Alpha Radiation
In Space Travel
May Harm Brain

Clues to a radiation hazard that could affect man's brain in traveling through outer space may be provided in a new study conducted by the National Institute of Neurological Diseases and Blindness in collaboration with two other research organizations.

Investigators for the project were from the Institute's Surgical Neurology Branch; the Donner Laboratory, University of California; and the Armed Forces Institute of Pathology, Washington, D.C.

Recognized as Hazard

Alpha radiation is known to exist in outer space and presents a potential hazard in manned space flight. An important technical point in devising protective methods is precise knowledge as to how alpha radiation damages the brain.

Previous studies by other investigators have resulted in differing opinions concerning the primary site of radiation brain damage. One widely held opinion is that the primary damage is to the blood vessels of the brain.

This study, which used sensitive methods to show the early effects of alpha radiation on the brains of rats, indicates that damage primarily occurs in the cells of brain tissue itself and that blood vessel injury is secondary.

Disabling Accidents Decrease 46 Percent, Survey Reveals

NIH employees are becoming more safety conscious, according to the latest accident report issued by Plant Safety Branch, OAM.

The report, covering January through July of this year, revealed a 46 percent reduction in the rate of disabling injuries over last year. Potentially serious injuries, and no-loss-time injuries in all Institutes, Divisions, Office of the Director, and the Clinical Center are also on the decrease, the report indicated.

Commenting on the report, Dr. G. Burroughs Mider, Director of Laboratories and Clinics said, "We're beginning to make some progress in this business of accident prevention. A 46 percent reduction in the frequency of disabling injuries can result for the most part from only one factor—a greater effort by all in attempting to prevent accidents."

In the first seven months of 1961 there were 4.2 disabling injuries per million man-hours worked, compared with 7.8 disabling injuries per million man-hours worked in 1960.

NIH Team Visits
India to Discuss
Joint Research

A team of four NIH negotiators departed for New Delhi, India, August 4 to discuss proposed collaborative studies with representatives of the Indian Government.

The proposed research projects would be supported by NIH under the Special Foreign Currency Program administered by the Office of International Research.

Leader of the negotiating team is Dr. Arnold E. Schaefer, Executive Director of the Interdepartmental Committee on Nutrition for National Defense, NIAMD. He is accompanied by Dr. Charles P. Huttner of NIH, who will represent OIR in the discussions; Dr. Margaret Sloan, Special Assistant to the Director, NC; and Howard E. Kettl, Acting Assistant Executive Officer, OD.

Meet Government Official

In New Delhi, the NIH delegation was scheduled to meet with the Indian Government's representative, Prof. M. S. Thacker, Director General of the Council of Scientific and Industrial Research. Their discussions are intended to carry forward negotiations begun during a previous negotiating session held in New Delhi late last year.

Postdoctoral Stipends
Increased by $500

The Executive Committee for Extramural Affairs, Division of Research Grants, has announced a $500 increase in stipends for postdoctoral fellowships awarded on or after July 1, 1961. This decision follows a recent National Science Foundation recommendation.

The new stipend scale will be as follows: first level—$5,000; second level—$5,500; third level—$6,000.

The higher stipends are to be provided for all postdoctoral awards made from the fiscal year 1962 program funds. Awards made from funds appropriated for earlier fiscal years will not be affected and allowances for dependents, travel, and supply grants remain unchanged.
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Editor
E. K. Stabler
Associate Editor
Elizabeth D. Eberhard
Staff Correspondents
Norma Columbic, NCI; Barbara Becker, NHI; Kathryn Mains, NIAID; Lillie Bailey, NIAMD; Marie Norris, NIDR; William Gray, NIHM; Pat MacPherson, NINDS; Elsie Fahrenthold, CC; Mary Henley, DBS; Corinne Graves, DGMH; Shirley Barth, DRG; Joan Torgerson, DRB.

Brazillian Heart Society Presents Scroll to NHI

The National Heart Institute has received a testimonial of recognition from the Brazilian Society of Cardiology for its part in the support of the Sixth Inter-American Congress of Cardiology, held last August in Rio de Janeiro under auspices of the Brazilian and Inter-American Societies of Cardiology.

Dr. Paul Schlesinger, Adjunct Secretary of the Brazilian Society, presented the testimonial, a parchment scroll, to the Heart Institute by the Brazilian Society of Cardiology. —Photo by Jerry Hecht.

