

the Monte Bello Islands, where the first British tests were conducted in 1952.

Later next year a fourth series will take place at the atomic weapons proving ground that is being built at Maralinga, in the central Australian desert north of Watson, on the transcontinental railway. This fourth series will be directed by William Penney.

■ K. B. Fraser of the University of Aberdeen has apparently obtained genetic recombination between two strains of influenza A virus when both are inoculated into the same mouse brain. In the 30 July issue of *Nature* Fraser reports that after such double inoculations the neurotropic virus *M* and the non-neurotropic virus *NWS* yielded both of the reciprocal types of recombinant, namely *NM* and *WS*. The latter was recoverable slightly earlier than the former, which was recovered 12 hours after the inoculation.—B.G.

■ Plans for relocating the recently formed Air Force Office of Scientific Research from Headquarters, Air Research and Development Command in Baltimore, Md., to the Washington, D.C., area have been postponed [*Science* 122, 235 (5 Aug. 1955)]. Lack of suitable space in Washington was given as the reason for the postponement.

■ Improved resolution with the x-ray shadow projection microscope has been obtained by W. C. Nixon, Cavendish Laboratory, Cambridge, England [*Nature* 175, 1078 (18 June 1955)]. Former shadow-type x-ray microscopes have been limited to a resolution of 0.5 microns, mainly because of electron scattering in the metal target. To reduce this, x-ray targets of beaten gold leaf 0.1 micron thick were stretched over an opening of 100 microns, making it possible to reach a resolution of 0.1 micron (1000 Å). The target supports atmospheric pressure and is not broken by high electron current densities if the focal spot is less than 1 micron in diameter.

With this improved resolution, Fresnel edge diffraction fringes of 0.1 micron can be seen when the specimen and photographic plate are correctly placed. The article is illustrated with reproductions of 1500 mesh-per-inch test grids at magnifications of 3600 and 2000. These indicate the resolution of the instrument with 10-kilovolt electrons (exposure time about 5 minutes).

The author suggests that reducing the thickness of the gold leaf and using voltages in the 2- to 5-kilovolt region will reduce electron penetration, increase contrast, and might make the unexplored region beyond the ultraviolet microscope accessible with a specimen at atmospheric pressure.

■ The Republic of Korea's first hydroponic farm—a farm where plants are grown in chemicals, water, and gravel rather than in soil—was officially opened on 30 Aug. in a ceremony held at Suwon. The hydroponic unit was established by the United Nations Korean Reconstruction Agency (UNKRA) with the assistance of the American-Korean Foundation. It will be owned and operated by the Central Agricultural Experiment Station, under the ROK Ministry of Agriculture, and will be used for research and training by both the experimental station and by the College of Agriculture of Seoul National University.

The 1-acre farm consists of 52 concrete beds in which vegetables are planted in gravel, and four concrete tanks containing water and chemicals. Periodically the chemical-bearing water is circulated to the plants by means of four electrically driven pumps. The system makes it possible for the amount and kinds of plant food to be controlled exactly, and the use of four tanks permits experimentation with different chemical mixtures.

The hydroponic unit is intended to serve as a research tool to study the needs of different kinds of vegetables for chemical foods and to seek ways of increasing crop yields, as a laboratory for use in the teaching of soil science to agricultural students, and as a pilot plant to show whether more extensive use of hydroponic farming might be beneficial in Korea.

### Scientists in the News

HEROLD C. HUNT, professor of education at Harvard University, has been named Under Secretary of Health, Education, and Welfare by President Eisenhower. Hunt succeeds NELSON A. ROCKEFELLER.

CHARLES ALLEN THOMAS, president of the Monsanto Chemical Co., St. Louis, Mo., and a leader in the wartime atomic energy program, received the 1955 Priestley medal, highest honor in American chemistry, during the recent meeting of the American Chemical Society in Minneapolis, Minn. Thomas, a former president and former board chairman of the society, was honored for his "outstanding services to chemistry." His medal address was entitled "Science as a profession and its appeal to youth."

The winners of 13 other awards were announced at the Minneapolis meeting. Presentation will be made during the society's 129th national meeting in Dallas, Tex., next spring.

WILLARD F. LIBBY of the Atomic Energy Commission, inventor of the screen-wall

Geiger counter and the atomic time-clock method of measuring geologic age, has been chosen to receive the \$1000 ACS award for nuclear applications in chemistry. The annual prize is sponsored by the Nuclear Instrument and Chemical Corp. of Chicago, Ill.

