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NIAID Scientist In Tahiti Studies Mystery Disease

A mystery disease which has occurred in a large-scale outbreak on the island of Tahiti is being studied there by Dr. Leon Rosen of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, and his associates, Jacques Laigret and Serge Bories of Tahiti.

One of the unanswered questions confronting them is whether this disease, clinically described as eosinophilic meningitis, is caused by the same agent—a nematode or parasitic worm—which Dr. Rosen recovered for the first time from the brain of a patient with a similar type of meningitis who died recently in a Hawaiian hospital.

An autopsy performed on the Hawaiian patient disclosed young adult nematodes in both the brain tissue itself and the meninges, the membranes that envelop the brain and spinal cord.

Cerebrospinal fluid obtained prior

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Exchange Mission to Moscow Reports on Soviet Research

Soviet medical science has a "terrific sense of competition" with the rest of the world and is quick to convert its early research successes to practical application.

This is the opinion of three National Institute of Allergy and Infectious Diseases scientists who recently returned from Russia as members of the 1961 Infectious Diseases and Microbiological Exchange Mission.

The scientists—Dr. Robert J. Huebner, Chief of the Laboratory of Infectious Diseases; his associate, Dr. Robert M. Chanock; and Dr. Alexis Shelokov, Chief of the Laboratory of Tropical Virology—reported their impressions of Soviet research to their NIH colleagues at a special seminar held in Wilson Hall, August 10.

Goals Established

They found that medical research in the Soviet Union is carefully and methodically planned.

Russian national research goals are established by the Academy of Medical Sciences in Moscow. Within this framework, however, the average scientist feels he has sufficient freedom to pursue his studies, guided by the goals set by senior scientists of the Academy.

According to Dr. Huebner, Soviet scientists wonder how the United States achieves its medical successes without similar planning, although they recognize the leadership of the U.S. in fields such as virology, in which their own programs are only about five years old.

Dr. Huebner said that the Soviets continue to depend on other nations for data stemming from basic research in the biological sciences.

Vaccine Program Stimulated

Dr. Shelokov said that the 1956 visit to the U.S. by Soviet virologists undoubtedly stimulated the present aggressive program of polio immunization, utilizing an oral vaccine produced in Russia from "seed" virus supplied by Dr. Albert Sabin of the University of Cincinnati. A billion doses of this live-virus vaccine are now being prepared, some of which the Russians will offer to other countries.

With their strong interest in preventive medicine, the Russians are vigorously pursuing vaccine development programs, Dr. Chanock said. They have given extensive trial to a live-virus influenza vac-

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PHS Authorizes Polio Vaccine For Oral Use

Surgeon General Terry announced August 17 that a license for the manufacture of live, oral Type I polio vaccine has been granted to the pharmaceutical firm of Pfizer, Ltd., of Sandwich, England.

The licensing followed completion of final tests by the Division of Biologics Standards to determine that each of five lots submitted in support of application for license met prescribed standards.

Salk Use Cited

In making the announcement Dr. Terry said, "I want to emphasize that an oral vaccine providing protection against all three types of poliomyelitis will not be available for some time. The vaccine being licensed today produces immunity only against Type I polio. Therefore, it is of the highest importance that vaccinations continue with the Salk vaccine which is the only weapon we have today to provide protection against all three types of polio."

The vaccine developed from the Type I strain will be marketed in the United States by Charles Pfizer, Inc., of New York. About a million doses are being purchased by the Public Health Service and will be held in reserve by the Service's Communicable Disease Center in Atlanta, Ga., for distribution at the first indication of an epidemic of Type I polioymelitis in any community in the United States.

President Requests Funds

The funds for purchase of the vaccine were made available by Congress in line with a request made last spring by the President.

Dr. Terry said he expected that Type II oral vaccine would be licensed in the near future, but that it would be several months at least before licensing of Type III.

Because of the unavailability of Types II and III at the present, the Public Health Service recommends the continued use of the Salk vaccine, which offers protection against

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NIH Biologist to Teach in Peace Corps

Judith Lynn McKay, a 23-year-old biologist in the National Institute of Arthritis and Metabolic Diseases, has been accepted for training in the Peace Corps as an instructor in Nigeria.

