Army Ballistic Missiles Agency at Huntsville, Ala. One clock has been installed in the agency's Guidance and Control Laboratory, where the systems that steer rockets in flight are developed, and two others are used by the Missiles Firing Laboratory, the unit that launches the Army rockets from the Test Center at Cape Canaveral.

Vanguard to Last 200 Years

John P. Hagen, director of the Vanguard Project, estimated in a recent speech before the American Society of Newspaper Editors that the life expectancy of the Vanguard satellite was "at least 200 years." Shortly after the launching last month Hagen predicted that the 6-inch sphere would last for at least 10 years. Vanguard is on a steady course—405.1 miles from the earth at the nearest point and 2463 miles away at the most distant—and is circling the earth in 2 hours, 14 minutes, and 4 seconds. The change in orbit has been so small "that it is most difficult to measure," according to Hagen.

It is estimated that the Army's Explorer I, the first United States satellite, will last from 3 to 5 years. Explorer II did not orbit, and Explorer III was given a life expectancy of "at least two months" when it was launched on 26 March.

News Briefs

Children are still immune to poliomyelitis 3 years after their original inoculations with Salk vaccine. This finding was announced on 15 April in a report to the American Association of Immunologists by Gordon C. Brown, professor of epidemiology at the University of Michigan. Brown's report was based on a study of 139 children. He said that infants who had received smaller-than-average doses of the vaccine 3 years ago are still protected, too. The study also showed that the booster shot is the most important inoculation in the entire poliomyelitis series.

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Scientists who are working in the fields of aviation and space medicine but who are not physicians may now become full members of the Aero Medical Association in accordance with amendments to the society's constitution and bylaws adopted at the 29th annual meeting at the Statler Hotel, Washington, D.C., on 25 March. In the past, aeromedical scientists who did not possess the degree of doctor of medicine were eligible only to become associate members.

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The National Academy of Sciences has announced that the *IGY Bulletin,* official monthly publication of the U.S. National Committee for the International Geophysical Year, is now available by subscription. The subscription rate is $4. This will include all back issues, dating from July 1957, together with all future issues. (The *Bulletin* will be published at least through December 1958 and possibly through June 1959.) Subscriptions should be sent to the Publications Office, National Academy of Sciences, 2101 Constitution Ave., Washington 25, D.C.

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A new international vocabulary of lighting terms, the culmination of 20 years of study by a working party of the Commission Internationale de l'Eclairage, is now ready for distribution through the organization's United States National Committee. Printed in three languages—French, English, and German—the *International Lighting Vocabulary of the International Commission on Illumination* contains 530 terms, with definitions, as well as numerous symbols and formulas. The publication may be obtained for $2.50 from Mr. T. D. Wakefield, Treasurer, U.S.N.C. Vermilion, Ohio.

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The American Phytopathological Society has for several years sponsored the publication of results from tests on new fungicides. The *Results of 1957 Fungicide Tests* for the first time has been printed privately and is issued as a single publication. Previously the *Results* have been assembled by combining reprints of serial articles published in *Agricultural Chemicals.* The *Results of 1957 Fungicide Tests* can be obtained for $1 per copy from Dr. A. B. Groves, Department of Plant Pathology and Physiology, Winchester Fruit Research Laboratory, Route 3, Winchester, Va.

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Present knowledge of the geology and mineral resources of the continental shelves of North and South America is summarized in a report released recently by the U.S. Geological Survey. The report consists of a set of four papers, under the over-all title *An Introduction to the Geology and Mineral Resources of the Continental Shelves of the Americas,* by James Trumbull, John Lyman, J. F. Pepper, and E. M. Thomasson. Copies may be obtained for 75 cents each from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

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Only 16 secondary schools in the United States—eight public and eight private—are now teaching the Russian language, according to a report by Helen B. Yakobson, head of George Washington University's Slavic languages department. However, all but seven states have at least one college or university offering Russian. By way of contrast, from 5 million to 6 million Soviet students are reported to be studying English, and Russian is taught in 70 French secondary schools.

Scientists in the News

ROBERT B. BRODE has been named associate director for research at the National Science Foundation, effective in July. He will be on leave of absence from the University of California (Berkeley), where he has been professor of physics since 1932. He succeeds PAUL E. KLOPSTEG, who will continue to serve the foundation as a consultant. Klopsteg is president-elect of the AAAS.

