

operation" in seeking to "put to work all of the private resources in this country and abroad so as to improve the welfare of men and women throughout the world and raise their living standards by means of atomic energy". Other officers are William C. Foster, vice president; Oscar M. Reubhausen, secretary; and Joseph M. Dodge, treasurer. The organization's directors are Robert F. Bacher, Prentiss M. Brown, Chester Bowles, William A. Calvin, Arthur H. Dean, John R. Dunning, William T. Gossett, Paul G. Hoffman, C. D. Jackson, Philip D. Reed, David Rockefeller, Hartley Rowe, E. Blythe Stason, William Webster, and Theodore P. Wright.

Research and Development

Cosmic-ray physicists from several universities participated last month in a series of "Skyhook" balloon flights from Texas, under the sponsorship of the Office of Naval Research and the Atomic Energy Commission. Some 12 flights of high-altitude plastic balloons, each carrying up to 150 pounds of scientific apparatus, were launched from Goodfellow Air Force Base, San Angelo, Texas. The experiments, which were expected to be concluded by January 20th, were part of the broad ONR-AEC nuclear physics research program.

Yale University has been awarded a grant of more than \$3 million by the John A. Hartford Foundation to be used for research and training in biophysics and for the construction of a new biophysics research laboratory. The fund will be received in the form of an annual grant of \$180 000 for the next fifteen years, plus \$460 000 for the construction of the laboratory, which will be located on the Hartford Foundation's property in Valhalla, N. Y., two miles north of White Plains. Ernest C. Pollard, professor of biophysics at Yale, will be chairman of the University's new department of biophysics, and Franklin Hutchinson, assistant professor of radiation physics, will be resident director of the Biophysics Research Laboratory at Valhalla upon its completion. The new department of biophysics, according to Professor Pollard, will have a staff almost double the present faculty now interested in biophysics and will include physicists, chemists, biologists, and physicians. Instructional headquarters of the program will be located in the new research laboratory for biology and physics currently under construction at Yale. The Valhalla laboratory, in addition to being the center of a research program, will also be used for conference and seminar purposes as well as for summer studies.

Ground was broken on January 10th for the first of four laboratory buildings to be constructed under a \$10 million development program of the Missile Systems Division of the Lockheed Aircraft Corporation at Van Nuys, California. The new research building, which is expected to be completed by next fall, will provide 74 000 square feet of laboratory and office space. "This new facility is the forerunner of a completely integrated system of research laboratories," said Elwood

R. Quesada, vice president and general manager of the Division. "They will be staffed by some of the world's outstanding scientists—men whose mission is to put totally reliable defense and retaliatory weapons in the hands of our armed forces." Since it was organized in 1953, the Division has grown from 30 to 1250 employees. The research laboratory is headed by E. H. Krause, formerly associate director of research at the Naval Research Laboratory.

The American Locomotive Company has been awarded a \$2.1 million AEC contract to design, build, and test-operate a prototype "package" nuclear power plant with components that can be air-lifted to remote bases. To be known as the Army Package Power Reactor (APPR), it will have a capacity of about 2000 kilowatts of electric power, with future models to include provisions for space heating as well.

The West German government, according to a dispatch from Bonn to *The New York Times* dated December 4th, is reported to have "set about drafting an atomic energy bill" which will be bound by the restrictions on atomic energy development in Germany contained in agreements with the Western powers. A group of sixteen German industrial concerns led by four major companies is at the same time preparing to build a \$5 million reactor for "civilian experimentation in the nuclear energy field", the newspaper said.

Publications

Comprehensive lists of serial publications in the United States and the Soviet Union have been prepared by the Science Division of the Library of Congress under a grant from the National Science Foundation. The two lists are intended to inform scientists and others who work with scientific literature of the existence, nature, and availability of current scientific and technical publications of both the United States and the USSR. The first list (*Scientific and Technical Serial Publications, United States, 1950-1953*) contains approximately 3600 titles. The USSR list (*Scientific and Technical Serial Publications, Soviet Union, 1945-1953*) contains about 1700 titles, including those of which the compilers have some knowledge but which do not appear to be available in the United States. It is noted that of the Russian publications some 350 are apparently not available anywhere in the United States, and only a few scattered issues of some 200 others could be found in this country. In both lists, the serials and periodicals are listed under broad subject headings and are described wherever possible in terms of issuing organization or publisher, place of publication, date of first issue, frequency, and nature of contents. The U. S. list (price, \$1.25) and the Russian list (price, 60 cents) are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

The National Bureau of Standards has issued a 108-page *Report of the Thirty-Ninth National Conference on Weights and Measures, 1954*. The volume, NBS

Miscellaneous Publication 212, contains the addresses and reports delivered at the conference and covers such topics as electromagnetic flowmeters, fabric measuring devices, legislation, weights and measures education, and reports of conference committees on specifications and tolerances. It may be ordered from the Government Printing Office, Washington 25, D. C., for 50 cents.

A compilation of commercially descriptive data on electronics test equipment (three volumes, 2300 pages) is the result of a research project originated and monitored by the Wright Air Development Center of the USAF Air Research and Development Command. The need for a single reference source on such data with resultant savings to manufacturers was considered of sufficient importance for the Air Force to authorize the contractor to publish and sell these volumes commercially. Further details can be obtained from Carl J. Frederick and Associates, 4630 Montgomery Ave., Bethesda 14, Maryland.

The collected papers presented at the 27th International Congress of Industrial Chemistry, held in Brussels last September, are to be published as a special two-volume, 2000-page edition of the technical review, *Industrie Chimique Belge*. The first volume will be available in April and the second in July. The price for the set will be \$19, including postage. Subscriptions are now being accepted at the Federation des Industries Chimiques de Belgique, 32 rue Joseph II, Brussels, Belgium.

Algebraic procedures which amateur astronomers may find helpful in designing their own telescope lenses are presented in a new 7-page booklet published by the Bureau of Standards. The computation of curves for achromatic doublet objectives is outlined in detail and criteria for choosing particular pairs of glass types and means of achieving various degrees of correction are discussed. Entitled *Computation of Achromatic Objectives* (NBS Circular 549), the booklet may be ordered from the Government Printing Office, Washington 25, D. C. for ten cents.

George A. Campbell, retired mathematical physicist, died on November 10th at Essex County Hospital in New Jersey. Dr. Campbell, who was eighty-three at the time of his death, received his BS degree from Massachusetts Institute of Technology in 1891 and his PhD from Harvard in 1901. He served continuously with the American Telephone & Telegraph Company from 1897 until 1934, and was a staff member of the New York Office of Bell Telephone Laboratories until his retirement in 1935. Awarded the Institute of Radio Engineers medal of honor in 1936, and the Elliott Cresson Gold Medal of the Franklin Institute in 1939, Dr. Campbell included among his inventions the electric wave filter and the shielded balance. He was a member of the American Academy of Arts and Sciences, the American Physical Society, and the American Mathematical Society.

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