



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE November 18, 1957, Vol. IX, No. 26

PUBLIC HEALTH SERVICE NATIONAL INSTITUTES OF HEALTH

DYER LECTURE PRESENTED BY DR. SHOPE



Dr. James A. Shannon, NIH Director (right), presents an honorary certificate to Dr. Richard E. Shope of the Rockefeller Institute for Medical Research, who gave the Seventh R. E. Dyer Lecture on November 5. Looking on are (left to right) Dr. J. E. Smadel, Associate Director, and Dr. R. E. Dyer, former NIH Director, for whom the lecture series was named.

NIAID SCIENTIST WINS ASHFORD AWARD

The Bailey K. Ashford award of the American Society of Tropical Medicine and Hygiene was recently presented to Dr. Paul P. Weinstein of the NIAID Laboratory of Tropical Diseases.

The award, which consists of a gold medal and an honorarium of \$1,000, is given annually to a young scientist for outstanding research in the field of tropical diseases.

Dr. Weinstein has served with PHS for 12 years and is recognized as a pioneer in helminthic physiology. In one of his recent studies, he demonstrated for the first time that a nematode parasite of a vertebrate can be grown through its life cycle in a pre-determined test-tube environment.

Previous NIAID recipients of this award are Drs. Joseph Greenberg, Robert J. Huebner, and Norman Topping.

NIH STILL SHORT OF UGF QUOTA

With the United Givers campaign approaching its extended deadline of November 30, NIH is still far short of its quota.

Latest reports reveal that 87 percent of the employees have contributed 75 percent of the NIH goal of \$63,968.

Only three of the 13 NIH campaign divisions were reported over the top--OD and NIMH, with 102 percent, and DRG, 100 percent. Of the remaining 10 divisions, four ranged from 81 to 92 percent, three were slightly over 70 percent, and three were well under the latter mark.

Campaign keymen have been asked to renew their efforts to obtain additional contributions.

DR. VAN SLYKE RECEIVES ALBERT LASKER AWARD

Dr. C. J. Van Slyke, NIH Associate Director, was among nine physicians from the U. S. and abroad to receive the 1957 Albert Lasker Award of the American Public Health Association.

The twelfth annual selections were announced at a luncheon for the recipients at the Ambassador Hotel in New York City. The guest speaker at the ceremony was Dr. Leroy E. Burney, Surgeon General, PHS.

Because of a recent illness, Dr. Van Slyke was unable to attend the presentation, and the award was accepted by Miss Beverly Van Slyke on her father's behalf.

He was cited for "his distinguished contributions to the nation's health by advancing the development of medical research and training which are bases of public health progress."

Dr. Van Slyke has devoted his entire professional career to PHS. He came to NIH in 1946 as Chief of the Division of Research Grants and was appointed Director of NHI when it was established in 1942. Dr. Van Slyke became NIH Associate Director (for extramural programs) in 1952.

New Fellowships Open To European Scientists

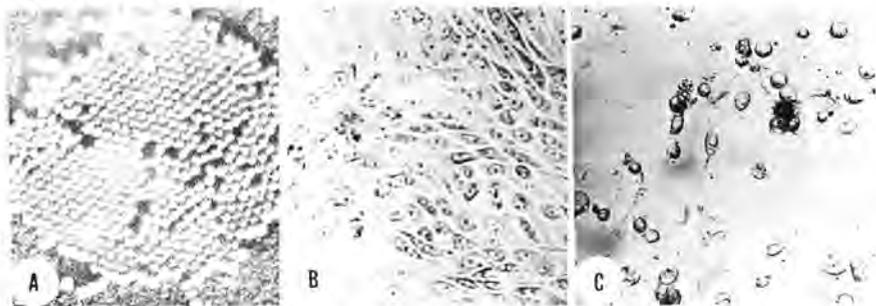
A new PHS research fellowship program administered by NIH will provide a limited number of fellowships to outstanding European scientists next year. The program is an extension of the PHS fellowship program that for many years has made it possible for American scientists to do research in other countries.

The awards are designed to benefit both European and U. S. scientists through the mutual exchange

(See Fellowships, Page 4)

Anticellular Serum Aids In Virus-Cell Research

No. 195 in a Series



Photomicrographs showing the elements involved in the virus-cell relationship. A. THE VIRUS: Electron micrograph of concentrated, mature, infective polio virus, Type I, outside cell. B. THE CELL: Tissue culture of normal, uninfected, monkey-kidney epithelial cells. C. THE INFECTION: Tissue culture of destroyed monkey-kidney cells at end of their infection with polio virus, Type I.

