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PUBLIC HEALTH SERVICE NATIONAL INSTITUTES OF HEALTH

DR. WALD TO PRESENT EIGHTH NIH LECTURE

Dr. George Wald

Dr. George Wald, Professor of Biology at Harvard University, will present the eighth NIH Lecture on Tuesday, May 5. All NIH employees and guests are invited to attend the lecture, which will begin at 8:15 p.m. in the CC Auditorium.

Entitled "The Biochemical Evolution of Vision," the lecture will discuss the origins and evolution of visual systems in terms of their molecular mechanisms and relationship to light.

On a National Research Council fellowship in Berlin from 1932 to 1934, Dr. Wald first identified vitamin A in the human retina. The vitamin had just been isolated in the laboratory of Professor Paul Karrer, in Zurich, and Dr. Wald went to Prof. Karrer's laboratory to complete the identification.

Among his honors, Dr. Wald holds the 1952 Lasker Award of the American Public Health Association "in recognition of his outstanding discoveries in biochemistry."

DR. SMADEL RECEIVES AWARD FOR RESEARCH

Dr. Joseph E. Smadel, Associate Director for Intramural Research, NIH, received the James D. Bruce Memorial Award at the convocation of the American College of Physicians held April 22 in Chicago. A bronze medal and $250 honorarium were presented to him by Dr. Dwight L. Wilbur, president of the college.

A leading authority on viral and rickettsial diseases, Dr. Smadel was cited for his "outstanding contribution on chloramphenicol in relation to typhus fevers." Chloramphenicol is the first antibiotic found to be effective against rickettsia, which cause various typhus fevers. Dr. Smadel conducted the first clinical studies on the substance.

MISS ADKINS TO SPEAK AT AWARDS CEREMONY

HEW Under Secretary Bertha S. Adkins will be the principal speaker at NIH's annual awards program at 2:30 p.m., Wednesday, May 6. At that time more than 100 employees are slated to receive cash incentive or length-of-service awards.

Dr. John D. Porterfield, PHS Deputy Surgeon General, will also take part in the program. Master of ceremonies for the occasion will be Joseph S. Murtaugh, Chairman of the NIH Awards Board. The awards will be presented by Dr. C. J. Van Slyke, NIH Deputy Director.

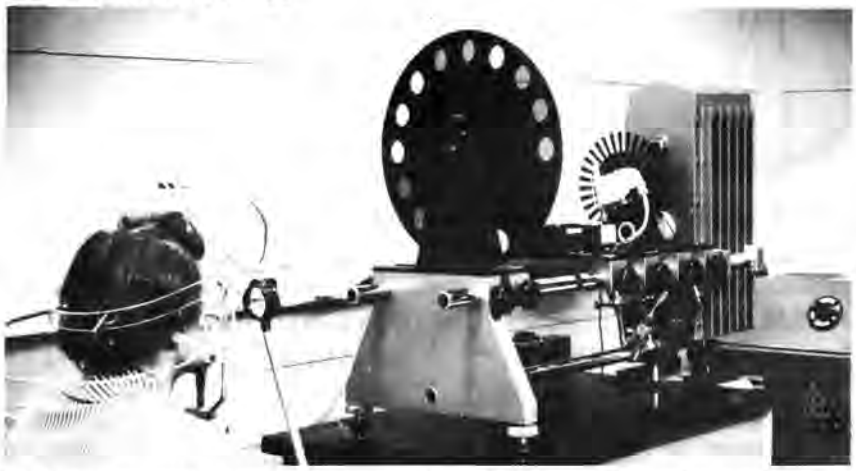
Sixty employees are scheduled to receive cash incentive awards, and 79 will get length-of-service awards for 20 and 30 years of service.

CONSTRUCTION BEGINS ON NIDR BUILDING

Looking over plans and site of the new $3.7-million NIDR building are (from left) Dr. John W. Knutson, Chief Dental Officer, PHS; Dr. C. Willard Camalier, Assistant Secretary and Director of the Washington branch of the American Dental Association; Dr. Francis A. Arnold, Jr., Director of NIDR, and Dr. Seymour J. Kreshover, Associate Director.