HARRY G. DRICKAMER, professor of chemical engineering at the University of Illinois, is the winner of the \$3000 Ipatieff prize, given every 3 years. It is awarded to a scientist under 40 "to recognize outstanding chemical experimental work in the field of catalysis or high pressure."

ALLENE R. JEANES, chemist in the Northern Utilization Research Branch of the Agricultural Research Service, Peoria, Ill., who has contributed importantly to the development of dextran and its use as a blood volume expander, will receive the society's Garvan medal. The gold medal is given annually to recognize "distinguished service to chemistry" by a woman chemist.

SAMUEL R. HOOVER, head of the hides, tanning materials, and leather section in the Philadelphia research laboratory of the Eastern Utilization Research Branch of the Agricultural Research Service, has won the \$1000 Borden award in the chemistry of milk.

PAUL M. DOTY, associate professor of chemistry at Harvard University, has been selected for the \$1000 ACS award in pure chemistry. The award, sponsored by Alpha Chi Sigma, professional chemical fraternity, will honor Doty for his research on biological polymers.

HAROLD W. WASHBURN, vice president and director of research of the Consolidated Engineering Corp., Pasadena, Calif., will receive the \$1000 Beckman award in chemical instrumentation for his internationally recognized contributions to chemical analysis by means of the mass spectrometer. The prize, sponsored by Beckman Instruments, Inc., South Pasadena, Calif., is presented annually to a resident of the United States or Canada.

ROBERT A. ALBERTY, associate professor of physical chemistry at the University of Wisconsin, is to receive the Eli Lilly and Co. award in biological chemistry for his research in the field of enzymes. This annual award consists of \$1000 and a gold medal.

MILBURN J. O'NEAL, JR., group leader in charge of the analytic research group, Shell Oil Co., Houston, Tex., will be presented with the \$1000 Precision Scientific Co. award in petroleum chemistry.

VICTOR K. LA MER of Columbia University won the \$1000 Kendall Co. award in colloid chemistry.

HERMAN PINES of Northwestern University is to receive the Fritzsche award, \$1000 and a gold medal, for achievement in the field of essential oils. The prize

is sponsored by Fritzsche Brothers, Inc., New York.

HARVEY C. DIEHL, professor of chemistry at Iowa State College, is the winner of the Fisher award in analytic chemistry, sponsored by the Fisher Scientific Co. of Pittsburgh, Pa. This award of \$1000 and an etching is given to recognize and encourage outstanding contributions to the science of analytic chemistry in the United States or Canada.

MERTON F. UTTER, associate professor of biochemistry at Western Reserve University, has been chosen to receive the \$1000 Paul-Lewis Laboratories award in enzyme chemistry. The prize was established by Paul-Lewis Laboratories, Inc., Milwaukee, Wis.

OTTO M. SMITH, emeritus professor of chemistry and chemical engineering and director of the Research Foundation at the Oklahoma Agricultural and Mechanical College, will be presented with the \$1000 scientific apparatus makers award in chemical education.

CLARENCE E. LARSON has been appointed vice president in charge of research for the National Carbon Co., a division of the Union Carbide and Carbon Corp. He was formerly director of the Oak Ridge National Laboratory, which is operated by Union Carbide for the Atomic Energy Commission. Larson will head all of the National Carbon Co.'s research activities and will be a member of the corporation's research committee. His headquarters will be in Cleveland, Ohio, at the company's new research laboratory that is now under construction.

L. M. CURRIE, former vice president in charge of research, will continue as vice president and will assume new responsibilities involving sales, production, development, and research.

CHARLES L. DUNHAM has been appointed director of the Atomic Energy Commission's Division of Biology and Medicine, effective 1 Oct. He succeeds JOHN C. BUGHER, who will return to the Rockefeller Foundation, where he was recently named director of medical education and public health. Dunham became deputy director of the Division of Biology and Medicine in July 1954. He is succeeded in this post by CHARLES W. SHILLING, who since July has been serving as a special assistant to Bugher [*Science* 122, 409 (2 Sept. 1955)].

WILLIAM E. REYNOLDS, assistant professor of preventive medicine at the Harvard Medical School since 1949, became head of the department of public health and preventive medicine at the University of Washington in Seattle on 1 Sept. He succeeds Leland Powers, who resigned in 1953 to join the medi-

cal faculty of the American University in Beirut, Lebanon. Reynolds' research interests include rheumatoid arthritis, heart disease, and eye diseases in newborn infants.