ARTHUR E. LILLEY, assistant professor of astronomy at the Yale University Observatory, has been awarded the Bart J. Bok Prize for his work in radio astronomy. The award was made on 22 April at a Harvard University conference on radio noise. Lilley's work deals with measurements of the doppler effect in the radio spectrum.

The Bok Prize is awarded every 2 years to a student who has recently been awarded the Ph.D. in the physical sciences at Harvard or Radcliffe. It is given for "work in the area of Milky Way research by observational methods." The prize fund was donated anonymously in 1956 in honor of Bart J. Bok, longtime professor of astronomy at Harvard, and now director of the Mount Stromlo Observatory of the Australian National University.

JOHN P. SCOTT, chairman of the division of behavior studies at the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me., since 1945, and senior staff scientist since 1957, joined the department of psychology in the division of biological sciences of the University of Chicago on 1 April, as visiting professor for the quarter ending 30 June.

The following awards were made during the 95th annual meeting of the National Academy of Sciences, which took place in Washington, D.C., on 28 April.

HORACE W. BABCOCK, astronomer, Mount Wilson and Palomar Observatories, Pasadena, Calif., received the Henry Draper Medal "for his original and outstanding work leading to the discovery of magnetic fields in stars and also the general magnetic field of the sun."

MARK G. INGHRAM, professor of physics at the Enrico Fermi Institute for Nuclear Studies, University of Chicago, received the J. Lawrence Smith Medal "for his work on the measurement of the ages of meteorites."

GUSTAV A. COOPER, head curator, department of geology, U.S. National Museum, Washington, D.C., re-

ceived the Mary Clark Thompson Medal "for his contribution to our knowledge of the biology and stratigraphic significance of the fossil brachiopods."

GEORGE VAN BIESBROECK, emeritus professor of astronomy, Yerkes Observatory, Williams Bay, Wis., received the James Craig Watson Medal "for his noteworthy contributions to astronomy."

ERNEST W. GOODPASTURE, scientific director, department of pathology, Armed Forces Institute of Pathology, Washington, D.C., received the Jessie Stevenson Kovalenko Medal "for outstanding contributions to medical science and for long and continued devotion to the study of his chosen field of pathology."

THEODOSIUS DOBZHANSKY, professor of zoology, Columbia University, received the Kimber Genetics Award as a "versatile and inspired student of the mechanism of heredity, and of the roles which genetic and environmental factors play in the origin and structure of populations and in the process of biological evolution."

PIERRE HUPE, Laboratoire de Géologie de la Sorbonne, Université de Paris, received the Charles Doolittle Walcott Medal "in recognition of his monumental work entitled 'Contribution à l'étude du Cambrien inférieur et du Précambrien III de l'Antiatlas marocain'."

WARREN C. JOHNSON has been elected vice president of the University of Chicago in charge of special scientific programs. He succeeds Walter Bartky, who died in March. The new vice president has been dean of the university's Division of the Physical Sciences since 1955 and a member of the faculty since 1927. He was made professor and chairman of the department of chemistry in 1945.

J. W. C. GATES, senior scientific officer, Light Division, National Physical Laboratory, Teddington, Middlesex, England, will be in the United States and Canada from 31 May to about 21 June. His itinerary probably will include: Washington (31 May–9 June); Boston; Ottawa, Canada; Rochester, N.Y.; Detroit; Harrodsburg, Ky.; Elgin Air Force Base, Fla.; and Pittsburgh.

W. E. VAN HEYNINGEN of Oxford University, a specialist in tetanus toxin, delivered the first annual John Howard Mueller memorial lecture at the Harvard Medical School on 24 April. Van Heyningen is a senior research officer of the Medical Research Council in the Sir William Dunn School of Pathology at Oxford. The lecture honors Mueller, who at the time of his death in 1954 was Charles Wilder professor of bacteriology and immunology at the Harvard Medical School.

ANDREW J. RAMSAY, professor of histology and embryology at the Jefferson Medical College, has been appointed professor of anatomy and head of the department at Jefferson. He is also director of the college's Daniel Baugh Institute of Anatomy. He succeeds the late George A. Bennett.