Viruses cause a wide variety of diseases ranging from the common cold to poliomyelitis, and may yet be implicated in diseases of which the cause is now unknown. The frequency and deadliness of viral diseases have commanded great attention of both the layman and the scientist.

This interest has resulted in the recently rapid growth of the knowledge of viruses. The scientific findings have transcended the purely medical implications and have directed attention to the basic biological and chemical aspects of the living process.

Not long ago viruses were considered to be relatively simple structures. Recent research, however, indicates that they are biochemically complex.

One of the basic problems involved in the study of viruses is the virus-cell relationship--just how a virus enters a susceptible cell, multiplies there, and is released to invade other cells. Some strains of viruses seem to maintain a latent state during which they do not cause any obvious disease in the host. But all viruses live by parasitizing cells, and those viruses that are active cause cell damage.

It is well known that a virus penetrates into a cell and disappears. During this time the activity of the virus compels the cell to divert its biochemical functions to virus reproduction, at the expense of the function and life of the cell itself.

When the newly reproduced viruses are released, they penetrate other cells, and the process continues. Exactly what goes on during this process in the case of those

viruses that infect animal cells is still not clearly understood.

A number of studies on these and other problems concerning viruses are being conducted at NIH. Participating in one of these studies are Dr. Karl Habel, Dr. John W. Hornbrook, Dr. Kenneth K. Takemoto, Nancy C. Gregg, and Rosalie J. Silverberg, all of NIAID's Laboratory of Infectious Diseases.

There are various methods of investigating this virus-cell relationship, utilizing procedures that induce certain effects on the cell. The changes that are brought about are reflected in the virus multiplication within that cell.

Dr. Habel and his colleagues have used antisera against cells as a means of investigating this phenomenon. These antisera are prepared in rabbits by repeated injections of human cells grown in tissue culture. The animal forms antibodies against the cellular materials, as demonstrated by complement fixation and other serological tests.

It has been shown that this anticellular serum interferes with the growth of certain viruses in tissue culture. Apparently antibodies combine with some cellular component involved in the metabolic processes responsible for virus multiplication within the cell. As a result, new virus production is inhibited.

Some observations on the way in which "anticellular" serums act present a number of experimental challenges new to virus-cell research. These observations are: only certain viruses are inhibited;

(See Serum, Page 3)

Publication Preview

The following manuscripts were received by the SRB Editorial Section between August 30 and September 17.

DRS

Joram, P. R. A disposable plastic paraffin embedding box for histological work.

CC

Hilbish, T. F. Cardiovascular roentgenology. Hilbish, T. F. Roentgen manifestations of peptic ulceration occurring during corticosteroid administration for rheumatoid arthritis.

NCI

Bryan, W. R. Analysis of the possible role of inhibitors in masking and latency of tumor viruses.

Burk, D. Über die Begründung einer Chemotherapie des Krebses auf der Grundlage einer primären Hemmung der Glukosephosphorylierung (Hexokinase-Reaktion) durch Beeinflussung von Substrat, Koenzym, und Enzym.

Christopherson, W. M., and Parker, J. E. Cervical cell studies: A method of increasing production.

Grobstein, C., and Parker, G. Epithelial tubule formation by mouse metanephrogenic mesenchyme transplanted *in vivo*.

Hilberg, A. W. The pathologist and cytology screening.

Hueper, W. C. Experimental studies in metal carcinogenesis. XI. Carcinogenic effects of chromite ore roast deposited in muscle tissue and pleural cavity of rats.

Humphreys, S. R.; Goldin, A.; Venditti, J. M.; and Mantel, N. The influence of amathopterin on the survival time of leukemic mice with respect to food intake, body weight changes, and tumor growth.

Jude, J. R., and Pieper, W. J. Experimental temporary urinary diversion to an isolated illeal bladder.

Kramer, W. M.; Eck, R. V.; and Smith, R. R. Prevention of experimental lung metastases with triethylenethiophosphoramide (ThioTEPA).

Kramer, W. M., and Schatten, W. E. An experimental study of triethylenethiophosphoramide (ThioTEPA) in the prevention of postoperative pulmonary metastases.

Levine, H. J., and Glenner, G. G. Observations on tryptophan staining of the pancreatic alpha cells.

Love, R. The history of ribonucleic acid in mitosis in tumor cells.

Smith, W. W.; Alderman, I. M.; and Gillespie, R. E. Resistance to experimental infection and mobilization of granulocytes in irradiated mice with bacterial endotoxin.

NHI

Davidson, D. G.; Levinsky, N. G.; and Berliner, R. W. Maintenance of potassium excretion despite reduction of glomerular filtration during sodium diuresis.