A New Approach To Color Blindness

No. 226 in a Series



The electroretinograph objectively determines this patient's response to color stimuli.

Studies in the Ophthalmology Branch, NINDB, are throwing new light on the mysterious phenomenon of color deficiency, commonly known as color blindness. Electroretinography, a new technique, is confirming a theory that hereditary color deficiency originates in the retina, rather than in the brain or optic pathways.

More than an interesting novelty, congenital color blindness is a serious affliction in more than 8 percent of the male population. Severe cases may limit an individual in his choice of occupation, subject him to certain hazards, and be a handicap in appreciation of his environment.

Attempting to learn more about the causes of color deficiency, Drs. Richard M. Copenhaver and Ralph D. Gunkel are employing a technique introduced at NIH two years ago by Dr. Eberhard Dodt. Known as spectral electroretinography, the technique provides an objective means of studying color deficiency by recording the electrical response of the retina to light stimulus.

In recent studies, 25 normal and colorblind employee volunteers were tested both subjectively and by electroretinography. In the latter test, investigators place on the cornea of the eye a plastic contact lens containing an electrode, while a flickering beam of colored light focused on the eye acts as a stimulus. A rotating sector disc interrupts the beam at the rate of 32 times per second, eliciting electrical responses from the retina. These responses are amplified and recorded on a cathode ray oscilloscope or an EEG (electroencephalograph) machine. From the recordings, spectral sensitivity curves, indicating the extent of abnormality, are calculated.

Most colorblind individuals need a mixture of only two primary colors to match any spectral color as it appears to them. Individuals with normal color vision, however, require mixtures of three primary colors--red, blue, and green--to match the spectrum. Color defectives who can match all spectral colors by mixing proportions of blue or green, but are insensitive to red, are called protanopes. If individuals can match all colors by mixing red or blue and are normally sensitive to green, but cannot distinguish between red and green, they are known as deuteranopes. Some individuals, classed as anomalous trichomats, require the three primary colors, but do not make normal color matches.

Electroretinographic studies in deuteranopes showed a reduced green sensitivity, indicated only recently by investigators using subjective tests. Since the electroretinograph receives responses from the retina only, it is likely that the defect lies in this area. Dr. Copenhaver suggests that the site of the defect is the retina's outer cell layers.

These studies also showed that protanopes have a high peripheral sensitivity to blue, suggesting that blue-sensitive pigment may have replaced the red in the retina. Nonetheless, deuteranopes, who possess green-sensitive pigment, showed a deficient green sensitivity.

(See Color, Page 3)

Publication Preview

The following manuscripts were received by the SRB Editorial Section between December 30 and January 7.

DBS

Eddy, B. E.; Rowe, W. P.; Hartley, J. W.; Stewart, S. E.; and Huebner, R. J. Hemagglutination with the SE polyoma virus.

Eddy, B. E.; Stewart, S. E.; and Berkeley, W. Cytopathogenicity in tissue cultures by a tumor virus from mice.

DRS

Dorn, H. F. The mortality of smokers and nonsmokers.

CC

Brecher, G.; Smith, W. W.; and Cronkite, E. P. Protection against radiation injury by leukocytes.

Brecher, G.; von Foerster, H.; and Cronkite, E. P. Production, maturation and life span of leukocytes.

NCI

Banfield, W. G. Age changes in the acetic acid-soluble collagen in human skin.

Banfield, W. G., and Brindley, D. C. Acetic acid-soluble collagen in human scars.

Byerly, T. C.; Aarons, T.; Barnes, R. H.; Brewer, N. R.; Christensen, L. R.; Cumming, C. N. W.; Flynn, R. J.; Foster, H. L.; Jay, G. E., Jr.; Williams, J. E.; and Wilson, J. W. Minimum standards for the commercial production of randombred and inbred laboratory rats.

