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
(See HOLDEN, Page 2)

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.

Dr. 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

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 R. 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 By Vote of NIMH and NINDB

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.

Purpose Stated

Purpose of the Assembly, more specifically stated in its constitution, is to "serve as a general forum for communication, as a means to formulate and express opinion, and as an instrument to render advice and to take action pursuant to the general objectives of the scientists."

The constitution further notes that, "The last decade has seen the assembling of an unprecedented number of scientists in the National Institutes of Health for the purpose of conducting biomedical research for the benefit of mankind."

Constitution Adopted

Copies of the proposed constitution were distributed for consideration and vote, prior to the October 15 meeting, to the 255 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, 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.

SMADEL

(Continued from Page 1)

The Stitt Award has been made annually since 1964 by the Pfizer Laboratories for "the most outstanding contribution in the field of antibiotics."

Dr. Smadel will receive an honorarium of $500, medal, scroll, and annual life membership in the Association of Military Surgeons.

Correction

In the story on presentation of incentive awards, in the October 27 issue, the RECORD inadvertently omitted the name of Clydis A. Jones from the list of those who shared in a group award to members of the Budget Management Section, OAM. Her name was erroneously printed as Carl A. Jones. A correcting note will be printed in the November issue of the RECORD.

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

The Stitt Award has been made annually since 1964 by the Pfizer Laboratories for "the most outstanding contribution in the field of antibiotics."

Dr. Smadel will receive an honorarium of $500, medal, scroll, and annual life membership in the Association of Military Surgeons.
Science Section

This four-page section is devoted chiefly to summaries of research findings that have been reported by scientists of the National Institutes of Health. The section is prepared by the Office of Research Information, NIH, and the Information Offices of the Institutes and Divisions.

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 amoebic 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 active 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 folic 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 or pyorrhea, it is now possible to study these problems by introducing suspected microbes into the mouth of germ-free animals and determining their effects on the teeth and oral tissues.

We have now found 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 chamber in which the animals are kept, (2) long rubber gloves for access to the interior of the chamber, (3) a means of sterilizing the air supply, and (4) a sterile lock through which supplies may be passed into and out of the chamber.

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

The plastic chamber developed recently at the United States (Trexler at Notre Dame) is lightweight, relatively inexpensive, transparent, and quite suitable for short-term experiments. The chamber and its lock are sterilized by germicidal chemicals such as peracetic acid.

COMMITTEE REVIEWS STATUS OF LIVE POLIOVIRUS VACCINE

The Public Health Service Committee on Live Poliovirus Vaccines met recently to review the status of live poliovirus vaccine and to draft requirements which could serve as the basis for regulating the manufacture of such vaccine in this country.

The Committee, chaired by Dr. Roderick Murray, Director, DBS, includes Dr. David Bodian, Johns Hopkins University; Dr. William McD. Hammon, University of Pittsburgh; Dr. Alex Langmuir, Communicable Disease Center, PHS; Dr. Joseph Melnick, Baylor University; and Dr. John Paul, Yale University.

At the November 5 meeting of the Committee, reports were presented on the most recent experience with the vaccine in the U.S.S.R. and in Central and South America. In general, the field experience in all areas has been satisfactory with respect to safety, and preliminary information on protection, particularly from the U.S.S.R. studies, is promising. Since the first of the year, over ten million persons in the U.S.S.R. have received oral vaccine produced in the U.S.S.R. from Dr. Sabin’s strains.

Large-scale trials of live attenuated poliovirus vaccine in the U.S. would be unproductive because so large a proportion of the population has already been immunized with killed vaccine—the Salk vaccine, now giving good results in protecting against paralytic poliomyelitis. The main advantages visualized for a vaccine made from an attenuated polivirus are: (1) ease of administration (oral rather than injected), (2) longer lasting immunity, and (3) presumably lower costs of production.

The Committee continues to evaluate all data as they become available from field trials of the vaccine in various parts of the world, as well as information being developed in laboratory studies. A realistic consideration of the remaining technical problems that must be resolved makes difficult any prediction as to when such a product could be licensed for commercial production.
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 that serum lipoproteins might represent the vehicle by which such cancer-producing agents are ordinarily transported throughout the body.