Levinsky, N. G., and Davidson, D. G. The renal action of parathyroid extract in the chicken.

Dawber, T. R., and Kannel, W. B. An epidemiologic study of heart disease: The Framingham study.

NIH RECORD

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Ext. 2125

Samoff, S. J., and Braunwald, E. The hemodynamic determinants of myocardial oxygen consumption.

NIAID

DeMars, R. Possible inductive formation of glutamine transference in human cell cultures and its inhibition by glutamine.

Feder, N. A method of holding mice for intravenous injection.

Lieberman, R.; Earle, H.; Ikari, N.; and McCullough, N. B. Immunity afforded by specifically absorbed, unabsorbed, and combinations of salmonella antisera.

NIAMD

Axelrod, J.; Senoh, S.; and Witkop, B. Synthesis and identification of new catechol amine metabolites.

Burma, D. P., and Horecker, B. L. Pentose fermentation by *Lactobacillus plantarum*. III. Ribulokinase.

Burma, D. P., and Horecker, B. L. Pentose fermentation by *Lactobacillus plantarum*. IV. L-Ribulose 5-phosphate 4-epimerase.

Fox, M. R. S.; Briggs, G. M.; and Ortiz, L. O. Studies of amino acid diets for the chick.

Frøter, K.; Weissbach, H.; Redfield, B.; Udenfriend, S.; and Witkop, B. Oxindole analogs of (5-hydroxy) tryptamine and tryptophan, as inhibitors of the biosynthesis and breakdown of serotonin.

Heath, E. C.; Horecker, B. L.; Smythotis, P. Z.; and Takagi, Y. Pentose fermentation by *Lactobacillus plantarum*. II. L-Arabinose isomerase.

Heath, E. C.; Hurwitz, J.; Horecker, B. L.; and Ginsburg, A. Pentose fermentation by *Lactobacillus plantarum*. I. Cleavage of xylulose 5-phosphate by phosphoketolase.

Horecker, B. L., and Hiatt, H. H. Pathways of carbohydrate metabolism in normal and neoplastic cells.

Schwarz, K., and Mertz, W. Course in nature of the terminal phase of dietary necrotic liver degeneration.

Sokoloff, L., and Habermann, R. T. Idiopathic necrosis of bone in small laboratory animals.

Wynngaarden, J. B.; Blair, A. E.; and Hillel, L. Pathways of uric acid synthesis in control subjects, and in patients with primary gout, or with proliferative disorders of the Hematopoietic System.

NIDR

Kreshover, S. J. Oral manifestations of allergy and their treatment.

NIMH

Alvord, E. C., Jr., and Kies, M. W. Clinicopathologic correlations in experimental allergic encephalomyelitis. II. Development of an index for quantitative analysis of encephalitogenic activity of antigens.

Wynne, L. C.; Day, J.; Hirsch, S.; and Ryckoff, I. The family relations of a set of schizophrenic monozygotic quadruplets.

Yarrow, M. R.; Campbell, J. D.; and Yarrow, L. J. Interpersonal dynamics in racial integration.

NINDB

Glees, P., and Windle, W. F. Toxicity studies of reserpine in cats.

Klatzo, I.; Piroux, A.; and Laskowski, E. J. The relationship between edema, blood-brain-barrier and tissue elements in a local brain injury.

Tasaki, I., and Bak, A. Signs of existence of threshold and of repetitive firing of responses in the squid axon under voltage-clamp.

NIH Entomologist Attends Congress In Thailand



Ernestine B. Thurman, DRG entomologist, examines a collection of mosquito fauna before leaving for Thailand to attend the Ninth Pacific Science Congress.

At the invitation of the government of Thailand, Ernestine B. Thurman, DRG, will attend the Ninth Pacific Science Congress in Bangkok, Thailand, this month.

Mrs. Thurman, an entomologist in the PHS Commissioned Corps, will present a paper entitled "The Mosquito Fauna of Thailand," a report on investigations conducted in connection with the malaria and filariasis control program of the Thai Department of Health, aided by the U. S. International Cooperation Administration.

Sponsored by the Pacific Science Association, the three-week Congress proposes "to initiate and promote cooperation in the study of scientific problems that affect the prosperity of the Pacific Peoples." It presents a rare opportunity for American scientists to strengthen U. S. relationships with the Far East through mutual interests in Asian medical problems.

While in Thailand, Mrs. Thurman will spend a week or more in the jungles in the northern part of the country, supplementing work begun in 1951 when she served for two years as Malaria Control Training Advisor with the U. S. Operations Mission to Thailand.