Mantel, N., and Haenszel, W. Statistical aspects of the analysis of data from retrospective studies of disease.

NHI

Braunwald, E. Clinical applications of hemodynamic principles.

Collins, N. P.; Braunwald, E., and Morrow, A. G. Isolated congenital pulmonic valvular regurgitation: Diagnosis by cardiac catheterization and angiocardiography.

Cornforth, J. W.; Cornforth, R. H.; and Pelter, A. Studies on the biosynthesis of cholesterol. 7 : rearrangement of methyl groups during enzymic cyclization of squalene.

Grant, R. P. Cardiac hypertrophy -- some reflections.

Katz, A. M. Hippocrates and the plane tree on the Island of Cos.

Morrow, A. G., and Braunwald, E. Functional aortic stenosis: A malformation characterized by resistance to left ventricular outflow without anatomic obstruction.

Steinberg, D. A new technique for counting aqueous solutions in the liquid scintillation spectrometer.

Yankopoulos, N. A.; Davis, J. O.; Kliman, B.; and Peterson, R. E. Evidence that a humoral agent stimulates the adrenal cortex to secrete aldosterone in experimental secondary hyperaldosteronism.

NIAID

du Buy, H., and Showacre, J. Enzyme catalyzing sequential reactions in mouse brain and liver supernatant fractions. I. Differential use of Janus green B and phenazine methosulfate.

Hasenclever, H. F. The comparative pathogenicity of Candida albicans for mice and rabbits.

Huebner, R. J. The adenoviruses: General properties, clinical picture, and laboratory diagnosis.

Solvin, S. B., and Smith, R. F. Antigens from the yeast phase of Histoplasma capsulatum. III. Isolation, properties, and activity of a protein-carbohydrate complex.

NIAMD

Becker, E. D. The effect of molecular interactions on NMR reference compounds.

Bowen, W. J., and Martin, H. L. Analysis of serum magnesium with Chrome Fast Blue BG without removal of calcium.

Mortimore, G. E.; Tietze, F.; and Stetten, D., Jr. Studies on the metabolism of insulin-I^{131} in isolated, perfused rat liver and hind-limb preparations.

Mosettig, E. Introduction to Symposium 4.

Singer, S. J., and Itano, H. A. On the asymmetrical dissociation of human hemoglobin.

Stetten, D., Jr., and Hearon, J. Z. Intellectual level, as measured by the Army classification battery, and serum uric acid concentration.

Tomkins, G. M. Enzymatic metabolism of corticosteroids.

NIDR

Jordan, H. V.; Fitzgerald, R. J.; and Faber, J. E., Jr. A survey of Lactobacilli including pigmented strains from the oral cavity of the white rat.

NIMH

Brown, D. D.; Axelrod, J.; and Tomchick, R. The enzymatic N-methylation of histamine.

Gould, R. F. What do we know about industrial mental health?

Hospital Studies Section, Biometrics Branch. Patients in Mental Institutions, 1956. Part III: Public Hospitals for the Mentally Ill.

Hospital Studies Section, Biometrics Branch, NIMH. Provisional data on patients in public hospitals for the care of the mentally ill. 1957 and 1958.

NINDB

Brightman, M. W. Early effects of intensive X-irradiation of the diencephalon in the rat.

Brightman, M. W., and Albers, R. W. Species differences in the distribution of extraneuronal cholinesterases within the vertebrate central nervous system.

Friess, S. L.; Whitcomb, E. R.; Durant, R. C.; and French, P. A. Further responses of acetylcholinesterase and of conduction in bullfrog sciatic nerve to the stereochemistry of amine inhibitors. II.

Klatzo, I.; Horvath, B.; and Engel, W. K. Observations on myosin in the abnormal muscle using fluorescent antibody technic.

Myrianthopoulos, N. C., and Pieper, S., Jr. The ABO and Rh blood groups among the Chamorros of Guam - with reference to anthropologic and genetic problems in the area.

Norris, F. H. Jr., and Hall, K. D. Serial microhematocrits: Adjunct to pediatric anesthesia.