In the Journal Cancer Research, where he reports the in vitro 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 writes. Among the cancer-producing hydrocarbons studied were a number of anthrones, 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, in soot, auto exhaust, paving materials and in the atmosphere.

Like cholesterol and most of the body's other normally occurring fatty substances, these cancer-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 reveal whether they were made soluble in the blood. Incorporation into the lipoproteins appears to be the answer, Dr. Avigan's findings suggest.

Fear Mobilizes Fatty Acids from Body Fat

A study showing that fear increases the free, unesterified fatty acids (UFA) 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 storage (in body fat deposits) to the tissues to provide energy for life processes.

"Confronted by an emergency," the investigators suggest, "an animal burns fat, whereas it is not normally done to supply energy for activities."

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 by the blood as a "unesterified" state (not bound, as in cholesterol, to other lipids in the lipoproteins). Studies conducted 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 the metabolic activities of virtually all cancer cells except myeloid leukemia.

More recently Dr. Philippe V. Cardon of the National Institute of Mental Health teamed with Dr. Gordon in a study of the effects of fear on the UFA in the blood of 15 normal volunteers. The "fear" to which the young volunteers were subjected was the unexpected (and unfilled) threat of a painful injection.

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

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

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

Two NIH Men Join 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 NIAMD's Clinical Investigation, are traveling as NIH members of a ten-man party. They left the country October 31 and will return about November 23.

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 disclosed the following findings: undeveloped convolutions (agyria) of the anterior part of the left cerebral hemisphere; absence of ganglion cells in the myenteric plexus; 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.
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 it involved several family members. Accordingly, the research plan was changed so that fathers and, in some cases, brothers and sisters were brought into the arena. One new plan of 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 psychotic patients, when they were separated from 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 wards 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 principles into the 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 was 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 mother most often assumed the adequate position in relation to a helpless, resistant, infatile patient, and the father remained outside the intense mother-patient twosome.

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 pretty 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 occurred in the functioning of the family members. In the usual family, the initial conflict was between mother and patient. When the conflict shifted 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 Dysinger, Dr. Warren Brodley and Mrs. Betty Basmanian, Dr. Bowen and Dr. Brodley, who until recently were serving in the Adult Psychiatry Branch of NIMH, are now associated with Georgetown University where they are continuing work in this area. Dr. Bowen as Clinical Associate Professor of Psychiatry and Dr. Brodley as Clinical Assistant Professor.
Chromium Essential Diet Factor in Rats

Identification of a trace element, chromium (III), 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 issue of the Archives of Biochemistry and Biophysics by Drs. Klaus Schwarz and Walter Mertz of the Laboratory of Nutrition and Endocrinology, National Institute of Arthritis and Metabolic Diseases.

Discovery of the glucose tolerance factor (GTF) as a dietary agent necessary to maintain normal glucose tolerance in the rat was made in 1965 by the two investigators when they found that animals fed semipurified sucrose diets as well as those fed commercial stock diets developed impaired glucose tolerance.

The rate of disappearance from the animal's blood stream of intravenously injected glucose was 2.8 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 levels in deficient rats by a single, stomach-tubed dose of 50, 100 micrograms per 100 grams of body weight.

GTF was found to be water-soluble, extractable with phenol and isobutanol, adsorbable on charcoal and ion exchange resins, and possessing distinctly cationic properties. Chromium in trivalent form is identified as the active ingredient.

The fact that chromium (III) is necessary for the maintenance of a normal glucose tolerance in the rat may indicate, the researchers declare, that for absorption and handling of the small amount of chromium (III) which is biologically active, specific mechanisms are necessary and provided within the organism.

Chromium in other studies has been found to catalyze the phosphoglucomutase reaction, to stimulate other enzyme systems such as the glycogen phosphorylase from rat kidney, and to influence plant growth and other biological phenomena favorably.

Although the impairment of glucose tolerance due to a GTF deficiency does not cause serious damage to the animal, Drs. Schwarz and Mertz report, the phenomenon resembles the disturbances in glucose tolerance in diabetes and other diseases. The problem of how and if various unclarified aspects of diabetes, such as etiology and the mode of action of insulin and the sulfonylureas, are related to chromium utilization is under investigation.

