curator of Palaeolithic archaeology, Peabody Museum, Harvard University; Severo Ochoa, professor of biochemistry, New York University Medical College; Roger R. D. Revelle, director, Scripps Institution of Oceanography, La Jolla, Calif.; Leonard I. Schiff, professor of physics, Stanford University; John C. Sheehan, professor of organic chemistry, Massachusetts Institute of Technology; Joseph E. Smadel, director, Communicable Diseases Division, Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D.C.; Cyril S. Smith, professor of metallurgy, University of Chicago; Robert R. Wilson, professor of physics, Cornell University; Jerrold R. Zacharias, professor of physics, Massachusetts Institute of Technology.

Newly elected foreign associates are Heinz Hopf, professor of higher mathematics, Swiss Federal Institute of Technology, Zurich, Switzerland; Axel H. Theorell, head of biochemistry department, Nobel Medical Institute, Stockholm, Sweden; Edgar W. R. Steacie, president, National Research Council, Ottawa, Canada; N. F. Mott, professor of experimental physics, Cavendish Laboratory, Cambridge, England.

Army Package Power Reactor

The Army Package Power Reactor (APPR) prototype stationary nuclear power plant developed by the Atomic Energy Commission for the Department of Defense, generated electricity for the first time during test operations last month at the U.S. Army Engineer Center, Fort Belvoir, Va. The reactor is termed a "package" power plant because it is designed so that its components may be transported by air for use at remote military installations, such as arctic bases.

AEC Field Inspection Groups

The U.S. Atomic Energy Commission has established inspection groups in nine of its operations offices located throughout the United States. Each office has been assigned a specific geographic area and is responsible for the inspection in that area of access permit holders and users of uranium, thorium, and radioisotopes under commission license. Inspection of licensed production and utilization facilities, such as reactors, will continue to be made by the Division of Inspection in Washington, D.C.

Each field office will be responsible for gathering information to show whether or not commission licensees and access permit holders are in compliance with the commission's rules and regulations and with special conditions in the permit or license. (Permits authorize access to classified information and licenses authorize possession and use of radioactive materials.) Field inspection groups will work closely with state inspection agencies. It is anticipated that federal and state cooperation in inspection activities will be enlarged as the inspection program is further developed.

NSF Institute Program

The National Science Foundation has announced that it will accept proposals for support of summer institutes in 1958 and of academic-year institutes during 1958–59. The institute program is designed to help teachers of science and mathematics improve their subject matter knowledge and their teaching capabilities. The current program will support 96 summer institutes this year, and 16 academic-year (1957–58) institutes in colleges and universities throughout the nation.

Academic-year institutes offer full-time work during the regular school year that is designed especially for secondary-school teachers. The foundation supports attendance of such teachers; this support includes dependency, book, and travel allowances. In addition, proposals may request funds for tuition and fees and other operating costs.

Summer institutes also offer work in the subject matter of the sciences and mathematics especially designed for teachers. Proposals may be presented that are designed for the special needs of high-school teachers, college teachers, or science supervisors. Foundation support may be requested for stipend, dependency, and travel allowances, tuition and fees, and other operating costs.

Directions for preparing proposals and forms to be used in making application may be obtained by interested institutions of higher education from the Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D.C. Deadlines are *1 Aug. 1957* for submission of proposals for institutes to be held in the summer of 1958; *1 Sept. 1957* for proposals for support of academic-year institutes during 1958–59.

Stellarator at Princeton

The U.S. Atomic Energy Commission has approved plans for the design and construction of a large experimental device for research on controlled thermonuclear reactions at the Forrestal Research Center at Princeton University. The machine, named the Model C Stellarator (coined from *stellar* and *generator*), will not be a pilot plant or prototype of a thermonuclear power plant. It will be exclusively a research tool, making possible experimental work which cannot be performed as effectively with smaller models. Experiments with the stellarator are expected to begin late in 1960 or in 1961.

The stellarator consists essentially of a hollow tube containing ionized gas. Around the tube are external coils which produce a magnetic field to confine the gas. The objective of the research program is to heat the gas to temperatures of millions of degrees and at the same time to confine the heated gas within the tube for enough time to allow fusion reactions to take place.

A research team at Princeton has been engaged since 1951 in the controlled fusion research program under contract with the AEC. In addition to theoretical work, the Princeton group has conducted extensive experimentation with small stellarator models. The controlled thermonuclear project at Princeton is under the direction of Lyman Spitzer, Jr., and the work is under the general supervision of a committee headed by H. D. Smyth, formerly a member of the AEC.

Southward Flow under Gulf Stream

A massive deep current flowing to the south under the Gulf Stream has been measured recently as a result of cooperation between the royal research ship *Discovery II* of the British National Institute of Oceanography and the research vessel *Atlantis* of the Woods Hole Oceanographic Institution. The use of an instrument designed by J. C. Swallow of the National Institute of Oceanography, together with a theory suggested by Henry Stommel of the Woods Hole Oceanographic Institution, has changed fundamental concepts concerning ocean currents. Observations to be made by some 70 ships during the International Geophysical Year will be much more meaningful as a result of this work.

An operating plan was decided upon by the chief scientists of both ships, H. F. P. Herdman and L. Valentine Worthington; then an area in the Gulf Stream east of Charleston, S.C., near the Blake Plateau was studied.

Swallow's new research device consists of a fairly simple electronic system sending out "pings" similar to those in use by echo-sounding. Encased in a 9-foot-long aluminum alloy pipe, 2 inches in diameter, the apparatus is neutrally buoyant, meaning that it can be made to sink to a predetermined depth where its density is equal to that of the surrounding water. There, the float remains, being carried away at the same rate and in the same direction as the subsurface ocean current.

The subsurface float is tracked with the aid of underwater sound signals.