Dr. Watt displays parchment scroll presented to the Heart Institute by the Brazilian Society of Cardiology. —Photo by Jerry Hecht.

Dr. James Watt, Director of the National Heart Institute, displays the parchment scroll presented to him by the Brazilian Society of Cardiology. —Photo by Jerry Hecht.

NIH TEAM

(Continued from Page 1)

Under consideration are a number of collaborative projects proposed by NIH to be undertaken at research institutions in India by Indian investigators. Special program funds presently earmarked for the Indian studies amount, in the aggregate, to some $1.8 million.

The funds used to support this international research program are U.S. dollars, with foreign currencies resulting from the sale of surplus U.S. agricultural commodities under Public Law 480.

The overall appropriation for NIH's foreign currency program in 1961 totals $5.7 million. This program represents a direct extension of NIH intramural research programs and reflects the research interests of the several Institutes and Divisions of NIH.

Total Support Provided

The special foreign currency funds, as appropriated, are intended to cover the total support of a project over a three- to five-year period, if necessary. In operation, the program, therefore, provides funds for completion of the project.

During the past year a number of similar negotiating trips have been made to countries in Europe, the Middle East, and Asia. Among these were missions to Poland, Yugoslavia, Israel, Egypt, Pakistan, and Indonesia.

Future missions, now in the planning stage, will visit Poland and Brazil. Members of these delegations have not yet been announced.

NIAID Scientists Attend Conference in Hawaii

Four NIAID scientists will be among representatives of more than 30 nations participating in the Tenth Pacific Science Congress to be held at Honolulu, Hawaii, August 21-September 6.

Dr. G. Robert Costney, Chief of the Laboratory of Parasite Chemotherapy; Dr. Leon Rosen, of the Laboratory of Infectious Diseases; and Dr. John E. Tobie, of the Laboratory of Immunology, will present papers to the Congress.

Dr. Dorland J. Davis, Associate Director in charge of Research, will consult with officials of the Hawaii State Department of Health and the University of Hawaii, in addition to attending the Congress. Sessions at which papers will be presented or symposia conducted will be supplemented by plenary sessions, live field trips, public lectures, evening panel discussions, and visits to marine research ships.

The program will be divided into nine sections reflecting broad scientific interests, including geophysical sciences, biological sciences, public health and medical sciences, agricultural sciences, forestry, conservation, anthropology and social sciences, geology, and scientific information.

SPACE TRAVEL

(Concluded from Page 1)

Alpha particles from a 60-inch cyclotron at the University of California were used to irradiate the brains of the experimental rats specifically, the rear portion of the hippocampus and cerebellum. Disturbances in the permeability of the blood vessels in the brain were observed 48 hours after irradiation.

However, the investigators detected disturbances in the cells of the brain tissue considerably earlier. These disturbances consisted of sugar (glucone) granules within the cells, which were detected within 12 hours after the animals were exposed.

A new technique involving the "labeling" of protein molecules with a fluorescing material (fluorescein) makes it possible to detect microscopically the penetration of proteins through the walls of the blood vessels into surrounding tissues. Fluorescein-labeled albumin was detectable in the tissue of irradiated brains for some 36 days after exposure.

Using histochemical techniques, investigators found that glucose cogen granules were predominantiy in the glial cells—highly specialized nervous tissue cells. Thus the investigators suggest that radiation may disrupt the protein bonds of glycogen, resulting in its liberation through the blood vessels and subsequent uptake by the glial cells.

Results of the study were presented at the recent Symposium on Effects of Ionizing Radiation on the Nervous System, sponsored by the International Atomic Energy Agency and held at the 37th Annual Meeting of the American Association of Neuropathologists in Atlantic City.

Dr. L. L. Ashburn Retires; Served 31 Years in PHS

Dr. Llewellyn L. Ashburn, Chief of the Laboratory of Pathology and Histotechnology of the National Institute of Arthritis and Metabolic Diseases, retired July 1 after 31 years of active service with the PHS Commissioned Officers Corps.

Dr. Ashburn became a member of the Public Health Service in 1930, shortly after receiving his M.D. degree from the Medical College of Virginia. He served his internship at the Public Health Service Hospital in Norfolk, Va., and was active in clinical medicine at other PHS hospitals prior to his appointment to NIH in 1938.

