Education of the American Dental Association and the W. K. Kellogg Foundation. It was undertaken at the request of the Western Interstate Commission for Higher Education and published by the commission under the title "*Dental Manpower Requirements in the West.*" The survey covers Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming, and also includes sections of the territories of Alaska and Hawaii.

New Electron Tube

A retarding-field oscillator, a new electron tube designed to operate at extremely high frequencies with large power outputs, has been developed by Ohio State University under a contract with the Wright Air Development Center of the Air Research and Development Command. The new tube operates at a frequency of 70,000 megacycles per second, and it has operated, with reduced power output, at 100,000 megacycles per second.

The tube is tunable, and it operates at lower voltage and with higher power output than tubes now on the market. Several rare metals are utilized in making the tubes. Gold is used as a solder; silver finds various uses because it has a low electric resistance; additional metals used include tungsten and tantalum, both of which have very high melting points. Sapphires are used for bearings.

News Briefs

■ The Audubon Society of Canada has come out strongly against current proposals to trap whooping cranes in the hope of breeding them in captivity. The society's executive director, John A. Livingston, said such a move would endanger the very existence of the cranes and that to remove any birds from the wild flock of 27 might so seriously alter the numerical level of the species that they could no longer maintain themselves in a natural state.

■ A helicopter has been flown into the fuming crater of Mount Ngauruhoe in New Zealand four times in order to deposit scientific instruments attached to cables that connect the volcano with an observation station 6 miles away. Seismologists are hoping to collect facts that will enable them to forecast the volcano's eruptions.

■ Prompt reporting of unusual or adverse reactions to drugs is the objective of a new joint study being carried on by 11 leading hospitals. The pilot reporting system, which is sponsored by the Food and Drug Administration, is being developed with the collaboration of the American Association of Medical Record Librarians, the American Society of Hospital Pharmacists, the American Medical Association, and the American Hospital Association.

■ Ancient pines, more than 4000 years old, have been found growing in the upper timberline of the White Mountains in eastern California by Edward Schulman of the University of Arizona Laboratory of Tree-Ring Research and his assistant, C. W. Ferguson, Jr. The trees are the oldest known living things, and exceed the age of the oldest dated giant sequoias of California by about 1000 years. The discovery is reported in a recent publication by Schulman titled *Dendroclimatic Changes in Semiarid America.*

Scientists in the News

GEORGE GAMOW, professor of physics at the University of Colorado, received the Kalinga prize from the director-general of the United Nations Educational, Scientific, and Cultural Organization in a brief ceremony that took place recently at United Nations Headquarters. The prize, awarded annually by UNESCO to a science writer selected by an international jury, was established in 1952 by B. Patnaik, of Cuttack, Orissa, India, for the dual purpose of recognizing outstanding interpretation of science to the general public and of strengthening scientific and cultural links between India and other nations. The winner receives a prize of 1000 pounds sterling and also is invited to the annual meeting of the Indian Science Congress and to spend a month visiting and lecturing in India.

LESTER LEWIS, an industrial physicist, has been appointed professor and chairman of the department of physics at Wagner College (Staten Island, N.Y.). In the past 18 years he has served as a physicist for the American Radio and Research Corporation, the General Electric Company, the National Bureau of Standards Textile Foundation, and the Radiation Laboratory at Massachusetts Institute of Technology.

FREDERICK SEITZ, professor of physics at the University of Illinois and chairman of the governing board of the American Institute of Physics, has been appointed to the National Bureau of Standards Statutory Visiting Committee. The visiting committee consists of five scientific and industrial leaders appointed by the Secretary of Commerce. Their function is to visit the bureau at least once a year and report to the Secretary "upon the efficiency of its scientific work and the condition of its equipment."

Appointed for a 5-year period, Seitz replaces J. H. VAN VLECK of Harvard University, whose term expired this year. The other members of the committee are M. J. KELLY, president of Bell Telephone Laboratories; CLYDE E. WILLIAMS, president of Battelle Memorial Institute; CRAWFORD H. GREENEWALT, president of E. I. duPont de Nemours and Company; and D. W. BRONK, president of the National Academy of Sciences.