Ramsey, H. J. Fat in the epidural space in young and adult cats.

Van Buren, J. M., and Yakovlev, P. I. Connections of the temporal lobe in man.

von Sallmann, L.; Grimes, P.; and Collins, E. Mimosine cataract.

Wanko, T., and Gavin, M. A. Electron microscope study of lens fibers.

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TETANUS IMMUNIZATION URGED FOR EMPLOYEES

During the past month, four injured employees were given tetanus antitoxin to prevent lockjaw. The antitoxin treatment, while effective, may cause allergic reactions and unpleasant side effects involving considerable risk to the recipient.

Employees are offered a tetanus toxoid injection at the time of the pre-employment physical examination, and a second booster injection to complete the immunization one month later. This produces a long-lasting immunity, is relatively free of dangerous side effects, and avoids the necessity of taking tetanus antitoxin.

The Employee Health Service urges all employees, including Commissioned Officers, to determine whether their immunization is current. For information or injections, go to EHS any Wednesday afternoon.

Softball Season Opens

The NIH softball team, an R&W-sponsored activity, opens its 1959 season Monday, May 4, at the D. C. Recreation League field at 16th and Kennedy Streets, N.W.

General Manager Britt Smith has been holding practice every evening at 5:30 on the field at the North Bethesda Recreation Center, three blocks off Old Georgetown Road on Oak Place. Promising newcomers are welcome to try out.

Library Aide To Retire

Martha E. Benton, clerk-typist in the NIH Library, retires April 30.

Mrs. Benton came to Washington from Elmira, N. Y., in 1952, and began her government service with the Federal Housing Administration. She transferred to DHEW in 1953 and, four years later, came to NIH.

COLOR Contd.

According to these investigators, this may be due to an interruption of "green impulses" within the retina. Or there may be two types of deuteranopes--one with decreased green sensitivity and one that mixes "red and green impulses" and hence cannot distinguish red from green.

These findings may be a basis for establishing new criteria for diagnosing color defects.

NEWS BRIEFS

Carl E. Schwob, chief of the Division of Water Pollution Control, PHS, from 1945 to 1955, retired last month after 17 years' service. For the past three years he had been a special consultant to the Chief Engineer of the water pollution control program of PHS.

In 1953, Mr. Schwob received the Nash Conservation Award for his work in the abatement of pollution of the country's rivers and lakes.

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Robert H. Grant, NHI Executive Officer, and Dr. Ralph G. Meader, Chief of the Research Grants Branch, NCI, received the departmental Superior Service Award in ceremonies at DHEW on April 10. The award is the second highest given by the Department.

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Dr. Mortimer Mishkin, of the Section on Animal Behavior, NIMH, returned last week after three months in Warsaw, Poland, where he had been engaged in research on brain and behavior problems at the Nencki Institute of Research.

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The Bureau of State Services, PHS, has received a memorial portrait of its former chief, the late Dr. Joseph Mountin. During World War II, Dr. Mountin was responsible for administering an emergency health and sanitation program which led to the creation of the PHS Communicable Disease Center in Atlanta.

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Dr. Thelma Dunn, head of the Cancer Induction and Pathogenesis Section, Laboratory of Pathology, NCI, was named "Medical Woman of the Year" by the American Medical Women's Association on April 7.

NIH Scientists Present 120 Papers At Meetings

Scientists from all the Institutes and from DBS presented a total of 120 papers at the annual meeting of the Federation of American Societies for Experimental Biology, held at Atlantic City April 13-17. During the week, NIH displayed an exhibit illustrating NIH's role in the conduct and support of medical research.

THREE RECEIVE AWARDS FOR IDEAS, SERVICE

Three scientists at the Rocky Mountain Laboratory, NIAID, Hamilton, Mont., and an NCI administrative assistant here received cash incentive awards this month.

The NIAID recipients are Robert H. List, bacteriologist; William R. Brown, medical biology technician; and Granville Goode, physical science technician. They shared a $300 suggestion award for designing and putting into use a device for more rapid and easy separation of tubercle cells into their major morphological elements in order to produce sufficient material for extensive experimentation in immunology.

