over a photographing program that was begun by a British group, but which had to be abandoned after the attack on Suez by Britain, France, and Israel in 1956.

Egypt herself is sending out two expeditions to the area this year, and the United Nations Educational, Scientific and Cultural Organization has had a photographic program in progress for several years.

Some of the smaller temples, such as those to Isis at Philae, just above Aswan, could be taken down and reassembled elsewhere. An Egyptian survey team recommended that this be done 2 years ago. Two of the most beautiful of the temples along the Nile will be lost. They are the two at Abu Simbel, above the second cataract, that were carved out of the mountainside during the reign of Rameses II (1300–1234 B.C.), greatest of the early Pharaohs. It is these that the UNESCO team, under the direction of Mme. Desroches-Noblecourt of France, is attempting to photograph by a three-dimensional process. Mme. Desroches-Noblecourt is director of the Egyptian section of the Louvre in Paris. The photogrammetric process records accurately to fractions of a centimeter.

The losses on the Sudanese side of the twenty-second parallel, the dividing line between the two countries, will be even greater than those in Egypt. Much less work has been done there.

Implementation of the National Education Act

The Council of Chief State School Officers sponsored a conference at Michigan State University, 3–5 November, to develop guidelines for use by state educational agencies in determining standards for science, mathematics, and modern foreign languages. John R. Mayor, AAAS director of education, served as director of the conference, and William Haskell of the *Science* editorial staff was one of the two writers assigned to prepare a conference report that will be given wide distribution.

The conference was held to aid state administration of federal funds received under Title III of the National Defense Education Act of 1958. The meeting was supported by the Educational Facilities Laboratories, an organization that was established recently by the Ford Foundation to promote better education through improved physical facilities.

Title III authorizes the spending of $61,600,000 per year in federal funds, to be matched by equal state expenditures, in grants to the states for the acquisition of laboratory and other special equipment for science, mathematics, or modern foreign language teaching in public elementary and secondary schools, and for minor remodeling of laboratory or other space to be used for such equipment. Funds will also be provided for "expansion or improvement of supervisory or related services in public . . . schools in the fields of science, mathematics, and modern foreign languages."

The U.S. Office of Education will administer the Title III program. State educational agencies will prepare plans for the use of federal funds in schools of their states and submit them to the U.S. Commissioner of Education for approval.

In addition to sponsoring the Michigan conference, the Educational Facilities Laboratories has announced the award of its first grant to aid implementation of the Education Act. A grant of $75,850 will support a nationwide study to determine what constitutes good design for physics building facilities. The 18-month study, which will begin in January 1959, is to be conducted under the joint auspices of the American Association of Physics Teachers and the American Institute of Physics.

Detailed information about existing physics facilities will be collected by questionnaire in a preliminary survey. It is anticipated that the results of the study will be made available to building planners as a series of booklets dealing with different facets of physics building design, microfilm records of photographs and building plans, and check lists. The records of the project will be stored in some central location for use by physicists and architects.

OEEC Summer School for Science Teachers

The second of the three pilot vacation courses for organizers of refresher courses for science teachers, arranged by the Office of European Economic Cooperation's Office for Scientific and Technical Personnel, was held at the Politische Akademie, Tutzing, near Munich, 4–15 August. Forty-five science teachers from 13 OEEC member countries, the United States, and Spain attended the course, which was designed to enable them to run similar courses for science teachers in their own countries.

The program included lectures and discussions on the teaching of physics, chemistry, and biology, with emphasis on how new and interesting types of classroom experiments can be arranged for school children. Special attention was also given to methods of incorporating nuclear physics into the teaching of school science. A third theme was the use of new methods, such as radio, television and films, in science teaching. The course was directed by Erich Baumann and Frank Ebner of the Bavarian Teachers' Association.

A third course in this series, which is planned by the OEEC as part of its drive to overcome the European shortage of scientists and technicians, is taking place in Paris this month.

News Briefs

The important role of Washington, D.C., in the development of the science of anthropology over the past 150 years is the subject of a special 2-month exhibition that opened this month in the Smithsonian Institution's Natural History Building. It portrays the contributions of many federal agencies and private Washington institutions to the fields of archeology, ethnology, linguistics, and physical anthropology. Sponsored jointly by the Smithsonian, the Library of Congress, and the Anthropological Society of Washington, the exhibition was planned to coincide with the November annual meeting of the American Anthropological Association and the AAAS annual meeting in December.

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The first English translation of the Russian journal *Geokhimiya* has been released by the Geochemical Society, which plans to issue the journal regularly eight times a year. The project is aided by a grant from the National Science Foundation. The success of the venture will depend in large part on the number of subscriptions sold. The subscription price is $20 per year, $10 to educational institutions and to members of the Geochemical Society. For information, write to the managing editor, E. W. Heinrich, Mineralogical Laboratory, University of Michigan, Ann Arbor, Mich.

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New facilities for studies in mathematics and physics at California Institute of Technology have been assured by a grant of $1,165,700 from the Alfred P. Sloan Foundation of New York. The gift will finance the remodeling of a building which for many years has housed the institute's experimental high voltage laboratory. This will become a modern five-story structure and will be renamed the Alfred P. Sloan Laboratory of Mathematics and Physics.

* * *

A simplified method of predicting satellite courses has been published for the benefit of volunteer observers by the National Academy of Sciences. With this manual, volunteers can utilize simple orbital elements—such as inclination of the orbit plane to the equator and distance to the center of the earth at the low point of orbit—to figure out where to

look for artificial earth satellites in any given locality. *Simplified Satellite Prediction From Modified Orbital Elements* may be obtained for $1 from the Publications Office, National Academy of Sciences, Washington 25, D.C.

