DR. TOPPING SPEAKS
ON CORTISONE, ACTH

Dr. Norman H. Topping, Associate Director of NIH, spoke on future studies of cortisone, ACTH, and related compounds, at the mid-century convention of the American Pharmaceutical Association, held at Atlantic City, May 4.

"During the past few months," he announced, "NIH has awarded 102 grants totaling $991,445 for research on the new drugs. The grants are being used by universities, medical schools, and other non-Federal institutions throughout the country."

Dr. Topping pointed out that about 20 years ago chemical and physiologic investigations of the adrenal cortex, in the laboratories of the Mayo Foundation, resulted in discovery of a group of new compounds producing marked physiologic effects on laboratory animals.

One of these substances, compound E (cortisone), was found especially active.

Chemists at Merck and Co., after months of labor, produced several grams of cortisone. The drug was subsequently tested on arthritis patients and was found to give spectacular results.

ACTH (adrenocorticotrophic hormone), was isolated by Armour Laboratories from pituitary glands of animals. This hormone was also found effective against arthritis.

The National Institutes of Health, in conjunction with the Department of Agriculture, are turning to plants as a source of these steroids, because of technical difficulties in the synthesis of cortisone and limitations of animal supply of ACTH. Promising sources are two plants—one, found in Africa, and the other, in Greece.

NEW TECHNIC SHOWS
VIRUSES IN TISSUE

Filterable viruses, agents of many deadly diseases of plants and animals, have been seen for the first time in their habitat, tissue cells.

This was reported by Dr. Ralph W. Wyckoff, Chief of the Section of Molecular Biophysics, Experimental Biology and Medicine Institute, at the annual meeting of the National Academy of Sciences, held in Washington, D. C., April 24-26.

Working with the electron microscope and sliced tissue sections sometimes less than 300,000th of an inch thick, Dr. Wyckoff has seen and photographed viruses in cells.

The present success utilizes an incredibly delicate tissue-slicing (See Viruses, Page 2)

NCI WORKERS GAIN
FACTS ON LEUKEMIA

National Cancer Institute scientists reported progress in leukemia studies, at the annual meeting of the American Association for Cancer Research, held at Atlantic City, April 16-18.

Dr. L. W. Law, geneticist at NCI, reported a relation between the thymus, little studied gland in the chest, and the progress of leukemia in mice. Removal of the thymus from mice of three strains, in which leukemia occurs spontaneously, prevented the disease or postponed its onset.

It was also reported that leukemia developed in mice whose thymus had been transplanted to other sites of the body. Removal of the gland had no effect on the incidence of other types of cancer.

Dr. Law, in reporting these preliminary findings, drew no conclusions as to the cause of leukemia.

Dr. Howard R. Bierman of the Laboratory of Experimental Oncology, NCI, at the Laguna Honda Home, San Francisco, reported studies suggesting that the lungs may act as filters for white blood cells.

Marked decreases in white cell count were observed in leukemia patients following cross-transfusions with leukemia-free volunteers. No evidence of leukemia was noted in any of the blood donors.

This finding strengthens the concept that a faulty mechanism for removal of white cells from the blood may be as important in leukemia as excessive white cell production.

The procedure was made possible by development of a method for direct artery-to-artery cross-circulation.
**Science Elsewhere**

**New Studies in Polio**

A broad laboratory and field investigation of poliomyelitis, to learn how the disease spreads, is being carried out by epidemiologists of the PHS Communicable Disease Center, Atlanta. Emphasis is being placed on the role of the common fly.

Field studies in polio transmission are being conducted in three strategically located cities, under the joint supervision of CDC and State and local health departments. The cities are Charleston, W. Va., Topeka, Kan., and Phoenix, Ariz.

Dr. R. A. Vonderlehr, CDC medical director, pointed out some difficulties in polio research. The symptoms of polio resemble those of many other diseases. At least three types of polio virus are known; and most infections with the virus do not produce crippling manifestations.

**VIRUSES Cont’d**

A technique developed late last year by scientists at the Bureau of Standards. It permits slices to be made as thin as desired--to the point where they nearly vanish and become useless for observation.

About three years ago, Dr. Wyckoff and other scientists were able to see filterable viruses for the first time, but only in purified suspensions outside living cells. At that time, it was possible to observe little more than their general appearance.

But now Dr. Wyckoff is able to distinguish certain viruses from normal intracellular molecules.

