versities and a few secondary schools. They will attempt to determine the needs of these departments for teaching equipment by questionnaire techniques and by personal visits. Definite needs and ideas for new apparatus will be reported freely to the apparatus industry. Where plans for new apparatus seem commercially interesting, royalty arrangements will be made by the interested company with the inventor. The new apparatus being sought is that which (1) illustrates recent developments in physics, (2) illustrates classical physics by the use of improved techniques, (3) can be used in physics demonstrations to large lecture classes, or (4) aids the administration of laboratory classes in physics.

The study of apparatus will be directed by W. C. Kelly of the University of Pittsburgh Department of Physics. Members of the Committee on Apparatus are: Chairman, Sanborn C. Brown (Massachusetts Institute of Technology); Vernet Eaton (Wesleyan University); Gerald Holton (Harvard University); and Dr. Kelly. Suggestions from physicists for the improvement of teaching apparatus will be welcomed, and their cooperation in the study is requested.

Research and Development

Mellon Institute, Pittsburgh, Pa., has established a new department of radiation research and has purchased a 3-million-volt Van de Graaff particle accelerator as its initial radiation source. Robert H. Schuler, formerly of Brookhaven National Laboratory, has been selected to head the new department, which will study the nature and applications of ionizing radiation.

The Atomic Energy Commission has approved two loans for natural uranium metal, totalling 11 000 pounds, plus neutron sources, to be used in connection with expanding instruction in nuclear engineering at the Massachusetts Institute of Technology and the City College of New York. Each school will be loaned 5500 pounds of the metal in the form of eight-inch rods inclosed in aluminum, which will be used in subcritical assemblies in which nuclear fission can be produced but which do not sustain a chain reaction. No unusual or expensive safety controls will be necessary and the metal may be used for laboratory exercises in nuclear engineering training. This brings to five the number of loans of this type to nonprofit educational institutions. Previous recipients are New York University, University of Florida, and Virginia Polytechnic Institute.

The newest research laboratories of National Carbon Company, a division of Union Carbide and Carbon Corporation, will be dedicated on September 18 at Parma, Ohio. Heading the new laboratories is Robert G. Breckenridge, formerly chief of the solid-state physics section at the National Bureau of Standards and head of the physics branch, Office of Naval Research, Washington, D. C. The new laboratory facilities, designed primarily for basic research in chemical and solid-state physics, are already in operation, with research being conducted on ways to improve existing

materials and methods to create new materials for the metal, electronic, power, chemical, and electrochemical industries.

Convair Division of General Dynamics Corporation has announced plans for construction of a new plant to be known as Convair-Astronautics. Completion of the project to be built on a 252-acre site outside of San Diego, Calif., is scheduled for next fall. At that time, work on the Atlas intercontinental ballistic missile will be moved to Convair-Astronautics as will Convair's new department of scientific research. The plant will be largely devoted to research, development, manufacturing, and preliminary testing of the Atlas and to related projects in astronautics.

The Du Pont Company has announced plans for the construction of a $2 million radiation physics laboratory at the Experimental Station in Wilmington, Del. The new laboratory, staffed with radiation specialists and equipped with facilities for generating high-energy particles, will be devoted to long-range studies of radiation and its absorption in various materials. Construction of the two-story laboratory building was scheduled to start this summer, with completion expected by January 1958.

Argonne National Laboratory has announced the establishment of a Reactor Physics Constants Center to correlate and standardize the data used in reactor physics. The center was first proposed at a tripartite conference between the US, the United Kingdom, and Canada, held at Chalk River, Canada, in January. A similar center is also to be set up in the United Kingdom as a clearing house for the receipt and transmission of European data.

The purposes of the Argonne Center are: (1) to publish reactor physics constants; (2) to compare measured and calculated constants and to revise theories or experimental analysis, if necessary, to give better agreement between empirical and calculated values; (3) to promote establishment of useful, uniform definitions of reactor physics parameters; (4) to analyze critically experimental techniques so as to establish conditions of measurement and error criteria; (5) to promote standard methods of analysis for such standard measurements as exponential and critical experiments; (6) to serve as a clearing house for reactor physics constants information, and to call attention to weak spots in such information, so as to promote improvement in data quality.

Constants will be studied in the cases of pure materials, lattices, and mixtures. Specific constants are to be compiled for thermal, intermediate, and fast neutron systems, the resonance region, slowing down distributions, reactor kinetics, and other as yet unspecified subjects. Material covered will be unclassified and will be derived from unclassified sources. The Center will be governed by a committee consisting of H. Greenspan, C. Kelber, W. Loewenstein, and B. I. Spinrad, with the reactor physics planning group of the US Atomic Energy Commission serving as an advisory

board on major questions. Individuals or laboratories who feel that they have data pertinent to the purposes of the Center are requested to transmit such data with complete references to B. I. Spinrad, Reactor Engineering Division, Reactor Physics Constants Center, Argonne National Laboratory, Lemont, Ill.