Minimal motion of the entire water column was found at about 4500 to 6000 feet below the surface, while the velocities increased with depth below that level, as was theoretically predicted. The southerly currents ranged from about 1/10 knot to about ⅓ knot at depths of approximately 8400 feet. In contrast, the surface velocity of the Gulf Stream in its narrow inshore edge is 4 to 5 knots. An ocean bottom photograph made by A. S. Laughton from the *Discovery II* showed a southerly current only 18 inches above the bottom, as evidenced by the direction of a ping pong ball hung by a string from a compass. It appears, therefore, that off the Blake Plateau the upper half of the entire water column moves toward the north, while the lower half moves southward.

National Medical Library

A site on the acreage of the National Institutes of Health, Bethesda, Md., has been chosen for the National Library of Medicine. The library, started in 1836, has more than 500 incunabula, many thousand rare books of later date, and a collection of theses that many medical men consider to be unsurpassed. It has 500,000 bound volumes and more than 1 million titles in medicine, public health, dentistry, and allied sciences in all languages and of all times. Also the library's collection of portraits of medical men and its photographs in the medical field are outstanding. The library, formerly the Armed Forces Medical Library, has been waiting for a new building for 40 years.

Cerebral Vascular Disease

The launching of the first, nationwide cooperative research program to combat cerebral vascular disease was announced recently by the U.S. Public Health Service. Ten medical research centers in nine states have already joined in the program, and it is expected that 35 to 40 institutions will ultimately participate. The program, which is expected to run 5 or 6 years, is under the auspices of the National Institute of Neurological Diseases and Blindness.

It has been calculated that as many as 1.8 million living Americans have suffered cerebral strokes at one time or another. Deaths due to such strokes are estimated at 175,000 annually, the nation's third ranking cause of mortality.

The new program was made possible by grants totaling $172,000 to the various participating organizations. The work will be supplemented by the 29 current projects on various aspects of cerebral vascular disease that are supported by National Institutes of Health grants amounting to about $250,000.

The new investigation will make possible a coordinated study of thousands of patients who either have suffered a stroke or who show clinical signs indicating that a stroke might be coming on. The research results are expected to shed new light on the nature and causes of strokes and to open the way to more effective treatment methods. Relatively few data are now available on the effectiveness of the various methods currently in use.

Data collected will be collated and evaluated at the University of Iowa (Iowa City), one of the cooperating institutions. Other participating institutions are the University of Minnesota, the Massachusetts General Hospital (Boston, Mass.), the University of Michigan, Duke University, the University of Pennsylvania, Columbia University, Indiana University, the Buffalo General Hospital (Buffalo, N.Y.), and Washington University (St. Louis, Mo.).

Sherrington Centenary

This is the centenary year of the birth of Sir Charles Scott Sherrington, a founder and main architect of our knowledge of the physiology of the nervous system. The Royal Society of Medicine, London, England, wishing to pay tribute to his life and work, proposes to raise a fund toward a Sherrington lecture for the furtherance of knowledge on the nervous system, to be delivered from time to time in the society's rooms in London. It is felt that many will wish to contribute: both those who were his friends, pupils, and colleagues, and those, more numerous, who, as patients, doctors and scientists, have benefited indirectly from his work. Donations, identified as contributions to the Sherrington Memorial, should be made payable to the Secretary, The Royal Society of Medicine, 1 Wimpole Street, London, W.1.

Representatives of scientific societies supporting the appeal include: Sir Russell Brain, president, Royal College of Physicians; Sir Lindor Brown, foreign secretary, Physiological Society; John Fulton, Sterling professor of the history of medicine, Yale University; W. R. Henderson, president, Society of British Neurological Surgeons; Sir Cyril Hinshelwood, president of the Royal Society; E. G. T. Liddell, Waynflete professor of physiology, University of Oxford; D. W. C. Northfield, president, Section of Neurology, Royal Society of Medicine; Sir Clement Price Thomas, president, Royal Society of Medicine; Sir Charles Symonds, president, Association of British Neurologists; and Sir Francis Walshe, chairman, Sherrington Memorial Committee, Royal Society of Medicine.

Cancer Society Awards

The American Cancer Society has announced the award of $4,636,651 for research to 243 scientists in 108 universities and medical centers in 35 states, an all-time record for the society. The grants were made from 408 applications. The amount awarded is in addition to the $3,000,350 in grants to 46 research centers already allocated during the current fiscal year. In all the society is this year devoting $7,637,001 to cancer research.

Health Science Center at Brown

Brown University has announced the establishment of an Institute for Research in the Health Sciences to serve as a center for cooperation with hospitals and other institutions in the community and for the conduct of experimental programs in these sciences. Glidden L. Brooks, medical director of the United Cerebral Palsy Associations, has been appointed director of the institute, effective 1 July.

Initially the institute will provide means for implementing the grant received last November by the university from the U.S. Public Health Service for an investigation into the cause of cerebral palsy and mental retardation. This is part of a multimillion-dollar study in which eight colleges and universities are to collaborate. Brown University was one of the first of these educational institutions to receive a grant for carrying out the program. Awards of more than $700,000 were made to Brown and Yale universities last November for 5 years of research, with Brown receiving $97,633 for the first year's work. With the cerebral palsy program as an example, similar programs in the fields of other health sciences are expected to be undertaken in the future.

IGY Openings in Antarctic

Opportunities exist in the Antarctic program planned by the U.S. National Committee for the International Geophysical Year for scientists, engineers, and technicians at the bachelors, masters, and doctorate levels of training and experience in physics, geophysics, electronics, or closely allied areas. The U.S. Antarctic program emphasizes the following fields: aurora and airglow, cosmic rays, glaciology, gravity, ionospheric physics, meteorology, and seismology. Most of