JOSEPH MORGAN, professor of physics and director of the engineering program at Texas Christian University, has been named chairman of the physics department, effective 1 September. He succeeds NEWTON GAINES, who is retiring after having been chairman for 34 years.

JOHN H. WILLIAMS, physicist at the University of Minnesota, has been appointed director of the Research Division of the U.S. Atomic Energy Commission. He was granted leave of absence by the university to accept the appointment. He succeeds THOMAS H. JOHNSON, who resigned on 1 October 1957, to manage the Research Division of the Raytheon Manufacturing Company, Waltham, Mass.

EUGENE G. ROCHOW, professor of inorganic chemistry at Harvard University, has been selected to present the annual Joseph J. Mattiello Memorial Lecture at the 36th annual meeting of the Federation of Paint and Varnish Production Clubs, which will take place in Cleveland, Ohio, 5–8 October.

HANS WELTIN, physicist, is affiliated temporarily with the U.S. Naval Radiological Defense Laboratory in San Francisco. In the fall he will become head of the physics department at Robert College, Istanbul, Turkey. Weltin has spent the past 7 years in the Orient on an assignment to teach U.S. military personnel at various stations in Japan, Guam, Korea, and Okinawa, for the U.S. Government and the University of California.

LELAND M. WHITE has been appointed director of research and development for the United States Rubber Company, replacing SIDNEY M. CADWELL, who has retired after 39 years of service. White joined the company's research and development department in 1940 as a research chemist after obtaining his Ph.D. degree in physical chemistry and physics from the University of Kansas. He rose to research group leader, then department head, and since 1953 has been assistant director of the department.

Cadwell, director of research and development since 1946, is the holder of 59 patents. Among them are antioxidants which add to the service life of many rubber products, including tires, and a tough cover for golf balls known as the "Cadwell cover." Cadwell was among the first to recognize the advantages of using butyl rubber for inner tubes and rayon cord for tires.

HENRY I. WOHL, formerly head of the agricultural department of St. Martin's College, Olympia, Wash., has joined the Jackson B. Hester Agricultural Research Laboratories, Elkton, Md.

Recent Deaths

FANNIE L. DUHRING, Philadelphia, Pa.; 80; bacteriologist and former curator of animals at the Wistar Institute of Anatomy at the University of Pennsylvania; 14 Apr.

AURELIANO M. FERNANDES, Lisbon, Portugal; 73; mathematician who retired in 1954 as professor of mathematics at the Technical University of Lisbon; 19 Apr.

HENRY J. FRANKLIN, Wareham, Mass.; 75; entomologist whose pioneering research led to the control of two pests that almost destroyed the Massachusetts cranberry industry in 1905; founded the Massachusetts Experimental Cranberry Station in East Wareham in 1908; 16 Apr.

ROSALIND FRANKLIN, London, England; 37; specialist in virus structure; internationally known for work on the structure of nucleoproteins in relation to virus diseases and genetics; 17 Apr.

HUGH A. KUHN, Chicago, Ill.; 63; physician who lectured at European universities; president of the American Society of Ophthalmology in 1952 and vice president of the American College of Allergists in 1957; 17 Apr.

E. F. LISKUN, Moscow, U.S.S.R.; 84; academician and specialist in animal husbandry; head of the faculty at the Timiryazev Agricultural Academy in Moscow; published more than 700 works; 20 Apr.

WILLIAM L. RAWS, Melbourne, Australia; 79; chairman of the board of the Imperial Chemical Industries of Australia and New Zealand, Ltd.; 20 Apr.

JOHN E. SNOW, Athens, Ohio; 92; professor emeritus of electrical power production at Illinois Institute of Technology in Chicago; 19 Apr.

GABRIEL TUCKER, Philadelphia, Pa.; 77; emeritus professor of bronchoesophagology and laryngeal surgery at the University of Pennsylvania's Graduate School of Medicine; specialist in the removal of lung cancers and the use of the bronchoscope; 17 Apr.

SAMUEL A. VEST, Charlottesville, Va.; 53; chairman of the urology department at the University of Virginia Medical School; 6 Apr.