Since then, with the exception of a four-year assignment with the PHS Hospital in Baltimore (1949 to 1953), he has been engaged in experimental pathology at NIAMD and NIAID.

Primary Interests Cited

His primary research interests have been the fields of nutrition, toxicology, and parasitic infections. He has been particularly interested in the role of vitamin, choline, and methionine deficiencies on human and animal tissue, with emphasis on nutritional cirrhosis of the rat.

Dr. Ashburn's knowledge, judgment, and broad experience in experimental and human pathology have been a source of help and inspiration to many investigators at NIH and elsewhere. His guidance was particularly helpful to investigators concerned with lesions occurring in monkeys used in connection with the polio vaccine safety test.

In spite of his favorite expression, "The right to complain is something I guard jealously," Dr. Ashburn was quick to give credit and commendation. His competence, frankness, and friendliness earned him the esteem and respect of his colleagues and associates.

Dr. Ashburn said he plans to continue, on a limited basis, his work as a consultant in pathology to several research organizations.
Lyman Is Named Dental Institute Asst. Director

Appointment of Dr. F. Earle Lyman, Chief of the Extramural Programs Branch, National Institute of Dental Research, to the newly created position of Assistant Director of the Institute was announced this week by Dr. Francis A. Arnold, Jr., NIDR Director.

Dr. Robert C. Likins of the Institute's Laboratory of Biochemistry has been named to succeed Dr. Lyman as Chief of the Extramural Programs Branch.

"Creation of the position of Assistant Director reflects the steadily increasing staff work as a result of our expansion in both the intramural and extramural programs," Dr. Arnold said. "As a key staff member, Dr. Lyman will assist in the formulation, interpretation and coordination of policies and operations of the Dental Institute."

Dr. Lyman has guided the Extramural Programs Branch since July 1956. He joined NIH in 1955 as Executive Secretary of the Morphology and Genetics Study Section, and the Parasitology and Tropical Medicine Study Section.

A native of Saginaw, Mich., Dr. Lyman received his Ph.D. degree in 1940 from the University of Michigan. From 1939 to 1941, he was Assistant Professor of Zoology, Grand Rapids Junior College, followed by two years as Aquatic Biologist with the Tennessee Valley Authority.

Commissioned in the PHS in 1943, he served for nine years as Assistant Chief of the Entomology Branch, Communicable Disease Center. From 1952 to 1955 he was Associate Professor of Zoology, Southern Illinois University.

Prior to his affiliation with NIDR, Dr. Lyman made significant contributions as a research worker in the fields of limnology and ento-mology. He has published more than 35 articles.

Dr. Lyman is one of the original members of the Dental Institute. He came to NIH in 1946 as an investigator with the then Dental Research Section, Division of Physiology, Experimental Biology and Medicine Institute. Dental personnel of that unit were reassigned to the Dental Institute at the time of its establishment in 1948.

Dr. Likins has conducted research on basic problems related to mineralization of teeth and bones. He is considered an authority on fluoride metabolism and has worked on many aspects of this problem, including urinary excretion, metabolic fate of various fluoride compounds, and the effect of fluoride on skeletal growth and calcification. He is presently working on problems related to the crystal chemistry of bone mineral.

Dr. Likins was born in Springfield, Mo., and received the degree of D.D.S. from Kansas City Uni-

Dr. Arnold Completes Three-Week Tour of Soviet Institutions

Dr. Francis A. Arnold, Jr., Director of the National Institute of Dental Research, returned recently from Russia where, as a member of an 8-man dental mission he spent three weeks touring dental and research institutions.

The group returned an earlier visit to the United States by a Russian dental mission. The exchange was sponsored and arranged by the American Dental Association with the Ministry of Health, U.S.S.R.

"At the present time," Dr. Arnold said, "dental research is not as advanced in the U.S.S.R. as it is in this country. Dentistry as a profession is much younger than it is in the United States."

"However, it should be recognized," he said, "that under Russia's 7-year plan the decision has been made to increase the scope of dental services as an integral part of health services."

