

degrees. The planners felt that the sky north of  $+27$  is well covered by northern-hemisphere radio observatories.

The antenna is sensitive enough to pick up information signals from planetary probe rockets, and part of its time may also be used in a search for intelligent signals from outer space. In view of the telescope's capability of seeing 5 billion light years into the universe, however, its chief contributions are expected to result from studies of such important cosmological problems as the distribution of galactic hydrogen (which gives no light and can only be studied by radio) and the nature of things in the universe far beyond the range of optical instruments. It is hoped that signals having distant points of origin will shed more light on the expanding-universe hypothesis and that evidence will be found to determine whether the density of the universe is relatively constant or generally decreasing—that is, whether new matter is being created to fill the void or whether the universe is less dense as it expands. Optical astronomers are unable to detect any significant variations in matter density at different distances or in diverse directions but their range of sight is too short to allow any satisfying conclusions to be drawn from negative evidence. Research programs using the radio telescope were to be initiated early this year, after completion of the operational tests. According to E. G. Bowen, chief of CSIRO's Radio-physics Division, the tests themselves have yielded enough new information to require several months of evaluation.

### ***Southern Astrograph Project***

Yale University has announced that negotiations are being completed for lease of a site in western Argentina for the construction of an astronomical observatory to be used in surveying the star fields of the southern sky. The principal instrument is to be a twin 20-inch astrographic camera with a focal length of 12 feet. Construction of the optical system is in progress at the Perkin-Elmer facilities in Norwalk, Conn.; mechanical parts will be furnished by the Rotterdam firm of Rademakers Metaalbedrijf.

The proposed Southern Astronomical Observatory will be located on a 100-acre site approximately 100 miles southwest of San Juan, Argentina, at an elevation of about 8000 feet above sea level. It will be operated jointly by Yale and Columbia Universities, with the close cooperation of the University of Cuyo in Argentina. The Southern Astrograph project, which was made possible by a \$750 000 Ford Foundation grant to Yale in 1960, will extend to all of the southern sky an undertaking which was begun for the northern sky by the Lick Observatory at Mount Hamilton in California.

In 1926, Yale established an astronomical observing station at Johannesburg, South Africa, and in 1946 Columbia joined in the program. The station was transferred six years later to Mount Stromlo in Australia, where it is still in operation. The Australian

observatory, according to the Yale announcement, will be discontinued when the new observatory in Argentina commences operations.

### ***Biophysics***

The formation and constitution of a proposed US National Committee for Pure and Applied Biophysics is currently the concern of the ad hoc Committee on International Relations of the National Academy of Sciences—National Research Council. The Biophysics Committee is to be the group representing the interests of American biophysicists in the work of the International Organization for Pure and Applied Biophysics, which was established during a meeting in Stockholm last summer by the representatives of 26 nations.

The aims of the new international organization, as outlined in its statutes, are to organize international cooperation in biophysics and to promote communication between the various branches of biophysics and allied subjects, to encourage within each country cooperation between the societies that represent the interests of biophysics, and to contribute to the advancement of biophysics in all its aspects. Officers recently elected to the Council of the international organization are: president, A. Engström, Department of Medical Physics, Karolinska Institute, Stockholm, Sweden; vice president, A. Katchalsky, Polymer Department, Weizmann Institute of Science, Rehovot, Israel; honorary vice president, Sir Gordon Sutherland, National Physical Laboratory, Teddington, Middlesex, England; and secretary-general, A. K. Solomon, Biophysical Laboratory, Harvard Medical School, Boston, Mass. Prof. Solomon also serves as chairman of the NAS-NRC ad hoc Committee on International Relations.

A German Society of Biophysics, according to an announcement carried recently in the *German Science Bulletin*, has been founded in Frankfurt to promote research in biophysics and to aid in establishing contacts between German scientists working in different areas of biophysics. The organization (Deutsche Gesellschaft für Biophysik) is under the chairmanship of Boris Rajewsky, director of the Max Planck Institute of Biophysics.

### ***Swedish Physics Text Planned***

Representatives of the Physics Departments of Sweden's four liberal-arts universities (Uppsala, Stockholm, Lund, and Gothenburg) met recently at Uppsala University to complete the outlining of a new physics textbook which is scheduled for publication this year. It will be issued as a three-volume work by the Almqvist & Wiksell Publishing Co. of Stockholm. A fourth volume is to follow which will contain solutions to physical problems, complementing the theoretical material in the main text.

The work will be the first modern physics text



in Swedish available to students enrolled in the Universities' "two-point" studies program. (Students determine at the beginning of their studies the number of points in any one subject for which they wish to qualify, points being determined on the basis of quantity and quality of course material.) With some rearrangement and rewriting of material, the text is based on a series of physics manuals prepared during the past several years in the Physics Department at Uppsala as a temporary measure to provide some substitute for the physics text it lacked. The manuals, used in Swedish universities and in those of neighboring countries, were written by Olof Beckman and Gösta Ekspång of Uppsala.

### *Joint Norwegian—IAEA Project*

**NORA**, the zero-power reactor of the Norwegian Atomic Energy Institute (IFA), was recently inaugurated at Kjeller, near Oslo, where it will be operated in connection with the joint research program in reactor physics agreed upon last spring by the International Atomic Energy Agency and the Norwegian government. Norway was aided in the financing of the reactor by a \$350 000 grant provided by the US Atomic Energy Commission under the Atoms for Peace Program.

The reactor, which will operate at a power level of only a few watts, has been designed to permit a wide range of experiments aimed at obtaining precise and widely applicable data on cores with mixed and variable lattices moderated by light water, heavy water, and mixtures of the two. In addition to the reactor's original critical assembly, two cores have been made available by Norway; a third, provided under the supply agreement between the IAEA and the United States, is the enriched uranium core originally used in development work for the nuclear merchant ship "Savannah". The 42 kilograms of U-235 contained in the latter core represent the first package of special nuclear material to be leased through the International Atomic Energy Agency to one of the member states of the Agency. The Joint Scientific Program Committee which is to conduct the NORA research project is headed by Raja Ramanna of India.

### *Nuclear Training*

A list of training programs in nuclear physics, chemistry, and engineering conducted by approximately 180 universities, technical schools, and research centers in Western Europe has been published by the European Nuclear Energy Agency of the Organization for European Economic Cooperation under the title, *Catalogue of Courses on Nuclear Energy in OEEC Countries*. The latest edition of the *Catalogue* covers the 1961-62 academic year and includes descriptions of the courses and of the equipment available for training in each institution. Copies of the *Catalogue* can be obtained from the OEEC European Nuclear Energy Agency, 38 Boulevard Suchet, Paris 16, France.