Nutrition Survey Team Finds Orient Natives Well Nourished

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 they showed 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 therapy alone and further 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 12 survey teams.

The sampling of the civilian population as well as the military began in Ethiopia where the ninth ICNND survey was made (Oct.-Dec. 1965). 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 Melich, 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, Toxoplasma gondii, 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. gondii parasites introduced at challenge were able to proliferate to some extent.

When live T. gondii were used in a variety of immunity seemed higher. Even when challenge was delayed to a point where antibodies produced by vaccination had diminished to levels approximating those obtained with killed vaccine, the extent of proliferation of the parasite in tissue was less with the live-agent vaccine.

Study Parasitism in Agricultural Laborers

A study of intestinal parasitism in a group of agricultural laborers in the Clewiston, Florida, area was reported 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. Henry K. Beye 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 SBB Editorial Section between May 36 and June 6.

NCC
Banfeld, W. G.; Dave, C. J.; and Brindley, D. C. Intracellular and extracellular particles in tissue cultures inoculated with parvovirus tumor agent (polyoma virus).

Boggs, D. R. The cellular composition on inflammatory exudate in human leukemias.

Condi, P. T.; Berlin, N. L.; and Nathan, D. G. Studies on the role of acid resistant RNA in the viremia of man.

Dawe, C. J.; Law, L. W.; and Dunn, T. B. Studies of parvovirus tumor agent in cultures of leukemic tissues of mice.

Law, L. W.; Dave, C. J.; Rowe, W. P.; and Hartley, J. W. Antibody status of mothers and response of their litters to parvovirus tumor agent (polyoma virus).

Lipsett, M. B. and Biber, R. Urinary ketosteroids and pregnanetriol in hirsutism.

Malar, A. S. Tissue and serum aldolase of rats with primary hepatic tumors.

Shack, J. The action of deoxycholate HCl at neutral pH and its significance to the preparation of nucleic acid.


Stewart, H. L. Experimental cancer and environmental factors in etiology of cancer.

Toxoplasma.

M. L. A survey of meat samples from swine, cattle, and sheep for the presence of Toxoplasma gondii.

Jacobs, L.; Remington, J. S.; and Melton, D. G. Studies on the folic acid vitamins.

Dolan, T. F., Jr.; McCullough, N. B.; and Friend, S. The effect of monoamine oxidase inhibitors and tryptophan on the tryptamine oxidation system of liver.

Zannoni, V. G. and La Du, B. N. The tryptophyl peptide bond in the mechanism of the action of amethopterin or erythromycin. IV. Studies on the folic acid vitamins.

Feder, C. and Fletcher, H. G. Jr. The anomerization of 2,4,6-tri-0-methyl-D-arabinopyranosiduronic acid and its significance to the D-ribofuranose series.

NIRR
Andrew, W.; Shock, N. W.; Barrows, C. H., Jr.; and Kienast, M. J. Biochemical and histological changes with age in a transplanted group of mental patients.

Garr, R. S., Jr.; Dasanayakavaja, A.; and Gordon, R. S., Jr. Glycolytic properties of reversible postmitotic units (skeletal muscle).


Eichhorn, G. L. The role of metal ions in enzyme systems.

Benyajati, C. The absence of plasma prothrombin in the preparation of nucleic acid.

Friend, S. The effect of monoamine oxidase inhibitors and tryptophan on the tryptamine oxidation system of liver.

Tryptamine in tissues.

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Feder, C. and Fletcher, H. G. Jr. The anomerization of 2,4,6-tri-0-methyl-D-arabinopyranosiduronic acid and its significance to the D-ribofuranose series.

Feder, C. and Fletcher, H. G. Jr. A 2,4,6-tri-0-methyl-D-arabinopyranosyl fluoride and a transformation from the L-arabinopyranose to the L-ribofuranose series induced by hydrogen fluoride.

Champland, L. K. and Witkop, B. Selective cleavage of C-tryptophyl peptide bonds in proteins and peptides.


Spicer, S. S. A histochemical study of recent acid nucleoside hydrolyses.