Members Named

The group, headed by Dr. Charles H. Patton, President of the ADA included Dr. John W. Knutson, Assistant Surgeon General and Chief Dental Officer of the PHS; Dr. Harold Hildebrand, Executive Secretary, ADA; Dr. John R. Abel, President-elect; ADA; Dr. Thomas J. Hall, Professor Emeritus, Western Reserve University; Dr. Arthur P. Schopper of Kansas City, Mo.; and Dr. Gerald D. Timmons, Dean of the School of Dentistry, Temple University, Philadelphia.

The personnel was augmented by the Russians, included research, educational, and public health institutions in Moscow, Leningrad, Kiev, Tbilisi (Tiflis), and Sochi.

Dr. Arnold also attended two large dental meetings while abroad. He read papers on dental research in the United States at the 8th Annual Congress of the European Organization for Research on Fluorine (ORCA) in London, and before the 49th Annual Session of the Federation Dentaire Internationale in Helsinki, Finland.

Soviet Childbirth Film Available from NINDB

The NINDB Information Office recently obtained a Russian-language motion picture, entitled Without Pain, which tells the story of a woman's experiences in the Soviet childbirth program.

The film portrays the expectant mother attending lectures on the physiology of pregnancy and the mechanics of labor and delivery; the tasks of pain relief and distraction herself during labor, and finally giving birth without benefit of pain-killing drugs or anesthetics.

A print of the film with an English translation can be borrowed from the NINDB Information Office.

Dr. Laquerre Appointed Head of NIAMD Lab

Dr. Gert Laquerre was appointed Chief of NIAMD's newly designated Laboratory of Experimental Pathology, formerly the Laboratory of Experimental Histology, following the retirement of Dr. Llewellyn L. Ashburn last month.

At the same time Dr. Frederick Standish, Jr., was appointed Chief of the Section on Hematology, succeeding Dr. George Brecher who will devote full time to the Hematology Service in the Clinical Center.

The redesignation of the Laboratory of Experimental Pathology reflects the Labor's increased scope of research function within its five sections—Anatomical Pathology, Histochecmistry, Hematology, Biophysical Histology, and Rheumatic Diseases.

Dr. Laquerre joined the NIAMD staff in July 1956. From May 1954 to May 1957 he worked as Chief of Pathology of the Atomic Bomb Casualty Commission in Hiroshima, where he conducted follow-up studies of the survivors of the atomic bomb explosion.
A workman on top of the hyperbolic paraboloid shell that crowns the National Library of Medicine Building sprays Gunite concrete onto the steel reinforcing between ribs of the shell.—Photo by Sam Silverman.

Schedule Is Announced For Council Meetings

The schedule of winter meetings of the National Advisory Councils has been announced by the Division of the Advisory Councils.

All meetings will be held in Stone House (Bldg. 16), except one session of the Advisory Health Council, to be held at DHEW, as indicated. All meetings begin at 9:00 a.m. except for the Cancer Council, scheduled for 9 a.m.

The schedule includes:

- Health Research Facilities and Development Committee, Mon.-Wed., Nov. 18-20; Cancer Council, 9 a.m., Mon.-Wed., Nov. 20-22; Health Council, Mon., Nov. 30, HEW Building, Tues.-Wed., Nov. 30-Dec. 2, Stone House; Allergy and Infectious Diseases, and Neurological Diseases and Blindness Councils, Mon.-Wed., Nov. 27-29; Mental Health Council, Thurs.-Sat., Nov. 30-Dec. 2; and Arthritis and Metabolic Diseases Council, Fri.-Sun., Dec. 1-3.

Advisory BSS

The Federal Hospital Council, which serves in an advisory capacity to the Bureau of State Services, has scheduled its meeting to meet Wed. Nov. 29, at 9:30 a.m. in the HEW Building.

The National Advisory Councils, composed of distinguished leaders in science and public affairs, serve in an advisory capacity to the seven Institutes and DMS, reviewing and making recommendations to the Surgeon General of the Public Health Service. The reports are then submitted to NIH.

In addition, they have the responsibility of considering policy and over-all objectives of the respective Institutes at their three yearly meetings.

Members are appointed by the Surgeon General for 4-year terms.

3 Appointments Made To Training Committees

Three new appointments to NIH Training Committees were announced recently by the Division of General Medical Sciences.