CURTISS M. EVERTS of Portland, Ore., has been named by the Surgeon General of the U.S. Public Health Service to direct initial operation of the construction grants program authorized by the new Federal Water Pollution Control Act. This act provides for grants of $50 million during the current fiscal year to assist municipalities in the construction of sewage treatment works needed for pollution control and water conservation.

The program marks a new step by the Federal Government to further local and state efforts to control pollution of streams and conserve the nation's diminishing supply of usable water. Everts will be on leave from his duties as chief sanitary engineer of the Oregon State Board of Health.

PARK H. MILLER, JR., until recently professor of physics at the University of Pennsylvania, has joined the General Atomic Division of General Dynamics Corporation, San Diego, Calif.

PAUL H. HARVEY, professor and head of the department of field crops at North Carolina State College, has received the 1956 national award for distinguished service to agriculture that is sponsored annually by Gamma Sigma Delta, national honor society of agriculture.

HOWARD C. LUDWIG, of the metallurgy department staff at the new Westinghouse Research Laboratories near Pittsburgh, Pa., received the 1956 James A. Lincoln gold medal at the American Welding Society metal congress that took place recently in Cleveland, Ohio. The medal is awarded annually for the best paper presented at society conferences during the previous 12 months. Ludwig was honored for his work on "Metal transfer characteristics in gas shielded arc welding."

CHARLES M. MOTTLEY, formerly director of the planning division in the Office of the Assistant Secretary of Defense for Research and Development,

has joined the Washington, D.C. office of Stanford Research Institute. He will assist in broadening the scope of S.R.I.'s operations research program on the East Coast. In addition, he will aid in developing the institute's interests in medical and biological economics.

FRANK M. STRONG, biochemist at the University of Wisconsin, will deliver three of the 1956 series of the E. R. Squibb lectures at the Rutgers Institute of Microbiology. He will lecture on the general subject of "Adventures in microbial chemistry: Antimycin, CoA, Kinetin" on 5, 6, and 7 Dec.

DONOVAN S. CORRELL has joined the staff of the Texas Research Foundation, Renner, Tex., as chief botanist and head of the Botanical Laboratory. He was formerly principal botanist in the Plant Introduction Section of the U.S. Department of Agriculture, Beltsville, Md.

RICHARD T. WHITCOMB, aeronautical research scientist at the Langley Aeronautical Laboratory of the National Advisory Committee for Aeronautics, has received the NACA's highest award, the Distinguished Service Medal. He is the first person to receive the award since it was established last year. The citation said that Whitcomb "by his discovery and experimental verification of the Area Rule, accomplished in the period 1951–52 through the skillful use of the new NACA transonic wind tunnels, provided a novel and useful means of increasing, by as much as 25 per cent, and without additional power, the speed of airplanes in supersonic flight. . . .

The Area Rule provides a means of reducing the drag rise of airplanes that occurs at transonic and supersonic speeds.

Whitcomb found that when the combined cross-sectional area of wings, fuselage, tail, and other surfaces of the airplane is reduced, the drag rise is lowered substantially. In practice the design usually results in a narrow waist, or indentation, about mid-section of the aircraft fuselage.

The Area Rule was kept secret for security reasons from 1952 until September 1955, when the first planes using the concept went into production for the Air Force and Navy. Other high-speed military aircraft now under development incorporate the Area Rule design.

PAUL A. SIPLE recently left for Antarctica, where he will take charge of the scientific program at a base to be established at the South Geographical Pole. While at the pole he plans, by means of radio, to continue his activities as deputy to Rear Adm. Richard E. Byrd, officer in charge of the U.S. Antarctic Programs.

HARVEY BURSTEIN, who holds a law degree and who served with the Federal Bureau of Investigation for 6 years, has been named security officer at the Massachusetts Institute of Technology. He will be involved in the problems of security for the classified research work being done for the Federal Government, and also with the general problems of plant protection that are extensive in an institution as large as M.I.T.