Thus far he has been able to distinguish the organisms of tobacco mosaic, potato virus disease, fowl pox, vaccinia, parrot fever, and influenza. Whether viruses are living or nonliving can only be determined by continued study.

The National Institutes of Health, where much of the basic research requires analysis of chemical compounds, is fortunate in having at the disposal of its scientific staff a well-equipped microanalytical laboratory.

This is part of the Laboratory of Chemistry and Chemotherapy, EBMI, and is under the supervision of Mr. W. C. Alford, assisted by Mrs. Margaret Ledyard and Mrs. Evelyn Peake.

Compounds synthesized throughout NIH must be analysed to determine the relative amounts of the elements they contain and to provide information as to structure. In the first three months of this year, Mr. Alford and his assistants have performed more than 1,400 microanalyses, involving the determination of carbon, hydrogen, nitrogen, sulfur, phosphorus, iron, copper, halogens, methoxyl and acetyl groups, and other substances.

Three common chemical elements in organic or biologic compounds are carbon, hydrogen, and nitrogen. Carbon is determined by a standard procedure in which 3 to 7 milligrams of a sample are burned in a stream of oxygen, and the resulting carbon dioxide is collected and weighed. Similarly, hydrogen is burned in oxygen, yielding water, the hydrogen content of which can be readily calculated. In these procedures, a micro balance sensitive to three millionths of a gram is used.

In determining nitrogen, two methods are employed—the Dumas and the Kjeldahl. The method selected depends upon the nature of the sample to be analysed.

In the Dumas method, the sample is mixed with copper oxide and burned in a stream of pure carbon dioxide. All of the combustion products are absorbed except the elemental nitrogen, which is collected and measured. As little as 0.3 milligram of nitrogen can be measured by this means.

In the Kjeldahl method, nitrogen is measured in the form of ammonia. About 0.5 to 1.0 milligram of nitrogen is required for an accurate determination.

Other elements are detected by means of various sensitive instruments, such as colorimeters, spectrophotometers, and fluorometers.

The staff frequently assists in research involving new analytical techniques and conducts its own research on such problems.
NCI GRANTS TO AID NEGRO MEDICAL SCHOOLS

The National Cancer Institute recently approved grants of $50,000 and $59,930 to two Negro schools, Howard University Medical School in Washington, D. C., and Meharry Medical College in Nashville.

The Howard University funds will be used for classroom, office, and laboratory equipment, surgical and pathological supplies, travel expenses, and salaries.

At the Meharry Medical College, grant funds will provide a coordinator (surgeon), pathologist, radiologist, consultant (visiting pathologist), a part-time instructor in oral diagnosis, a medical technologist, and a public health nurse.

NCI APPOINTS CHIEF OF TECHNICAL SERVICES

Dr. G. F. Meadors was appointed on April 3 as Chief of Technical Services in the Office of the Director, NCI. In this position Dr. Meadors will work with service sections of the Institute—Cancer Reports, Biometrics, and Documentation.

He has been with PHS for eight years, and since 1947 has headed a heart disease epidemiology study in Boston.

He received his M.D. from Tu- lane and his M.P.H. from Johns Hopkins.

DR. EAGLE LECTURES ON ANTIBIOTICS

Dr. Harry Eagle of the Laboratory of Infectious Diseases, Microbiological Institute, recently gave a series of three seminars at the Children's Medical Center, Harvard Medical School.

Subjects of the seminars were "Bacterial Resistance and Drug Synergism," "The Participation of the Host in the Therapeutic Activity of Antibiotics," and "An Experimental Analysis of Treatment Failure with Penicillin."

Dr. Karl Habel of the Laboratory of Infectious Diseases, MI, has left NIH to visit Geneva, Paris, and London.

In Geneva, Dr. Habel will attend the Expert Committee on Rabies of the World Health Organization. He will also visit the Pasteur Institute in Paris and the National Institute of Medical Research in London, to observe the work being done on viruses and the common cold.

Dr. Austin V. Deibert, Cancer Control Branch, NCI, recently visited Chihuahua, Mexico, where he presented a paper, "Public Health Significance of Cancer," and the motion picture "Breast Cancer: The Problem of Early Diagnosis," at a meeting of the United States-Mexican Border Public Health Association. The U. S. Department of State provided a Spanish sound track on the contents of the film.

Dr. Deibert, upon his return to the United States, gave a paper, "Control Features of the Cancer Program," before the Homer Phillips Intern Alumni Association in St. Louis. The meeting of the Association, held at the Homer Phillips Hospital, is the second largest annual meeting of negro physicians.