Miss McKay, the first volunteer accepted from the U. S. Public Health Service, will begin training September 17 for a teaching and research post at Nigeria University.

She is eagerly looking forward to her new assignment in Africa although she admits to a few qualms on the part of her family. However, she says that "It's another culture, another environment, and I think that teaching there will be fun."

Miss McKay is the daughter of a Veterans Administration physician in Fayetteville, N. C.

A Phi Beta Kappa member, she received a B.S. degree in Zoology from Duke University in 1960. She joined the NIAMD staff last September as a research assistant in the Hematology Section, Laboratory of Experimental Pathology.

Judith McKay winds up her duties as a research assistant in the Laboratory of Experimental Pathology, NIAMD, before beginning training September 17 for her post as an instructor at Nigeria University as a member of the Peace Corps.

CC Patients Will Hear Marine Band August 31

The U.S. Marine Band, conducted by Capt. Dale Harpham, will present the third and last in a series of outdoor concerts here on Thursday, August 31, at 7:30 p.m.

Planned for CC patients, NIH employees, and their families and friends, the concert will be held on the first floor terrace of the Clinical Center, just east of the auditorium. In case of rain, the concert will be presented in the auditorium.

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Editor.....E. K. Stabler

Associate Editor.....Elizabeth D. Eberhard

Staff Correspondents

Norma Golumbic, NCI; Barbara Becker, NHI; Kathryn Mains, NIAID; Mary Henley, NIAMD; Marie Norris, NIDR; William Gray, NIMH; Pat MacPherson, NINDB; Elsie Fahrenthold, CC; Marie Farrell, DBS; Corinne Graves, DGMS; Shirley Barth, DRG; Jean Torgerson, DRS.

'PERSONNEL' TO PERSON

PROCEDURES for the "open season" on Health Benefit Plans were explained by John J. Murray and Alfred A. Freuchtel, Field Representatives of the Civil Service Commission, at a recent meeting of NIH registration assistants.

Open season—October 1 through 16—is the period designated by CSC for making changes in enrollment. It coincides with the expiration date of existing CSC contracts with carriers.

Effective Nov. 12

The provisions of the new contracts will become effective November 12.

With the exception of the high-option Group Health Association plan, there will be no increase in cost for added benefits.

A recent survey conducted by the CSC indicates that the majority of government employees are satisfied with their present health plans. However, for employees desiring to make a change, the CSC representatives said that the open season is the time to do so, since no interruption in coverage will result.

Information Available

Before the open season, all eligible employees will receive packets of information on the available Service, Indemnity, and Group Health plans. Each packet will contain a descriptive brochure and an explanatory booklet on changes and increased benefits.

Brochures on other plans such as the AFGE plan, will be available upon request through the Personnel Operations Officers.

The CSC representatives emphasized the importance of carefully examining all of the brochures and the new benefits available under each plan. They pointed out that employees who are satisfied with their present plans will continue to be covered automatically without further action.

Trained registration assistants will be located in all of the Institutes and Divisions to advise and help employees.

POLIO VACCINE

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all three types of polio. When these types are available, the PHS will aid in the promotion of their use.

Experience with the Salk vaccine in this country since its introduction in 1955 has demonstrated that it is highly effective in preventing poliomyelitis. Thus far in 1961, the occurrence of the disease in the United States has been at a record low level. Preliminary figures for the first six months of this year show an incidence rate lower than any reported for a comparable period in any previous year since 1912.

Dr. Young Gives Paper At Prague Conference

Dr. Martin D. Young, Assistant Chief of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases, presented a paper on some unusual malaria parasites found in the blood during the First International Conference on Protozoology in Prague, Czechoslovakia, August 22-30.

Dr. Young attended the conference at the invitation of the World Health Organization.

Following the Prague meeting, he will visit the Institute of Microbiology, Parasitology and Epidemiology in Bucharest, Rumania, to investigate the relative importance of acute and chronic malaria infections in relation to the spread of disease by mosquitoes.