A nucleonics research section has been added to the research department of Stromberg-Carlson (Rochester, N. Y.), a division of General Dynamics Corporation. The section, headed by Robert L. Deming, will be responsible for the design and development of nucleonic instruments and control equipment. Staff members include Matthew P. Tubinis and Thomas T. Thwaites, both physicists, and it is expected that the section will shortly be enlarged by additional appointments.

Michigan State University's physical research facilities will be expanded this fall with the installation of two new instruments: a cryostat for low-temperature studies in the physics department and a magnetic resonance spectrometer for use in the chemistry department. Both pieces of equipment will be employed in research projects to be carried out by graduate students working under faculty supervision.

A new ORACLE (Oak Ridge Automatic Computer and Logical Engine) Applications Program is being conducted by the university relations division of the Oak Ridge Institute of Nuclear Studies and the mathematics panel of Oak Ridge National Laboratory. Theodore W. Hildebrandt, director of the program, will work with the ORNL mathematics panel, headed by Alston S. Householder, in preparing university-originated problems for ORACLE computation. The program is designed to provide university personnel with computer time and with the services of the mathematics panel to assist in the application of computing techniques to research problems. Further information on the ORACLE Applications Program may be obtained by writing to Dr. T. W. Hildebrandt, ORACLE Applications, University Relations Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tenn.

Ford Motor Company has announced the establishment of a new subsidiary, Aeronutronic Systems, Inc., which is to occupy temporary quarters in Glendale, Calif. Gerald J. Lynch, president of Aeronutronic, announced that activation of electronic, nucleonic, computer and control, and aerophysics laboratories will begin immediately. Aeronutronic expects to "span a broad field of advanced scientific and technological operations ranging from guided missile systems to possible exploration of outer space".

Formation of the General Nuclear Engineering Corporation, another addition to the rapidly expanding atomic energy field, has been announced by its president, Walter H. Zinn, former director of Argonne National Laboratory. Located in Dunedin, Florida, the purpose of the new company is to provide engineering and other services in connection with the design, construction, and operation of nuclear reactors and other

atomic energy facilities. Key members of the technical staff include Dr. Zinn, Harold V. Lichtenberger, John M. West, and Joseph R. Dietrich, representing a combined experience encompassing sodium cooled reactors, graphite-moderated reactors, heavy water moderated reactors, and light water moderated and cooled reactors. Dr. Zinn indicated that the company is prepared to offer its services in connection with reactors to be constructed in foreign countries.

John A. Fleming, retired director of the department of terrestrial magnetism at the Carnegie Institution of Washington, died on July 29 at the age of 79. Dr. Fleming had retired in 1946 after forty-two years with the Institution, and until 1954 served as adviser in international scientific relations. A native of Cincinnati, Dr. Fleming studied at the University of Cincinnati after which he served with the US Coast and Geodetic Survey for four years before becoming associated with the Carnegie Institution. Dr. Fleming directed the Institution's world magnetic survey, for which he designed new instruments. He also designed observatories used by the Institution in Peru and Western Australia.

Besides writing many scientific papers, Dr. Fleming was editor and publisher of the *Journal of Terrestrial Magnetism and Atmospheric Electricity,* now *The Journal of Geophysical Research.* He also served as president of the Philosophical Society of Washington, the Association of Terrestrial Magnetism and Electricity, the International Union of Geodesy and Geophysics, and the International Council of Scientific Unions. In 1941, Dr. Fleming received the William Bowie Medal of the American Geopyhsical Union and four years later, the Charles Chree Medal of the Physical Society of London. He received honorary degrees from the Univeristy of Cincinnati and Dartmouth College.

A former general secretary and honorary president of the American Geophysical Union, and member of many other international scientific bodies, Dr. Fleming was a Fellow of the American Physical Society.

Cecil E. Eddy, a member of the Australian Safety Committee overseeing Great Britain's recent atomic tests off the coast of Australia, died in Perth, Australia on June 27. His age was 56. Born in Albury, New South Wales, Dr. Eddy was a leading authority on the effects of x-ray and radium radiation and for more than twenty years was director of Melbourne's X-Ray and Radium Laboratory. He received his doctorate at Melbourne University in 1929. On March 15 he was named chairman of the United Nations Scientific Committee on the Effects of Atomic Radiation. In that connection, UN Secretary General Dag Hammarskjold sent a message of condolence to the Australian Government paying tribute to Dr. Eddy as "not only a great man in modern physics but also a great man whom we were proud to have as chairman of the United Nations Committee on Radiation".