ALFRED M. FREUDENTHAL, professor of civil engineering at Columbia University, has been awarded the 1956 medal of the Swedish Aeronautical Society. The presentation was made recently by Bo Lundberg, president of the Swedish Society of Engineers, at the Swedish Aeronautical Research Institute in Stockholm.

ROBERT S. MULLIKEN, physicist and expert on the spectra of molecules at the University of Chicago, has been named to the university's Ernest DeWitt Burton distinguished service professorship. Mulliken, who has been a member of the University of Chicago faculty since 1928, has specialized for the past 20 years in the study of the chemical bond of molecules, using spectroscopic methods. The professorship to which he has been appointed was established in honor of the third president of the University of Chicago and is one of a limited number of specially named chairs awarded for distinction in scholarship or science.

ROBERT W. SCHUMANN, formerly of Argonne National Laboratories, where he designed and developed the 256-channel analyzer, has been appointed chief development engineer of Radiation Counter Laboratories, Skokie, Ill.

R. M. BURNS, senior scientific adviser to the Stanford Research Institute, has been awarded the Acheson medal of the Electrochemical Society in recognition of his work on the corrosion of metals and his long-time participation and leadership in the affairs of the society. The medal and a $1000 prize are awarded every 2 years for notable contributions to the advancement of the society's objectives, purposes, and activities.

GEORGE P. FULTON, professor of biology, Boston University, College of Liberal Arts, has been appointed to succeed BRENTON R. LUTZ as chairman of the department of biology.

Inauguration exercises for the installation of ROBERT B. SMITH, JR., as fourth president of the Medical College of Virginia are scheduled for 17 Dec. Smith assumed the presidency on 1 July.

FLOYD A. ODELL, formerly deputy chief, biophysics division, Medical Directorate, Army Chemical Center, Md., has been appointed scientific director of the Army Medical Research Laboratory, Fort Knox, Ky.

The National Institute of Mental Health, Bethesda, Md., has announced the appointment of HAROLD M. HILDRETH as consulting psychologist in the Hospital Consultation Service of the Community Services Branch. Hildreth was formerly chief of the Clinical Psychology Division of the Veterans Administration.

JOHN E. BELL, formerly director of the Psychological Clinic at Clark University, where he was associate professor, is now with the NIMH as consultant in clinical psychology assigned to the San Francisco office of the Public Health Service.

WILLIAM M. HALES, formerly area chief psychologist in the area medical office of the Veterans Administration in St. Paul, Minn., has joined the staff of NIMH as consultant in clinical psychology. He has been assigned to the USPHS Dallas office.

Recent Deaths

MARK H. ADAMS, Huntington, L.I., N.Y.; 44; associate professor of biochemistry, New York University College of Medicine; member of AAAS editorial board; 17 Oct.

PAUL E. CARLINER, Baltimore, Md.; 46; codeveloper of Dramamine; 13 Oct.

HARRY N. FALK, Los Angeles, Calif.; 70; vice president of Baxter Laboratories; 9 Oct.

DAVID S. FAULKNER, Los Angeles, Calif.; 70; mechanical engineer and retired vice president of the National Supply Company; 11 Oct.

DENIS DE GOENCZ, Washingon, D.C.; 74; color chemist and pioneer in crush-resistant fabrics; 14 Oct.

TAYLOR B. GRANT, Chocorua, N.H.; 67; retired electrical engineer for the Bell Telephone Laboratories; 15 Oct.

AARON M. HAGEMAN, Verona, N.J.; 66; retired director of research, engineering, and equipment for the lamp division of the Westinghouse Corporation; 11 Oct.

SHORTRIDGE HARDESTY, Larchmont, N.Y.; 72; civil engineer and specialist in bridge designing; 17 Oct.

KENNETH S. JOHNSON, South Orange, N.J.; 71; retired engineer at the Bell Telephone Laboratories; 17 Oct.

HENRY R. KRAYBILL, Chicago, Ill.; 65; professorial lecturer in the de-