tivities, arrange for participation by the scientific community, disseminate information, and make semiannual reports on its activities.

5) Authorized the administrator to acquire and develop research facilities, aeronautical and space vehicles, and related property and accommodations; hire 260 specially qualified scientific and engineering personnel at pay grades higher than provided in the Classification Act of 1949 and to pay others entering Federal service for the first time at rates two grades higher than usual starting salaries; make monetary awards for significantly valuable scientific or technical contributions.

6) Declared that any relevant invention made in the performance of contracted work under the NASA would be the exclusive property of the U.S. Government and authorized the administrator to apply for or waive patent rights.

Physics Course

The Educational Testing Service, Princeton, N.J., reports that a new physics course will undergo its first large-scale evaluation in 300 of the nation's schools next fall. Frederick L. Ferris, Jr., associate director of test development at ETS, is in charge of the evaluation aspects of the study, which may involve testing as many as 10,000 high school students several times during the academic year.

The new program was developed by the Physical Science Study Committee, a group of scientists, teachers, and education specialists who have been working for 2 years under the leadership of Jerrold R. Zacharias at Massachusetts Institute of Technology. The committee staff, supported by grants from several large foundations, has developed a new text; a laboratory manual, including many ingenious experiments; and a variety of visual aids. More than 50 new motion pictures for this project are now in production.

Summer institutes are being sponsored by the National Science Foundation at five colleges for the 300 teachers who will use the new materials next fall. Teachers at these institutes will take special tests. These tests will provide a basis for study of the relationship between the achievement of teachers and the subsequent achievement of their pupils.

Associated Midwest Universities

Twenty-six leading educational and research institutions have formed an inter-university corporation to be known as Associated Midwest Universities, a successor to the organization formerly known as Participating Institutions of Argonne National Laboratory. James H. Jensen, provost, Iowa State College, is the first president of the new organization, which has headquarters at the Argonne National Laboratory's main site near Lemont, Ill.

The articles of incorporation list three main purposes for organizing the new corporation:

1) To promote, encourage, and conduct research and education in all branches of science, including but not limited to nuclear science in relation to all other fields of science.

2) To establish means for facilitating the use of the Argonne National Laboratory and other laboratories by duly qualified personnel and students from the several cooperating institutions and other research and educational institutions.

3) To establish, maintain, and operate laboratories and other facilities as necessary for research and education.

This is the third such university association to be organized within the framework of the Atomic Energy Commission. The first two are Associated Universities, Inc., which is the AEC's contractor for operations of the Brookhaven National Laboratory, Upton, N.Y., and the Oak Ridge Institute of Nuclear Studies, which directs educational and other activities associated with the Oak Ridge (Tenn.) National Laboratory for the AEC. The administrative framework of Associated Midwest Universities is expected to be somewhat similar to that of ORINS.

Toward Controlled Fusion Reactions

Recent Congressional hearings have brought out new information on the progress of United States attempts to harness the hydrogen bomb reaction for industrial power.

Two main conditions must be attained before it is possible to utilize the power released in a fusion reaction. First, heavy hydrogen must be brought to a temperature of at least 100 million degrees centigrade. Second, the atomic nuclei in this hot gas must be held together for an appreciable time. Scientists working at the University of California Radiation Laboratory, an Atomic Energy Commission facility, have concerned themselves with the first of these two conditions and are "well along the road" to the temperature objective, according to testimony released by a House Appropriations subcommittee.

Temperatures of 10 million degrees, 90 million degrees short of the required temperature level for a controlled hydrogen fusion reaction, have been generated by the University of California scientists. While the achievement of the objective temperature itself will not lead to the immediate availability of the power of fusion reactions, it is a prime objective and its attainment will be a major advance toward the solution of problems surrounding the controlled release of fusion reaction power.

TV Program on the Senses

Gateways to the Mind, a discussion of human senses, will be the next Bell System Science Series TV program. It will be seen on the NBC network on the evening of 23 October. This 1-hour color film, one of a continuing series, presents the story of man's knowledge about his senses and their function as the channels through which all awareness of the external world is passed to the brain.

Producer-director Owen Crump uses a movie sound stage as the setting for this story of the senses, with Frank C. Baxter explaining the story to a production crew about to start on a picture. The scientific material that will be presented during the course of the program includes animated sequences, documentary films, and sequences of experiments dealing with optical illusion.

George Wald of Harvard University served as principal adviser for the production, with Frederick Crescitelli, professor of zoology at the University of California, Los Angeles, acting as consultant. The scientific material in the program was prepared under the general supervision of a 10-member advisory board. Starting with Aristotle's discussion of the five senses, the program shows how scientific research in the past has increased the list of recognized senses to include balance, pressure, pain, tension, and so forth, and how current research at Princeton, McGill, and other institutions is expanding man's knowledge of sight and of the brain's role in sensory perception.

After the initial telecast, the Bell Telephone Companies will make the program available to schools and other interested groups in 16-mm color films.

Summer Research in Geology

A group of 50 students of geology composed of faculty members, graduate students, and undergraduates has departed from Princeton University to take up summer research projects in Canada, the Caribbean, Western Europe, and other areas.

One project, on which the chairman of the department of geology has spent the past 12 summers, involves the study of the formation and development of mountains and the relationships of

earthquakes and volcanic eruptions to the mountain-making process. The group doing this work will be located along the north coast of South America and in the Antilles Islands in the West Indies.

Mapping and survey work will be done by two teams of men, one in the interior areas of the Dominican Republic, and the other in Wyoming and Montana.