At the request of the WHO, he will evaluate Rumanian studies on the effect of chronic asymptomatic malaria on neurosyphilitic patients.

Before returning to NIH, Dr. Young will report his findings to WHO officials in Geneva, Switzerland.

Explosion in Building 4 Destroys Refrigerator, Causes Soot Damage

A refrigerator was totally destroyed and adjacent cabinets partially damaged in an explosion and fire in Room 113, Building 4, shortly before midnight, Friday, August 11.

According to officials of the Plant Safety Branch, the explosion occurred when ether vapors escaping from a bottle in the refrigerator were ignited by the refrigerator's inside thermostat.

The refrigerator door was blown open and the fire spread to the nearby cabinets. No research records were destroyed.

The fire was discovered and reported at 12:18 Saturday morning by William H. Mimms, a night-duty laborer in the Housekeeping Services Section, Office Services Branch.

The NIH Fire Department responded immediately and put out the fire within a few minutes.

Fire damage was limited to Room 113, although smoke and soot deposits were evident throughout the north end of the first floor.

This refrigerator was totally destroyed and adjacent cabinets were partially damaged in an explosion and fire in Building 4.

A dollar loss estimate of the damage is not yet available.

In commenting on the explosion and fire, James B. Black, NIH Safety Officer, stressed the necessity of storing all flammable solvents in explosion-proof equipment.

He cautioned that boxes not equipped for storing flammable materials should be labeled, DO NOT STORE FLAMMABLE SOLVENTS IN THIS BOX.

"If everyone will check for this warning before storing flammable materials," he said, "the chances of explosion and fire can be greatly reduced."

Mr. Black urges anyone in doubt as to the explosion-proof condition of a box, to notify the Safety Section of the Plant Safety Branch, Ext. 4245.

Dr. Robert C. Backus Named NIAID Chief of Extramural Program

Appointment of Dr. Robert C. Backus as Chief of the Extramural Programs Branch, National Institute of Allergy and Infectious Diseases, has been announced by Dr. Justin M. Andrews, NIAID Director. His appointment was effective August 6.

Dr. Backus

Formerly, Dr. Backus was Executive Secretary of the Selection Committee for Senior Fellowships in the Research Fellowships Section, Research Training Branch, Division of General Medical Sciences.

He will be responsible for the administration of NIAID's research and training grant programs which support scientists and promising students in the fields of allergy and infectious diseases.

Dr. Backus received his B.S. degree from Dakota Wesleyan University, Mitchell, S. Dak., in 1937 and his M.S. and Ph.D. degrees from the University of Michigan in 1944 and 1951, respectively.

He has been with the National Institutes of Health since 1958, serving as Executive Secretary to the Cancer Research Training Committee and as Executive Secretary to the Specialty Fellowship Board, both of DGMS.

He replaces Dr. Leonard Karel who is now with the National Science Foundation.

New Graduate Courses Offered Here This Fall

A new and expanded program of evening courses is being offered at NIH this year by the Foundation for Advanced Education in the Sciences, Inc., a non-profit Maryland corporation formed recently by a group of outstanding biomedical scientists in the Washington area, including many from NIH.

With additional areas of study, the new graduate program will follow the general pattern of the classes formerly conducted here under the auspices of the USDA Graduate School.

Registration for the courses will be held during the week of September 11-15 from 11 a.m. to 4:40 p.m., and on Saturday, September 16 from 9:30 a.m. to 4 p.m. in Bldg. 10, Rm. 2B 46. Tuition is $12 per semester hour.

Further information about the program may be obtained from Carol Long in the registration office, Ext. 2427.

MYSTERY DISEASE

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to the death of the patient showed changes typical of those seen with eosinophilic meningitis patients on Tahiti. However, the condition of the patient made it impossible to determine whether he had had symptoms similar to those of the Tahitian patients or whether in fact his death was due to this form of meningitis.