Dr. D. Bernard Amos, principal cancer research scientist at the Roswell Park Memorial Institute, Buffalo, N.Y., was named to the Cancer Committee; Dr. Sarah A. Luso, Associate Professor of Anatomy and Pathology, Washington University School of Medicine, St. Louis, Mo., to the Information Officer, Center for Aging Research, National Institutes of Health, Bethesda 14, Md.; and Dr. William L. Straus, Jr., Professor of Anatomy and Physical Anthropology, Johns Hopkins University School of Medicine, to the Library Training Committee.
Variety of Unusual Animals Aid in NIH Laboratory Research

Alligator, Frogs, Necturi Among Those Used in Red Cell, Heart, and Kidney Studies

By Carole Spearin
Summer Information Trainee

Ever wonder how to dissect a mosquito? Or take a blood sample from an alligator's tail? These are but two problems now confronting NIH researchers as they work with a host of unusual animals in the never-ending war against disease.

Investigators first used large numbers of unusual animals during World War II when the customary mice and guinea pigs were not available in sufficient quantity. Also, certain animals such as clams and toads have relatively simple organs that react in particular ways like human organs.

Clams Donate Hearts

Venus clams, for example, have been donating their hearts to NIH research for two years. Obtained locally and from the Woods Hole Oceanographic Institute on Cape Cod, the clams measure about 3½ inches across. They are slightly larger than the ordinary cherry stone clam and are used commercially in chowder.

Dr. Richard Irwin of the Neuropharmacology Laboratory, National Institute of Neurological Diseases and Blindness, reports no particular problems connected with keeping the clams-wet or dry.

"We don't even need a sea water solution," he said, "We just let them close up and keep enough fluid in their shells. Then we put them in our refrigerator."

The clams' hearts are being used in research to measure the amount of acetylcholine—a chemical thought to be released at certain nerve endings. Alligators are useful in this work, since they not only vary their metabolic rate according to changes in surrounding temperature but are large enough to withstand repeated blood samples.

Dr. Cline reports no outstanding problems in keeping alligators. "Well, one once bit a keeper at the Washington zoo."

One difficulty, however, is capturing Calvin and tying his jaws long enough to sample the blood from either his heart or tail after injection of radioactive isotopes.

Calvin will soon return to the Washington Zoo, and Dr. Cline reports that it's just as well. "Calvin has never been the same since he was separated from his mate which went back to the zoo. He's depressed. He used to come to the surface and eat, but now he just sits there."

Mud Puppies Eat Little

NIH doctors are using other unusual animals in kidney and bladder research. Dr. Herbert Lubowitz of the Laboratory of Kidney and Electrolyte Metabolism, NHI, is maintaining a colony of 50 Necturi maculosi, otherwise known as mud puppies.

These are salamander-like amphibians about eight inches long, tail included. Kept in online solution at five degrees C, the Necturi have an extremely slowed metabolic rate and require little food during their stay at NIH, even when tempted with delicacies like flies, bugs, and shrimp.

"In fact, as far as we can tell," says Dr. Lubowitz, "they don't eat anything. They may even be a bit cannibalistic. Every once in a while we find one with a bite out of his tail."

NIAID scientists maintain a large colony of this snail, Australorbis glabratuz, one of the hosts for the blood fluke causing schistosomiasis. —Photo by Vernon Taylor.

Necturi are valuable in kidney research for several reasons. Their kidneys are relatively simple, with large, conveniently arranged tubules and a capsule (kidney covering) thin enough to allow easy insertion of micropipettes for injecting or withdrawing fluid and chemicals.

During the past year NIH kidney research has also used toads from a pet farm in Florida. The toads are kept in cages in straw-like matter.

Since this toad's bladder functions like a certain portion of the human kidney, Drs. Joseph Handler and Jack Orloff, Leukemia, NHI, are using it to study the action of hormones causing urine concentration.

Doctors are also using several... (See ANIMALS, Page 7)
Mosquito Proven Malaria Carrier in Monkeys

A mosquito that transmits malaria to monkeys in nature has been identified and reported for the first time by Dr. R. R. Wharton of the Institute for Medical Research, Kuala Lumpur, Federation of Malaya, and Dr. Don E. Eyles of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases.

Their report, appearing in the July 28 issue of Science, marks the discovery of a new vector for the transmission of monkey malaria. Whether this species, A. hockeri, also transfers simian malaria to man remains to be proven.

