in October to spend a year in Paris teaching fluorescent antibody techniques at the Sorbonne, the Pasteur Institute, and in the virus laboratory of the St. Vincent de Paul Hospital.

Dr. Seymour S. Keyt, Chief of the Laboratory of Clinical Science, NIMH, is chairman of the new Bio-Science Advisory Committee established by the National Aeronautics and Space Administration. The committee will study current U. S. capability in research and development, aimed toward manned space flight.

Dr. Karl R. Johansson joins DRG Study Section

Dr. Karl R. Johansson joins DRG November 6 as Executive Secretary to the Virology and Rickettsiology Study Section.

Dr. Johansson replaces Dr. Harvey I. Scudder who was reassigned to the Research Grants Branch, NCI, June 15. The new Executive Secretary has been associate professor of bacteriology and immunology at the University of Minnesota since 1949, and was a graduate research assistant there from 1943 to 1945 and 1946 to 1948.

Dr. Shannon Will Speak To New York Academy

Dr. James A. Shannon, NIH Director, has been invited to speak before the New York Academy of Medicine on November 15.

Following an introduction by Dr. René Dubos, of the Rockefeller Institute for Medical Research, Dr. Shannon will speak on the historical background and significant factors in development of the government role in support of medical research. He will trace the history of American medical research from its beginnings to the modern era of expanded voluntary and Federal support.

Dr. G. Burroughs Mider, Associate Director in charge of research, NCI, will give two addresses on cancer research and control at the first Latin American Cancer Congress, Buenos Aires, Argentina, October 25-31.

Dr. David B. Scott, Chief, Laboratory of Histology and Pathology, NIDR, was honored recently by the Tokyo Dental College for his outstanding contributions to dental research. The Diploma of Honorary Lecturer, the first to be awarded to an American scientist, was presented at a special ceremony in New York City.

Dr. David Shakow, Chief of the Laboratory of Psychology, NIMH, was given an award by the Division of Clinical Psychology of the American Psychological Association at its 1959 annual meeting. The honor was bestowed on him for his many contributions to the science and profession of psychology.

Dr. Nathan B. Eddy, NIAID, who is an international authority on the subject of drug addiction and analgesics, delivered the Sixth Lister Memorial Lecture, sponsored by the Society of Chemical Industry, at the University of Edinburgh, Scotland, on October 1.

In connection with the Lister Memorial Lecture, Dr. Eddy participated in two seminars at pharmaceutical firms in Edinburgh and presented a lecture at Lourain University in Brussels, Belgium.

The subject of Dr. Eddy’s lectures encompassed the field of analgesics and drug addiction, stressing the development of phenazocine (NIH 7519), a new pain-killing drug less addicting and many times more powerful than morphone.

Dr. Nathan B. Eddy (right) talks with Dr. Everett L. May, NIAIM, after they announced the development of phenazocine (NIH 7519), a new pain-killing drug less addicting and many times more powerful than morphine.

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While he was abroad, Dr. Eddy participated as a panel member at the Tenth Session of the Expert Committee on Addiction Producing Drugs of the World Health Organization (WHO), in Geneva, Switzerland.

Dr. Silbergeld Joins DGMS

Dr. Sam Silbergeld, a senior surgeon in the Commissioned Corps of the Public Health Service, has been appointed to a staff position in the Research Grants Branch of the Division of General Medical Sciences.

Dr. Silbergeld transferred from the Division of Biologies Standards where he was staff assistant to the Director.

Dr. Jeffery Receives 1959 Ashford Prize For Malaria Work

Dr. Geoffrey M. Jeffery, NIAID, scientist at the Laboratory of Parasite Chemotherapy, received at the Ninth Session of the Expert Committee on Addiction Producing Drugs of the World Health Organization (WHO), in Geneva, Switzerland.

The newly-formed NIH Symphony Orchestra rehearses in the CC auditorium under the direction of Mark Ellsworth, concertmaster of the National Gallery Orchestra. The group needs bassoon, horn, and trumpet players and will welcome more violists, according to the orchestra chairman, Dr. Marc Lewis, NIDR. Rehearsals are held each Tuesday night from 8 to 10 p.m.

Dr. Jeffery is a scientist at the Laboratory of Parasite Chemotherapy, and received the 1959 Ashford Prize for his work in malaria chemotherapy. He was invited to speak before the New York Academy of Medicine on November 15.

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