Dr. Willard H. Wright, Chief of the Laboratory of Tropical Diseases, MI, made a field trip to Puerto Rico, where he tested a series of chemicals as molluscacides.

On May 4, Dr. Wright lectured on "Schistosomiasis as a Public Health Problem" at Harvard School of Public Health, Boston.

THREE NIH MEMBERS VISIT FOREIGN COUNTRIES

Dr. Deibert
Dr. Habel
Dr. Wright

STUDY SECTION MEETINGS

The following is a continuation of the list of Study Section meetings printed in the April 24 issue of the NIH Record. Unless otherwise indicated, the meetings will be held at NIH.


May 19-20. Environmental Health: Drs. Francis Carroll, Rolf Eliassen, H. B. Gotaas, H. O. Halvorson, W. I. Mallmann, Frank Princic, C. C. Winslow, Mr. V. M. Ehlers, Mr. W. C. Hemeon, Mr. Vernon MacKenzie, Mr. C. C. Ruchhoft.

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NIH AWARDS $336,000 TO LOCAL INSTITUTIONS

NIH research grants of $336,000 to non-Federal institutions in metropolitan Washington are now in effect, according to a recent report.

Recipients are: Georgetown University, $99,401; Children's Hospital, $19,870; George Washington University, $80,167; Armed Forces Institute of Pathology, $5,400; Washington School of Psychiatry, $27,130; National Research Council, $10,800; Howard University, $27,130; National Research Council, $44,894; and the University of Maryland, $39,500.

Projects include studies and investigations in antibiotics, antimalarial drugs, psychiatry, hypertension, clinical tests for cancer, chemotherapeutic agents, and nutrition.

PHS APPOINTS EIGHT NUTRITION CONSULTANTS

In recognition of the importance of medical nutrition, the PHS recently appointed eight prominent physicians as Consultants on Nutrition. They will give technical assistance to State and local communities in this important aspect of public health.


NIH TO SEE NEW FILMS

Two films, "Telephone Courtesy" and "So Much For So Little," will be shown in Wilson Hall at 12 and 1 p.m., May 12.

The first film demonstrates good and bad telephone manners, and the other is a color cartoon depicting public health services offered through local health units.

CIVIL SERVICE EXAMS

Stenographer, Typist, $1,954* Supply Specialists, $3,100 to $6,400. (Closing date: May 16.) Chemist, Metallurgist, Physicist, $4,600 to $10,000.* Mathematician, $3,825 to $10,000.* Clinical Psychologist, $5,400 to $10,000.*

*No closing date.

HAVE YOU DESIGNATED YOUR BENEFICIARY?

Failure to designate a retirement beneficiary, or to keep the designation current, may cause your survivor difficulty in establishing legal rights to funds.

Prompt payment of retirement funds and unused annual-leave balances may depend upon keeping the designations of beneficiary up to date.

If in doubt as to your beneficiary, you should file Civil Service Form 2806-1, which may be obtained from the personnel office in Room 113, Bldg. 1. After completing the form in duplicate, send it to the Retirement Division, U. S. Civil Service Commission, Washington 25, D. C. Or you may ask your payroll office to send it. The Commission will return the duplicate copy to you.

Be sure to keep a copy for future reference.

PLUMBING SHOP MEETS RED CROSS QUOTA

The plumbing shop of the Buildings Management Branch, NIH, met 100 percent of its quota for the 1950 Red Cross Campaign.

Other NIH employees contributed $2,113, which is slightly over 50 percent of the total NIH quota.

Have You Read--?


The giant stride of science in the nineteenth century is discussed in terms of the life and work of Pasteur, whose chemical and bacteriological discoveries helped to bridge the gap between theory and scientific experiment.

Broadly speaking, the material is arranged according to the problems with which Pasteur and his contemporaries were concerned—the origin and chemical basis of life, the relation of microorganisms to man, the policy of public hygiene, etc.

Discussions of spontaneous generation, molecular asymmetry, fermentation, anthrax, rabies, and the silkworm are skillfully interwoven with an account of Pasteur's personal life, 1822 to 1895.

ETHER IS EXPLOSIVE!

An incinerator operator recently suffered second-degree burns of the face when the contents of a refuse can containing ether vapors exploded. Before it is safe to dispose of material containing ether in any form, the ether vapors must first be allowed to evaporate.

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