**Under Investigation**

The problem of transmission of this malaria in nature is under intensive investigation. It is a follow-up to the discovery last year by Dr. Eyles and his colleagues that monkey malaria is transmissible to man. (The mosquito involved in that work was A. freeborni, a species distinct from the one in Malayan studies.) This fact has disproved the long-held concept of malaria investigators that types of malaria infecting lower animals cannot be inoculated successfully into man by the bite of an infected mosquito.

Until comparatively recently, the A. hockeri mosquito was regarded as a rather rare species breeding in split bamboo in inland forest. It is now known, however, to be quite common on the Selangor Coast of Malaya.

**Mosquito Trap Set**

Mosquitoes were caught in an open net with bats, working with monkeys, on a platform 20 feet above ground level. Over a period of 34 nights, 20 A. hockeri, including 17 which contained blood, were captured. Four without blood were taken in a similar trap on the ground. Tests with blood from freshly fed mosquitoes confirmed that A. hockeri was feeding upon monkeys.

In a search for the parasite which causes malaria, over 700 mosquitoes were dissected to find one sporozoite infection—the phase of the developmental cycle when the parasite becomes infective for its vertebrate host.

An infected Indian rhesus monkey was inoculated intravenously with the sporozoites. Six days later small ring forms were seen smirrily in the blood. This infection built up so rapidly that the monkey died three days later. The parasites which caused the malarias were identified as Plasmodium vivax, a common form of simian malaria.

The infection has been transferred to another monkey, and infected blood from this animal has been shipped to the United States for further study.

**Called Important Link**

The demonstration that A. hockeri is a natural vector of one of the many species of simian malaria is an important link in the chain that may eventually explain the transmission of simian malaria.

**Presence of Serum Protein Antibody Gives Clue to Transfusion Reaction**

During the past few years the role of genetic blood characterization has developed in medicolegal investigations due to the finding that people can be classified into sharply distinct groups according to differences in their serum proteins. Many of these serum protein variations are genetically determined and can be detected by starch gel electrophoresis and other techniques.

These developments prompted the National Institute of Arthritis and Metabolic Diseases to investigate the possibility that sera of people who had received multiple blood transfusions might contain antibodies which would react with particular serum proteins, present in some individuals but not in others. Such a reaction may have been shown in rabbits and monkeys by previous investigators.

**Precipitin Found**

The NIAMD scientists first found a precipitin (an antibody which acts on its antigen to produce a precipitate) in the serum of a patient who had recently received approximately 20 transfusions with such reactions as fever, headache and muscle pain for no known reasons.

There was no evidence of red cell incompatibility with donor bloods; rather the patient's serum gave a well defined precipitin reaction (E, acted as an antibody) with an alpha-two macroglobulin, a protein present in the serum of some normal individuals but not in the serum of others. The investigation subsequently found an antiserum-antibody as the first subject.

The infection has been transferred to another monkey, and infected blood from this animal has been shipped to the United States for further study.

**New NIH Publication Reports Latest Findings on Parkinson's Disease**

More than 25,000, possibly as many as 45,000, new cases of Parkinson's disease are now occurring each year in the U.S., according to a pamphlet just issued by the National Institute of Neurological Diseases and Blindness. The total number of victims at the beginning of 2000, the publication states. Furthermore, since the incidence of the disease increases sharply when people pass the age of 50 and since the number of older people in this country is steadily increasing, both new cases and total number of Parkinson's disease patients is likely to increase unless a preventive can be found.

Once known as "shaking palsy," Parkinson's disease is accompanied by muscle rigidity and uncontrollable shaking or trembling of one or more parts of the body.

**Cause Unknown**

The cause of the disease, which rarely kills but often severely cripples its victims, is not known. Scientists have noted, however, that some forms of the disease definitely increase after epidemics of encephalitis or influenza, both of which are caused by viruses.

The pamphlet notes that "no one perfect medicine has yet been discovered for the disorder" and that surgery is effective treatment only in highly selected cases. However, the vigor and scope of research being conducted or supported by the Public Health Service and by other scientific organizations promises constant improvement in treatment methods.

Written primarily to inform and reassure the victims of Parkinson's disease and their families, the pamphlet describes three typical cases.

**Skilled Care Needed**

Emphasis is given to the role of the family physician and assistance by skilled, physical, occupational, and recreational therapists. Under their care the symptoms of the disease often can be reduced and the patient helped to retain a more normal existence.