Zannoni, V. G. and La Du, B. N. The tryptophyl peptide bond in the mechanism of the action of amethopterin or erythromycin. IV. Studies on the folic acid vitamins.

Feder, C. and Fletcher, H. G. Jr. The anomerization of 2,4,6-tri-0-methyl-D-arabinopyranosiduronic acid and its significance to the D-ribofuranose series.

NIDR
Arnold, F. A. Jr. Highlights of American dentistry in the field of research.

NIH
Bell, E. J. and Stoecker, H. G. Immunologic relationships among the spotted fever group of rickettsiae as determined by toxoid neutralization tests in mice with convalescent animal serum.


Jacks, L.; Remington, J. S.; and Melton, M. L. The existence of the enzyme form of Toxoplasma gondii.

G Slutsky, H. L. Dittmann, A. T.; and Taylor, T. J. Peron, setting and change in social relationships. 1960, and full details will be available before that date. Until then, employees are advised to continue their present health benefit plans. The new program is not compulsory.

Employees will have a choice of insurance plans, and they will pay premiums through payroll deduction. Coverage may 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 pre-

NIMH
Carr, C. J. The contributions of medicinal chemistry to psychopharmacology.

Clyde, D. J. Self-ratings.

Cole, K. S.; Moore, J. V.; and Taylor, R. E. Imidazole membrane current measurements in the squid giant axon.


Hawley, A. Comments at Research Conference on Therapeutic Community.

Rush, H. L. Dittmann, A. T.; and Taylor, T. J. Peron, setting and change in social relationships.

WHERE IS IT?

This service tunnel, about 2000 feet long, runs from the 8-2 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 CC, and cages are returned to Bg. 14 for washing. At left, two members of the Transportation Service 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 Next Year

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 plans. The new program is not compulsory.

Employees will have a choice of insurance plans, and they will pay premiums through payroll deduction. Coverage may 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 prem-

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.

Speakers 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; Chaplain William R. Andrew, NIH, "Religion in Medicine," November 22; and Dr. Joseph M. Bobbitt, NIMH, "Human Relations for Everyday Living," November 29.

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.
**News Briefs**

Dr. Erich Mossettig, Chief of the Steroid Section, Laboratory of Chemistry, NIAMDD, 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 virology laboratory of the St. Vincent de Paul Hospital.

Dr. Seymour S. Kety, Chief of the Laboratory of Clinical Science, NIMH, is chairman of the newly-formed NIH Symphony Orchestra which 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 violinists, according to the orchestra chairman, Dr. Marc Lewis, NIDR. Rehearsals are held each Tuesday night from 8 to 10 p.m.

Dr. James A. Shannon, NIH Director, has been invited to speak before the New York Academy of Medicine on November 18.

Dr. G. Burroughs Milder, 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 26-31.

Dr. David B. Scott, Chief, Laboratory of Histology and Pathology, NIDR, was honored recently by 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. 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 upon him for his many contributions to the science and profession of psychology.

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

Dr. Nathan B. Eddy, NIMH, 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).

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. Shannon Will Speak To New York Academy**

Dr. Nathan B. Eddy, NIMH, has been invited to speak before the New York Academy of Medicine on November 18.

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.

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**Dr. 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 1942 to 1949 and 1946 to 1948.

**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.

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**Dr. Jeffery Receives 1959 Ashford Prize For Malaria Work**

Dr. Geoffrey M. Jeffery, NIAID scientist at the Laboratory of Parasite Chemotherapy field station, Columbia, S. C., received the Bailey K. Ashford prize October 30.

Presented at the Eighth Annual meeting of the American Society of Tropical Medicine and Hygiene, the award consists of a gold medal and $1,000 honorarium. Each year a young scientist is cited for outstanding research in tropical disease problems.

Among his contributions, Dr. Jeffery isolated Plasmodium ovale, an uncommon species of human malaria, and demonstrated the possibility of its establishment in the U. S.

Dr. Jeffery

The newly-formed NIH Symphony Orchestra rehearse 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 violinists, according to the orchestra chairman, Dr. Marc Lewis, NIDR. Rehearsals are held each Tuesday night from 8 to 10 p.m.