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acquaint graduate students with all the major materials. It is expected that the number of researchers and graduate students will at least double in number within the first five years.

The University of Pennsylvania received a \$4.4 million contract from ARPA and plans to construct a three-story building on its campus to house its new facility for the research program in materials science. While the initial contract covers only a four-year period, the University expects that the program will continue for at least ten years and that the teaching staff and graduate students of the departments involved with materials science (metallurgy, solid-state physics, and chemistry groups) will at least double in number.

Documentation

The fourth edition of a bibliography of paper-bound science books, entitled *An Inexpensive Science Library* and listing some 500 volumes, has been released by the American Association for the Advancement of Science's Library Program as an educational service. The books listed are classified in terms of the relative sophistication demanded of their readers. A listing of the publishers' names and addresses and selected retail dealers is included. Copies of the 70-page list can be obtained from the AAAS (1515 Massachusetts Avenue, N.W., Washington 5, D. C.) for 25 cents each; a one-third discount will be given on orders of more than 25 copies.

As has previously been announced, the editorial offices of the *Journal of Applied Physics* are now located in the state of Tennessee. However, a considerable portion of the contributions and communications submitted to the *Journal* are still being addressed to its former office at Cornell University. The staff requests that all manuscripts and letters intended for publication in *JAP* be addressed to the new office: Dr. J. A. Crawford, Editor, *Journal of Applied Physics*, Solid State Division, Oak Ridge National Laboratory, Oak Ridge, Tenn.

Volume 1, Number 1 of *The Australian Scientist*, a monthly digest of progress in scientific research, development, and application, is scheduled to appear in February. The new journal will aim at increasing interest and knowledge in scientific subjects in Australia and will contain lay-language articles in all areas of science. The editorial board consists of S. T. Butler of the University of Sydney School of Physics; A. S. Fraser of the CSIRO Division of Animal Genetics; H. Messel, head of the School of Physics at Sydney; Sir Mark Oliphant, director of the Research School of Physical Sciences, Canberra, and R. N. Robertson, member of the executive, CSIRO, Melbourne. Subscription information is available from the publisher, Tasman Press Pty. Limited, 9-23 Upward Street, Leichhardt, N. S. W., Australia.

The 1960 edition of *The Optical Industry Directory* has been published by the Optical Publishing Com-

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pany, Lenox, Mass. Priced at \$7.50, it contains listings of optical products and services (instruments, components, raw materials, special services, and manufacturing equipment), American companies furnishing optical items, and commercially available American and foreign corrected lenses.

"Universe", a 16-mm black and white sound film based on recent advances in astronomy, has been released by the National Film Board of Canada, 680 Fifth Avenue, New York 19, N. Y., from whom information concerning purchase or rental can be obtained.

Industry

Geophysics Corporation of America, Boston, Mass., has established a Physics Systems Division with headquarters in San Diego. Initially, the Division will be concerned with various aspects of the application of physical principles to undersea and ballistic missile warfare, space-based systems, and nuclear propulsion. John W. Bond, Jr., has been appointed general manager of the Division and Heinz F. Poppendiek has been named director of applied research.

VIRON, a division of Geophysics Corporation of America, has transferred its headquarters from Minneapolis to Anoka, Minn., in an expansion of its research and manufacturing plant facilities. VIRON's operations are concerned with the utilization of plastic materials for satellites, space structures, and atmospheric research programs.

Tennessee Eastman Company, a division of Eastman Kodak Company, has expanded its research program through the creation of a new company, Eastman Research A. G., with offices and laboratories in Zurich, Switzerland. Work of the new firm will be directed primarily toward fundamental research in polymer chemistry and physics, catalysis, and synthetic organic chemistry.

Litton Systems, Inc., a wholly owned subsidiary of Litton Industries, Inc., has established a new electronics research and development laboratory in Waltham, Mass. The new facility is part of the company's Advanced Development Laboratory with headquarters at the corporate offices in Beverly Hills, Calif.

Radio Corporation of America has announced an instrument leasing plan under which educational institutions, laboratories, and other users may rent electron microscopes and x-ray diffraction and spectroscopy equipment. The plan calls for no down payment and, if desired, prorated credit for part of each month's rental may be applied toward outright purchase of the equipment during the five-year lease tenure. For further information contact Mr. Tom Bradshaw, 2-3, Radio Corporation of America, Camden, N. J.

Francis A. Jenkins, professor of physics at the University of California in Berkeley, died of cancer on August 3, 1960, at the age of 61. Jenkins received the

PhD degree in physical chemistry from the University of Chicago in 1925. He spent the next two years as National Research Fellow in physics, the first at Chicago, the second at Harvard University. For the years 1927-29 he was assistant professor of physics at New York University and then came to Berkeley. He rose through the associate professorship to full professor in 1936. In 1941 and 1942 he worked at the US Navy Radio and Sound Laboratory in San Diego and then for the remainder of the war with the Manhattan Project both at the Radiation Laboratory in Berkeley and at Oak Ridge.

In the course of 31 years on the Berkeley campus, Jenkins contributed extensively to the administrative and Academic Senate life as well as to both teaching and research. There is hardly an important committee on which he did not serve, and he was chairman of many. From 1950 to 1955 he was associate dean of the Graduate Division. He assisted very ably in the building up of the Physics Department in Berkeley.

Jenkins' research was almost entirely in the field of spectroscopy, particularly molecular spectroscopy. His early study of boron oxide showed the necessity of half-integral quantum numbers. In 1930 he investigated the influence of spin and statistics of the nucleus in producing alternating intensities in homonuclear diatomic band spectra. He returned to this subject later to make the first measurement of the spin of C^{14} . The perturbations of the cyanogen bands, studied in 1929, provided a beautiful quantum mechanical case of perturbation theory. After the war he made measurements on the hyperfine structure and isotope shifts in atomic spectra. His experimental techniques were simple, and the results were beautiful, as all students of spectroscopy know. He was concerned with applications of spectroscopy to chemical and astrophysical problems. At his death he was engaged with J. G. Phillips on a large project in the analysis of band spectra of diatomic molecules, especially those of astrophysical interest.

Jenkins was a Guggenheim fellow in Utrecht in 1932, Uppsala in 1948, and Oxford in 1958. He was a fellow of the American Physical Society and a fellow and member of the Board of Directors of the Optical Society of America. He had been associate editor of the *Journal of the Optical Society of America*. He was one of the original members of the Joint Committee on Spectroscopy of the International Council of Scientific Unions. In that capacity he attended meetings and gave invited papers at Cambridge in 1950, Rome in 1952, and Lund in 1954. The text which Jenkins and White wrote in 1937 and revised twice, *Fundamentals of Optics*, is highly regarded and is used world wide.

He is survived by his wife, Henrietta, and three sons, Thomas, Frederic, and Edward. All who knew him in Berkeley, or elsewhere in the United States or in Europe, will remember with affection his friendly and engaging character. The world of physics has lost a fine colleague.

A. C. Helmholz
University of California at Berkeley