**Parkinson's Disease — Hope Through Research is listed as Public Health Service Publication No. 811 and Health Information Series No. 100.**

Single copies may be obtained without charge from the NIH Information Office or the Public Health Service. Orders under 100 are 15 cents a copy from the Superintendent of Documents, Government Printing Office, Washington, D. C. There is a 25 percent discount on orders of 100 or more going to one address.
ANIMALS

(Continued from Page 6)

mosquitoes in
using Aedes aegypti in studies of malaria transfer in lower animals, especially mice and chickens.

Kept in screened cages, the mosquitoes are maintained on a diet of sugar water, but when they are fed, keep at least one blood meal from rabbits, mice, or chicks if they are to lay viable eggs. Temperature and humidity in mosquito labs must be kept constant and equipment scrupulously clean. And the eggs are hatched in distilled water.

Mosquitoes Get Sick

In fact, Dr. Cooney reports “problems—nothing but problems” in raising his mosquitoes. “In nature they grow without any trouble but when we try to raise them, things are different. Did you know that mosquitoes get sick just like people?”

Another animal used in parasitic disease research is the reddish-brown snail Austroptilus gratelaturn, one of the hosts for the blood fluke causing schistosomiasis, a disease found in over 100 million people throughout the tropics and subtropics. Begun more than 15 years ago, the NIH snail colony, which now includes numerous species known to transmit schistosomiasis, has grown to many thousands.

The raising of snails presents several problems, such as preventing overcrowding in jars and aquariums, controlling pests, and maintaining constant water quality.

Snails Prefer Cakes

As Dr. Louis Olivier, Laboratory of Parasitic Diseases, NIAID, says, “We’re lucky here because tap water is all right provided we get the chlorine out by letting the water sit for a day.”

Feeding was rather a problem until the Laboratory developed its own food cakes, a pulped and dried mixture of wheat germ, powdered milk and leaves, to stimulate small appetites. The snails now prefer the cakes to Roman lettuce.

The snails have been “trained” to lay their eggs on pieces from plastic freezer bags spread on the water surface. These plastic pieces can be manipulated easily without damage to the eggs.

Dr. Olivier, whose previous experiments in conjunction with Dr. William Haskins showed that low concentrations of sodium pentachlorophenate or other compounds diminished the snails’ fertility, is now investigating the effects of this and other chemicals on the eggs themselves.

NHI Scientists to Conduct Research

At Pakistan-SEATO Cholera Lab

Dr. Robert S. Gordon, Jr., and Dr. O. Ross Mcintyre, of the National Heart Institute’s Geographic Pathology Section, will leave in September for two years’ research and clinical work at the Pakistan-SEATO Cholera Research Laboratory in Dacca, E. Pakistan.

Dr. Gordon will head the Clinical Research Section and will be in charge of organizing a new ward and treatment center. Dr. Mcintyre’s first patients will be admitted. He will investigate the possible role of nutritional deficiency in susceptibility to cholera and will also collect data on whether recovery from clinical cholera produces lasting immunity.

To Conduct Studies

Dr. Mcintyre, a newly commissioned Public Health Service officer, will assist in the clinical and research work. He will conduct a number of studies including an investigation of the role of nutritional deficiency and anemia in susceptibility to cholera.

Recent studies have led some investigators to suspect that the result of infection with the cholera-producing organism is a breakdown of the normal mechanism by which the bowel transports ions (electrically charged atoms) through the bloodstream into the intestine. Replacing protein is therefore not a necessary part of treatment for these patients.

Dr. Mcintyre completed his undergraduate work at Dartmouth and received his M.D. degree from Harvard Medical School in 1967. He interned at the University of Pennsylvania and completed his residency at Dartmouth Medical School this year.

The Research Laboratory, housed in a three-story wing of the Dacca General Hospital, was converted by the Pakistani Government and equipped with SEATO funds.

NHI Biochemist Accepts Mass. Hospital Position

Dr. Barbara E. Wright, a biochemist in the Laboratory of Cellular Physiology and Metabolism, NIH, will leave NIH at the end of August to accept a position in the Huntington Laboratories of the Massachusetts General Hospital in Boston.