Investigation Is Cooperative

The post-mortem findings were made as a result of a cooperative investigation with the Hawaii State Health Department and St. Francis Hospital in Honolulu. The nematodes have been identified as a type found in rats and in land snails and slugs. Studies are continuing to determine if this worm, *Angiostrongylus cantonenisis*, also was responsible for the Tahitian outbreaks.

The disease as seen in Tahiti, where hundreds of cases have occurred since 1958, resembles other types of meningitis in its painful and paralytic symptoms, the most common of which are headache and stiffness of the back and neck. Since there is no ideal treatment for the disease, the cause must be found in order to set up preventive measures.

Known Diseases Eliminated

Cerebrospinal fluid changes in patients gave the investigators their first lead in studying the Tahitian outbreaks. Their clinical, laboratory, and epidemiological determinations subsequently ruled out all known diseases which cause similar cerebrospinal fluid changes. Poisons, viruses, bacteria, fungi, protozoa, and worm parasites were then considered as possibly responsible for the cerebrospinal changes and the disease.

Months of laboratory analyses, direct examinations of patients and door-to-door interviews narrowed the field of suspicion to parasitic worms. The investigators found no evidence that the parasite was transmitted from person to person or that it was mosquito-borne. The fact that the infection came in "waves" and that it would attack several members of a family simultaneously suggested a common source of food as the carrier of the parasite.

Family Affected

A search for parasites in fish was undertaken when a number of persons became ill after eating raw fish at a family reunion feast. Although it was not possible to perform spinal taps on all individuals, ten persons had symptoms compatible with the disease.

Dr. Rosen and his associates have published a report on their findings to date in the August 11 issue of the American Journal of Hygiene.

CONGO MEDICAL STUDENTS VISIT CC

Four medical students from the University of Lovanium, Leopoldville, Congo, watch Nannette Ratner, a technician in the Clinical Center's Pathology Department, as she checks the results of an electron microscope experiment. The students, part of a group of 30 visiting the United States from the new African nation, toured the Clinical Center August 10 to observe the latest medical techniques and procedures. They showed particular interest in the organization of the Pathology Department, especially its use of automatic methods for increased speed, capacity, and efficiency in operation.

NIAID Scientists Find New Virus in Calves

A new virus has been recovered from the gastrointestinal tract of normal calves. Possessed of a unique grouping of biological qualities, this virus has been named Haden (hemadsorbing, enteric) by its discoverer, Dr. F. R. Abinanti. A description appears in Virology in a report by Dr. Abinanti and Mildred Warfield of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases.

Adhere to Cell Sheet

The most distinguishing characteristic of the virus is its pattern of hemadsorption. Erythrocytes adhere to the cell sheet in aggregates that vary from a few cells to large clumps. This is in marked contrast to adsorption with myxoviruses where individual cells are diffusely adsorbed over an entire cell sheet.

Six recoveries of the virus were made in 3-week to 4-month-old calves from three widely separated farms. Approximately 86 percent of the adult cattle in the tested herds had hemagglutination inhibition titers of 1:20 or greater. High levels of HI and neutralizing antibodies developed in the calves following recovery of the virus, and when virus was given by aerosol, calves also developed high antibody levels but no obvious clinical signs of disease.

SOVIET SCIENCE

(Continued from Page 1)

cine, which they admit has drawbacks for application to pediatric medicine because of fever-producing reactions. Similar reactions have also been encountered with an adenovirus vaccine for respiratory infections.

Dr. Chanock said that the Russians have developed a live-virus mumps vaccine which has been given to 50,000 children by injection and appears to develop a good antibody response.

Strongly Motivated

In general, Russian scientists impressed the Americans as strongly motivated in their work and objectives, and are much like our own scientists. As individuals they are likeable, extroverted, and uncomplicated in their approach to problems, resembling midwestern Americans, Dr. Huebner observed.

The NIH scientists were accompanied on their trip to Russia by Drs. William McD. Hammon of the University of Pittsburgh, Fred M. Davenport of the University of Michigan, and Edwin H. Lennette of the California State Department of Health.