The search for fossil plants and vertebrates will be conducted by teams operating in western United States.

Other crews will investigate Stone Age cultures in southwest France and Ice Age deposits in northern New York State. In this last investigation, radiocarbon dating methods will be employed.

Traveling Astronomers

The Visiting Professors in Astronomy program, supported by the National Science Foundation, is being prepared for the academic year 1958–59. The program, which is administered by the American Astronomical Society, aims to strengthen and stimulate college programs in astronomy and in other physical sciences, to give astronomers and other scientists opportunity for contact with creative astronomers from other universities and observatories, and to motivate good college students to consider careers in astronomy or one of the other physical sciences.

The visiting professors will give general college addresses, lecture to astronomy classes, or participate in seminars. They will be glad to advise students on opportunities for advanced study and employment in astronomy and to discuss teaching problems and curriculum with members of the faculty. In short, the lecturers will cooperate with the colleges in all ways that they can to further the aims of the program. A normal visit by a professor will last for 2 or 3 days. The program asks that each participating institution contribute $50 to cover the costs of maintaining the visiting professor. All other expenses will be paid by the National Science Foundation.

There will be approximately eight professors available between 1 October 1958 and 1 June 1959. Their names will be released shortly.

For further information, write William Liller, The Observatory, University of Michigan, Ann Arbor, Michigan.

World of the Mind

A new radio series, *The World of the Mind,* written by more than 50 outstanding American scientists and teachers, was announced by Carl Haverlin, president of Broadcast Music, Inc., which has prepared the programs in cooperation with the American Association for the Advancement of Science and the American Council of Learned Societies. The programs are being made available, without charge, by BMI to all radio and television stations and to public libraries and local boards of education to be used in connection with broadcasting.

The series encompasses a wide range of topics in the sciences and the humanities. Each of the papers, intended to be presented by local broadcasters, has been written by an American scholar or scientist and concerns either the work of a learned organization of which he is a member or the particular scientific field in which he is an expert.

In commenting on the programs, Wallace R. Brode, president of the AAAS, Science Adviser in the Department of State, and a contributor to the series, said: "As science becomes a more important subject in our area of knowledge, and as man begins to know and accept the basic facts of science, he is becoming better prepared to know and understand the more complex aspects of science. If we can, in these presentations, border on the area where the subject matter presents an intellectual challenge to the listener and stimulates new ideas and thoughts, and increases the listeners' knowledge as well as appreciation of science, we will have been successful and will feel that our efforts were well worth while. Science exists, whether we can explain it or not, but man's full use and advantage of science can come only by increased knowledge and understanding on his part."

Some of the programs prepared in cooperation with the AAAS follow:

The Sun, by Walter Orr Roberts, director, High Altitude Observatory, and head, department of astrogeophysics, University of Colorado.

How the Village-Farming Community Came into Being, by Robert J. Braidwood, professor, department of anthropology, University of Chicago, Oriental Institute professor of Old World prehistory.

Linguistics, by Norman A. McQuown, associate professor of anthropology and of linguistics, University of Chicago.

Atomic Radiations and Hereditary Effects, by Hermann J. Muller, professor of zoology, Indiana University.

Experiments on Anxiety, by Charles W. Eriksen, associate professor, department of psychology, University of Illinois.

Twentieth Century Population Problems, by Conrad Taeuber, assistant director, Bureau of the Census, United States Department of Commerce.

The Political Economy of National Security, by Benjamin H. Williams, member, staff and faculty, Industrial College of the Armed Forces.

Proposed Legislation

Of the many bills introduced in Congress, some have a special relevance to science and education. A list of such bills recently introduced follows:

HR 13091. Authorize expenditure of funds through grants for support of scientific research. Harris (D-Ark.). House Interstate and Foreign Commerce.

HR 13109. Strengthen national defense and encourage and assist in expansion and improvement of educational programs to meet critical national needs. Dellay (D-N.J.). House Education and Labor.

HR 13069. Stabilize production of copper, lead, zinc, acid-grade fluorspar, and tungsten from domestic mines. Aspinall (D-Colo.). House Interior and Insular Affairs.

S 3695. Authorize an increased program of research on forestry and forest products. Humphrey (D-Minn.). Senate Agriculture and Forestry.

HR 13074. Establish a national wilderness preservation system for permanent good of the whole people. Metcalf (D-Mont.). House Interior and Insular Affairs.

HR 13138. Amend act of 10 March 1934 to provide for more effective integration of a fish and wildlife conservation program with federal water-resource developments. Boykin (D-Ala.). House Merchant Marine and Fisheries.

HR 13191. Require Commissioner of Education to encourage, foster, and assist in establishment of clubs for boys and girls especially interested in science. Wright (D-Tex.). House Education and Labor.

HR 12844. Create an independent Federal Aviation Agency to provide for safe and efficient use of airspace by both civil and military operations, and to provide for the regulation and promotion of civil aviation in such manner as to best foster its development and safety. Church (R-Ill.). House Interstate and Foreign Commerce.

HR 12023. Establish a program to enable students in fields of science and mathematics to attend high schools and institutions of higher education; improve teaching of science and mathematics in schools of the nation; make grants to permit construction of minimum facilities for teaching of science in schools of the nation. Fogarty (D-R.I.). House Education and Labor.

News Briefs

Of the many countries in the British Commonwealth, Australia has known the most rapid progress in research, according to L. J. F. Brimble, editor of *Nature,* who is currently in that country on a