R. E. BLACKWELDER delivered this summer's Timothy Hopkins lectures at the Hopkins Marine Station of Stanford University. The series of 10 lectures had the general title "Basic biological concepts." Blackwelder recently resigned from the Smithsonian Institution to pursue studies on the principles of biology.

ROBERT F. MEHL of Carnegie Institute of Technology has been invited to lecture at the Royal School of Mines, University of London, 20-25 Oct. Mehl, who is head of the department of metallurgical engineering and dean of graduate studies at the institute, is the first American to receive a lecture invitation from the British institution since its founding 100 years ago. He will discuss diffusion in solid metals and alloys; formation of ferrite and bainite from austenite; the pearlite-austenite reaction; and the growth of metal crystals from metal vapor.

BENJAMIN PASAMANICK, formerly associate professor in the division of mental hygiene, Johns Hopkins School of Hygiene, has been appointed professor of psychiatry at Ohio State University College of Medicine, and director of research at the Columbus State Psychiatric Institute.

ELLIS R. LIPPINCOTT, associate professor of chemistry at Kansas State College since 1951, has been appointed professor of chemistry at the University of Maryland. Lippincott is an authority on infrared and Raman spectroscopy. Another phase of his work has been concerned with the hydrogen bonds of proteins and biological substances. His principal activity at Maryland will be the development of a satisfactory theory of the nature of chemical bonds.

R. W. LAMONT-HAVERS, for the last year medical director of the British Columbia Division of the Canadian Arthritis and Rheumatism Society, has succeeded GIDEON K. DEFOREST as associate medical director of the Arthritis and Rheumatism Foundation, New York. DeForest will resume his duties on the teaching staff of the Yale University School of Medicine, where he is also head of the arthritis clinic.

OLIVER F. SENN, former assistant chairman of the chemistry department, Stanford Research Institute, has been appointed chairman. Recently he has centered his attention on research in waste utilization and air pollution.

## Necrology

JOHN C. DESSLOCH, Rochester, N.Y., 73, chief anesthesiologist at Genesee Hospital for 25 years and a member of the staff for 41 years, former president of Associated Anesthetists of the United States and Canada, 9 Sept.

GRAHAM EDGAR, Greenwich, Conn., 67, consulting chemist to Ethyl Corp., New York, former professor of chemistry at California Institute of Technology and the University of Virginia, World War I consultant chemist to the Army Ordnance Corps, and former staff member of the National Research Council, 8 Sept.

W. REDETT HATFIELD, White Plains, N.Y., 58, dentist and former assistant professor at Columbia University, 6 Sept.

GERADUS P. HERRICK, New York, N.Y., research engineer, "father of convertible aircraft," World War I captain in the aviation section of the Army Signal Corps, 9 Sept.

GEORGE A. HULETT, Princeton, N.J., 87, emeritus professor of chemistry at Princeton University and first professor of physical chemistry to be appointed there, a founder of the Army Chemical Warfare Service, 6 Sept.

WILLIAM F. JENNINGS, Mendham, N.J., 69, powder metallurgist, 14 Sept.

ALFRED E. MIDGLEY, Linden, N.J., 67, chemist, 8 Sept.

GUSTAVE NOBACK, Forest Hills, N.Y., 65, retired professor of anatomy at Cornell University, former chairman of the department of anatomy at the College of Dentistry, New York University, former professor and head of the department of anatomy at the University of Puerto Rico, 10 Sept.

ROBERT SALTER, Washington, D.C., 63, chief of soils research for the Department of Agriculture and former head of the Soil Conservation Service, former chairman of the Ohio State University's Agronomy Department, vice president in 1938 of AAAS Section O, Agriculture, 14 Sept.

HAAKON STYRI, Philadelphia, Pa., 69, research consultant and metallurgist, 13 Sept.

## Education

■ Development and construction of a new radiotelescope for solar research has recently been announced by Donald H. Menzel, director of Harvard College Observatory. This radiotelescope, technically known as the dynamic spectrum analyzer, will be used to further basic scientific knowledge of the sun by studies of the radio emission from active sunspots and other solar disturbances.

The radiotelescope will consist of an antenna 28 feet in diameter, used in