At that time, Mrs. Thurman and her late husband, Lt. Comdr. Deed C. Thurman, Jr., successfully conducted the first intensive survey of the mosquito fauna of Northern Thailand. The project is now in its seventh year, and is recognized as one of the world's outstanding malaria control programs. Lt. Comdr. Deed Thurman died in Thailand of malaria after devoting 10 years to

the control of malaria and other vector-borne diseases.

Mrs. Thurman is the only woman entomologist to be commissioned as an officer in PHS. A native of Arkansas, she received her B.S. degree from the College of the Ozarks in 1944. She attended Tulane University and is now a candidate for a Ph.D. degree at the University of Maryland.

Before joining the NIH staff, Mrs. Thurman was stationed at Communicable Disease Centers in Berkeley, Calif., and Jacksonville, Fla. She is the author or co-author of many scientific publications and a member of numerous professional societies.

Part of Mrs. Thurman's time in Thailand will be spent renewing acquaintances with her many Thai friends. She describes the people of Thailand as friendly and charming, and has been an honored guest in many homes. While in Thailand, she became adept at Siamese folk dancing, and developed an interest in cultivating orchids.

On her return to NIH in December, Mrs. Thurman will resume her duties in DRG.

SERUM Contd.

the inhibition can occur even after the virus has penetrated beyond the cell surface; and antisera against human cells will inhibit viruses grown in monkey cells.

Further exploration into the action of anticellular serums may lead to a better understanding of basic virus-cell relationships, and thus penetrate deeper into the fascinating riddle of life.

HAMSTERS REHEARSE



Shown discussing a scene from "Taken for Granted" are (left to right) Nelson Fitton, Dr. Richard Williams, director of the musical comedy, and Viron Diefenbach.

Commissioned Officers Invited To Meeting

All PHS Commissioned Officers stationed at NIH are invited to attend an informal question and answer period on Tuesday, November 19, at 3:00 p.m. in Rm. 4N-322 of the CC.

Discussions will provide information on the following subjects: pay and deductions, promotions, retirement, tax exemptions, insurance, Medicare program for dependents, survivor benefits, legislation pending, professional training, and others.

The meeting has been arranged by the Clinical and Professional Education Staff as a part of the monthly orientation program. Officers who plan to attend are asked to make reservations by calling ext. 3381.

FELLOWSHIPS Contd.

of ideas and methods. Participating scientists are expected to acquire a more realistic concept of research as it is conducted in this country.

Only those applications endorsed by national research organizations of each of the Western European countries will be considered. Accepted scientists may spend a short orientation period at NIH before undertaking work at an American medical research center of their choice.

Recipients are required to return to their home countries on completion of their year of training.

Clinical Research Meeting To Be Held November 21

Seven NIH scientists will present short research papers at this year's first Clinical Research Meeting. All interested employees are invited to attend the meeting on Thursday, November 21, at 3:30 p.m. in the CC Auditorium.

Introduced two years ago, the Clinical Research Meetings are designed to acquaint NIH scientific personnel with research progress in the various Institutes. An agenda of the meeting has been distributed.



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8:30 pm
NOVEMBER 21-22-23
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MISS JONES RECEIVES 4th McLESTER AWARD

Edith A. Jones, Chief of the CC Nutrition Department, recently received the fourth annual Mc Lester award for outstanding achievement in the field of applied nutrition and dietetics. The award was presented at the annual banquet of the U. S. Association of Military Surgeons at the Statler Hotel.

Miss Jones has headed the CC Nutrition Department since its inception in 1952. The Department now services all CC patients and approximately 3,000 employees daily.

Last year Miss Jones received the first outstanding achievement award given by the University of Alabama. She has been selected for "Who's Who in American Women," and has held offices in numerous professional organizations.

Mortimer To Talk Here

Frank Mortimer, Chief, Division of Typography and Design, GPO, will discuss publication design at the November 22d session of the Conference on Printing and Editorial Services, which is part of the inservice training program for NIH information personnel. The session, at 10 a.m. in Wilson Hall, is open to all.

NIH HOST TO RUSSIAN SCIENTISTS



Six Russian women scientists who toured NIH recently listen attentively as Dr. T. F. Hilbish (right) discusses equipment in the CC Diagnostic X-ray Department. Left to right are David P. Gelfand, DRS; Professor N. A. Dzhavadhishvili; Professor E. A. Vasyukova; A. M. Shishova; Professor A. K. Shubladze; State Department interpreter Alexander Logofet; Professor M. N. Fateyeva; N. I. Perevodchikova; and Dr. Hilbish.