The group visited medical research centers in Moscow, Leningrad, Kiev, and peripheral laboratories in Uzbekistan and Georgia.

NCI Investigator Reviews Research On Nucleic Acids

Dr. Herbert A. Sober, Chief of the Laboratory of Biochemistry of the National Cancer Institute, reported to the Fifth International Congress of Biochemistry, held in Moscow, August 10-16, on research that he and his colleagues are conducting in an effort to gather new information about growth and reproduction of living things.

The starting point for the work is the concept that nucleic acids govern heredity and the formation of protein, a key component of all living things. Dr. Sober and his colleagues are trying to learn how the arrangement of chemical units in nucleic acid molecules is related to various characteristics of life.

Arrangement Important

The arrangement is believed to be all-important. For instance, a slight difference in sequence of units could alter essential characteristics of virus, bacteria, animals, and man. It is logical to expect that there are differences in the nucleic acids of normal and malignant cells, and that identifying these differences may provide information about the development of cancer.

There are only a few distinct kinds of units in nucleic acids, but thousands of them are assembled in every nucleic acid molecule, thus making it difficult to determine the order in which they are arranged. (The sequence has not yet been worked out for any nucleic acid.)

Dr. Sober's group begins attacking this problem by mixing nucleic acids with enzymes that split the molecules at certain places, thus breaking them into smaller pieces.

The techniques of chromatography and electrophoresis are used to identify the various units and measure the amounts of each. These data enable the investigators to deduce the arrangement only when a piece contains a relatively small number of units, but ways of handling larger pieces are being developed.

Artificial Chains Made

In another approach, Dr. Sober and his coworkers make artifical chains containing several units of the same kind, and study their behavior. This phase of the investigation has indicated that when seven or more units are linked, they begin to assume the spiral shape characteristic of intact nucleic acid chains.

Dr. Sober emphasized that he and his colleagues are not only obtaining clues to the sequence of units in entire nucleic acid molecules, but are also refining their procedures to pave the way for further progress.

The ferry to Martha's Vineyard as seen from a laboratory window.

Students board specimen boat for field trip. Many are NIH grantees.

Dr. Leonard Warren, NIAMD, studies enzyme action related to sea urchin fertilization.

NIH Research at Woods Hole

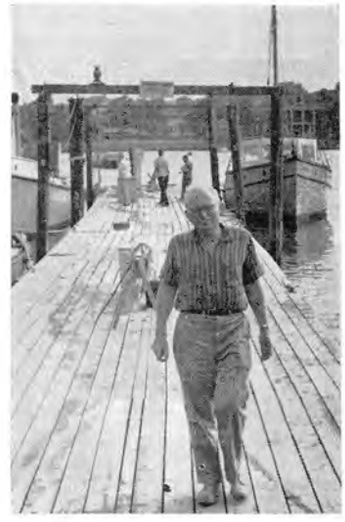
An unusual research facility on Cape Cod is providing a number of NIH scientists an opportunity to spend a part of this summer in biological research on marine forms in their natural habitat. It is the Marine Biological Laboratory at Woods Hole, Mass., where scientists and students from all over the world gather each year for active research in a relaxed and informal atmosphere.

Founded in 1888, the MBL is ideally located for its purpose due to the combined influence of the Gulf Stream from the south and the Labrador Current from the north, resulting in abundant and varied marine flora and fauna.

While the laboratory operates on a year-round basis, its research activities are at their highest peak during the summer months. The MBL is supported by several foundations and research institutions, including NIH. A special NIH training grant provides financial aid to students.

Photos by Jerry Hecht

Dr. Ralph Adams, NIAMD, checks squid used in photobiology studies.



Dr. DeWitt Stetten, NIAMD, an NIH scientist at Woods Hole.

Rosemary Roberts of the NIH Library visits the MBL Library.

A squid giant axon is prepared for an NINDB study.

Scientists and students from the U. S. and many foreign countries attend an MBL lecture. The lectures are an important part of the summer program.

Dr. William J. Adelman, NINDB, and associates study ionic transport across the axon membrane.