In the Laboratory of Chemistry, NCI, Betty Ann Mitchell, administrative assistant, was presented with a $152 superior performance award for her high level of accomplishment between November 1954 and March 1959.

Group Plans World Health Conference For May 7-9

The second National Conference on World Health, sponsored by the National Citizens Committee for the World Health Organization, will meet at the Statler Hotel in Washington May 7, 8, and 9.

Dr. Milton S. Eisenhower, president of Johns Hopkins University, will be chairman of the conference.

Among those scheduled to speak are President Dwight D. Eisenhower, UN Secretary General Dag Hammarskjold, HEW Secretary Arthur S. Flemming, and PHS Surgeon General Leroy E. Burney. National leaders in public health, medicine, science, and industry will also participate.

Topics to be taken up in panel discussions include prospects for an International Health Year, training and exchange programs for public health personnel, and international health and medical research.

Officers Schedule Dance

The PHS Commissioned Officers Association will present its annual spring dance May 2 at 10 p.m. in Wilson Hall.

Music will be provided by Dick Stretton's orchestra. Admission price is $3.50 per couple, payable at the door. Further information is available from Donald L. Snow, extension 3261.

VISITOR FROM AFRICA WELCOMES SPRING

Porky Hystrix galeata (shown above) is assisting Dr. Eugene J. Van Scott's NCI Dermatology Service in hair follicle studies. Porky, a 30-pound African porcupine on loan from the Washington zoo, is about four years old and is considered to be a leading example of hair follicle growth. The arm belongs to Dr. William I. Gay, chief of the animal hospital, who visited Porky on a recent spring day.

Dr. Horecker Leaves NIH To Assume Teaching Post

Dr. Bernard Horecker, Chief of the Laboratory of Biochemistry and Metabolism, NIAMD, resigned March 31 to accept a position as professor of microbiology at the New York University School of Medicine. He is succeeded as chief of the laboratory by Dr. Leon A. Heppel.

Dr. Horecker, a graduate of the University of Chicago, joined the former Industrial Hygiene Research Laboratory, PHS, in 1941 and transferred to NIAMD in 1947. He became chief of the Section on Enzymes and Cellular Metabolism in 1953 and laboratory chief in 1957.

He received the Hillebrand Prize of the Washington Section of the American Chemical Society in 1954, and was one of eight Federal employees to receive the Rockefeller Public Service Award in 1957.

Dr. Heppel, a native of Utah, received his Ph.D. degree in biochemistry from the University of California, Berkeley, in 1937, and his M.D. degree at the University of Rochester in 1941. He came to NIH in 1942 as a researcher in toxicology. Dr. G. Gilbert Ashwell replaces him as chief of the Section on Enzymes and Cellular Biochemistry.

Nobel Winner To Speak At May Conference Here

Nobel Prize-winner Sir Howard W. Florey will be guest of honor when NIH plays host to the seventh conference on Microcirculatory Physiology and Pathology, May 4 and 5.

Dr. Florey, of the Sir William Dunn School of Pathology, Oxford University, England, shared the 1945 Nobel Prize in Medicine with Sir Alexander Fleming for the development of penicillin. He will speak on "Some Properties of Endothelium with Special Reference to the Lymphatics."

The conference will consist of discussions, symposia, and the presentation of papers in the Clinical Center auditorium, as well as demonstrations, films, and exhibits in the 14th floor assembly hall.

Papers from NIH will be presented by Dr. Stanley J. Sarnoff, NHI; Dr. Jan Cammermeyer, NINDB; Dr. Seymour H. Wollman, NCI; and Dr. Ruth M. Merwin, NCI. Technical films and exhibits will be presented by Dr. George Z. Williams, Dr. Murray C. Brown, and Dr. Frederick Fox, all of the CC.

Information and announcements pertaining to the conference are being distributed by the Clinical and Professional Education Office, CC.

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