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An exhibit of paintings, drawings, and prints illustrating "Art in Science" is being displayed at the International Business Machines Gallery of Arts and Science in New York, 11–26 November. The exhibit, sponsored by the *Scientific American,* is composed of covers and illustrations drawn for the magazine. The American Federation of Arts assisted in the preparation of the exhibit.

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Apparatus has been developed at the National Bureau of Standards by F. E. Washer that makes possible the rapid, accurate visual testing of high-precision lenses, such as those used in airplane cameras and telescopes. Spherical and chromatic aberration are determined on an optical T-bench equipped with nodal slides and angle-measuring telescope. From the resulting data, corrections are easily made for out-of-focus effects.

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An explanation of what cosmic rays are and how they were discovered will be shown on television again when "The Strange Case of the Cosmic Rays" is repeated on the National Broadcasting Company at 6 P.M. on 23 November as a part of the Bell System Science Series.

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The National Science Foundation has issued a compilation of the Soviet scientific and technical journals available in English translation in the United States. There are now in print 53 English editions of Russian journals, four extensive series of translated Russian abstracts of scientific papers, and four series of partial translations of important Russian journals. The number of translations of complete journals supported by the National Science Foundation is 31.

Grants, Fellowships, and Awards

Atomic Energy. Graduate students who wish to major in subjects within the field of nuclear science and engineering are eligible to apply for special Atomic Energy Commission fellowships to support such studies. Up to 150 appointments will be made for fellowships which begin in the fall of 1959. More than 40 universities in the United States offering the required courses accept students under this program.

Basic stipend for first-year students is $1800 for 12 months. Intermediate-year fellows receive $2000, and terminal-year appointees, $2200. An additional allowance of $500 per year is made for a wife and a maximum of two dependent children, and tuition, fees, and travel allowances are provided.

The Oak Ridge Institute of Nuclear Studies, which administers these fellowships for the commission, has established an application deadline of *2 January 1959.* Brochures and application materials are available on request from the Nuclear Science and Engineering Fellowship Office, University Relations Division, Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tenn.

Biological Sciences. The Division of Biological and Medical Sciences of the National Science Foundation has announced that the next closing date for receipt of basic research proposals in the life sciences is *15 January 1959.* Proposals received prior to that date will be reviewed at the spring meetings of the foundation's advisory panels and disposition will be made approximately 4 months following the closing date. Inquiries should be addressed to the National Science Foundation, Washington 25, D.C.

Teacher training. Stanford University, with the financial support of the Shell Companies Foundation, is again making available to secondary-school chemistry, physics, and mathematics teachers in the United States and Canada 50 Merit Fellowships which provide an opportunity for advanced study. The Shell program makes it possible for a teacher to attend a Stanford University summer session with practically no cost to himself. The fellowships provide full tuition, board, and room; textbook and travel allowances; and a cash stipend of $500. The total value of a fellowship is approximately $1250 for the 8-week summer session. The application deadline is *1 January 1959.* For information, write to: Dr. Paul DeH. Hurd, Coordinator, Shell Merit Fellowship Program, School of Education, Stanford University, Stanford, Calif.

Travel grants. The National Science Foundation will award individual grants to defray partial travel expenses for a limited number of American scientists who wish to participate in the following international congresses: International Congress of the History of Science, Barcelona, August-September 1959; International Sociological Association Congress, Perugia, September 1959; International Union for the Scientific Study of Population, Vienna, August-September 1959; and the Pan–African Congress on Prehistory, Leopoldville, August 1959.

An attempt will be made to have the grants approximate round-trip air tourist fare between the scientist's home institution and the location of the meeting. Application blanks may be obtained from the National Science Foundation, Washington 25, D.C. Completed application forms must be submitted by *1 February 1959.*

Scientists in the News

EUGENE P. WIGNER, Thomas D. Jones professor of mathematical physics at Princeton University, is to receive the Atomic Energy Commission's Enrico Fermi Award. The $50,000 award will be presented to Wigner on 2 December for "contributions to nuclear and theoretical physics, to nuclear reactor development, and to practical applications of atomic energy."

The presentation ceremony is being held on the anniversary of the day when the late Enrico Fermi and his associates, among them Wigner, proved that nuclear fission could be self-sustained and controlled. This year's ceremony marks the 16th anniversary of the start-up, in 1942, of the first nuclear reactor under the stands of Stagg Field at the University of Chicago.

The award was recommended by the AEC's General Advisory Committee and approved by President Eisenhower. The Advisory Committee's recommendation was contained in a letter, dated 7 August, from the committee's chairman, Warren C. Johnson, to AEC chairman John A. McCone. After reporting that it was the unanimous recommendation of the committee that the award be made to Wigner, the letter reads:

". . . Dr. Wigner is one of the most renowned authorities in theoretical physics. His contributions have been both numerous and outstanding in the field of nuclear physics but have not been limited to this field; on the contrary, they have embraced many areas of theoretical physics.

"Dr. Wigner was the first to calculate, and with unusual accuracy, the correct lattice proportions of uranium and graphite in the design of the Hanford production piles. He also predicted the dislocation effect caused by fast neutrons in graphite, and designed experiments to verify his prediction. As a consequence, we were forewarned at an early date of a very serious problem in the operation of graphite piles. Also it was largely due to Dr. Wigner's insistence that the water-cooled design for the Hanford piles was adopted instead of other concepts. This decision was of the greatest importance in insuring the necessary production of plutonium during the war and the years to follow.

"During the past decade or so, Dr. Wigner has made numerous contributions to the development of nuclear reactors, both for military and civilian purposes. Also, he has been responsible for the