Dr. Wright joined the staff of the Heart Institute in 1957, engaged in another aspect of schistosomiasis research. She is investigating the possible role of nutritional deficiency and anemia in susceptibility to cholera. In her new position she will continue her studies of the mechanisms underlying biochemical differentiation.

Cancer Conference Proceedings Published

Proceedings of the Fourth National Cancer Conference, sponsored jointly by the National Cancer Institute and the American Cancer Society and held September 15-16, 1961, at the University of Minnesota, have been published by J. B. Lippincott Co., Philadelphia.

The 774-page volume contains lectures and panel discussions of the causation, development, spread, and treatment of cancer and control of the disease. Contributions from almost 130 scientists summarize recent advances in knowledge of cancer through laboratory research and clinical studies.

NCl scientists who participated in the conference were Dr. Kenneth M. Endicott, Dr. Michael B. Shimkin, Dr. Howard B. Andervont, Dr. W. E. Hartley, Dr. Sidney J. Cutler, Fred Ederer, Dr. Sarah E. Stewart, Marjane Irwin, and Dr. Eugene J. Van Scott. Dr. Lewis C. Robbins, Chief of the Cancer Control Program, Bureau of State Services, also contributed to one of the panel sessions.
Dr. Chaudhury Reveals New Method for Assay Of ADH in Body Fluids

In a National Heart Institute Lecture on July 21, Dr. Ranjit R. Chaudhury of New Delhi, India, described to NHI staff members an improved method for the assay of antidiuretic hormone in body fluids.

An Assistant Professor of Pharmacology at the All India Institute of Medical Sciences, New Delhi, Dr. Chaudhury is presently conducting research at the Drug Laboratories of the Government of Canada in Ottawa.

Research on antidiuretic hormone has been hindered by the lack of technique for accurate measurement of this substance in body fluids. The available methods, usually intricate, laborious, and time consuming, yielded only rough approximations even when skillfully applied.

Results More Accurate

The technique described by Dr. Chaudhury combines some of the desirable features of several earlier techniques. It is not simple either, but rewards the user with more accurate results.

Antidiuretic hormone regulates one of the most important kidney mechanisms for adjusting fluid output to fluid intake: the urine concentrating mechanism. A deficiency of this pituitary hormone, and the resulting failure of the concentrating mechanism, leads to the enormous urinary water losses and the resultant dehydration characteristic of diabetes insipidus.

Antidiuretic hormone is measured in body fluid samples by biosay techniques. This involves administering a given volume of the sample to be analyzed in a test animal and then measuring its effects on body weight or concentration of substances known to influence ADH, the hormone that regulates water metabolism.

NINDS Information Office Moves to Robin Building

Due to construction in Building 8, the NINDS Information Office is now located in the Robin Building, Silver Spring.

Mail should be addressed to NINDS Information Office, Rm. 4B21, Robin Bldg., NIH, Bethesda, Md. The telephone extension is 8426.

Dr. T. L. Perrin Joins Creighton Medical Staff

Dr. Theodore L. Perrin, former Chief of the Department of Pathology at NIH, has been appointed Chairman of the Department of Pathology of the Creighton University School of Medicine, Omaha, Neb., according to a recent announcement.

Dr. Perrin, who has conducted research primarily in the field of infectious diseases, will also serve as a consultant in pathology to the Division of Hospitals of the Bureau of Medical Services, PHS.

A PHS commissioned officer for 26 years, Dr. Perrin retired with the rank of Medical Director last June. He joined the NIH staff in 1937 and remained until 1947, with two years out for wartime service with the Coast Guard.

NINDS Study Suggests Coenzyme DPN Governs Metabolism of Oxygen

Factors which may govern the channelling of metabolic activity via either of two parallel chemical pathways in the brain have been identified by National Institute of Neurological Diseases and Blindness scientists.

The availability of a specific coenzyme appears to influence the probable reciprocal relationship between two metabolic routes, by way of several coenzyme A, and a “shunt” pathway, via gamma-aminobutyric acid.

Previous studies by these investigators have shown that divergence of the latter pathway is intimately associated with the development of epileptic seizures.

In conducting the study, a specific phase of cerebral oxidative metabolism was investigated in subcellular bodies, known as the mitochondria, in the cat brain. Findings were reported by Dr. T. L. Perrin, Chief of the Department of Pathology, NINDS.

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