

Seismic observations made in the Atlantic and Pacific Oceans in recent years have shown significant differences in the rock strata and in the thickness of the earth's crust between continents and ocean. Bottom photographs will also be made with the aid of a newly developed deep-sea camera that was successfully used in 1957 to obtain hundreds of exposures during each of several lowerings.

The two ships will cruise together over the location of a major crack in the earth's crust discovered by Lamont scientists. The expedition also expects to study uncharted submarine mountains. Heavy steel dredges can be lowered to obtain rock samples from the sides of such mountains.

This is the longest cruise the *Atlantis* has undertaken in her 28-year career. The vessel has made 240 cruises, the longest having been a 6-month investigation of the Mediterranean Sea in 1947-48.

Population Growth of United States and Canada

Both the United States and Canada scored record population gains in 1957. In the United States the increase exceeded 3 million for the second year in a row, raising the total population, including the Armed Forces overseas, to 172,830,000 at the end of the year. In the 7¼ years since the 1950 census, 21.7 million people have been added to the population, an increase of 1.7 percent annually. Canada has been experiencing a much higher rate of growth, the population having increased by 2.9 percent a year since the June 1951 census. At the close of 1957, Canada's population reached 16.9 million, an increase of about 556,000 during the year and of almost 2.9 million since June 1951.

Study Abroad

More than 75,000 international scholarships and fellowships for study in 83 countries and dependencies are listed in the 1957-58 edition of *Study Abroad*, a handbook published by the United Nations Educational, Scientific and Cultural Organization. The handbook includes such information as eligibility requirements, application procedures, amount of awards, and length of courses. It also lists 250 information centers in 50 countries which advise foreign students on living conditions, tuition fees, and enrollment procedures.

According to a 1955-56 UNESCO survey, reported in *Study Abroad*, of a total of 140,744 persons studying outside their countries during that period, 36,494 came to the United States, more than to

any other country. France, with 16,877 foreign students, was second, followed by the U.S.S.R. with 12,300.

Study Abroad (\$2.50) is sold by: UNESCO Publications Center, 801 Third Ave., New York 22, N.Y.; U.N. Bookshop; and Columbia University Press, 2960 Broadway, New York 27, N.Y.

Grants, Fellowships, and Awards

Biology. Applications are invited for a new \$5000 scholarship in biology that has been established by the General Biological Supply House, Chicago, Ill. The award is open to an American citizen who is studying for the doctorate degree in botany, zoology, or biology. Applications should be submitted *before 24 March*. For information, write to the chairman of the award committee, Dr. Frank A. Brown, Jr., Department of Biological Sciences, Northwestern University, Evanston, Ill.

Chemistry. The Association of Official Agricultural Chemists has announced that nominations are now being accepted for the second annual Harvey W. Wiley Award for achievement in analytical methods. This \$500 award goes to the scientist who has made an outstanding contribution to the development of methods of analysis for foods, drugs, cosmetics, feeds, fertilizers, and pesticides, or for use in general analytical chemistry. Nominations must be submitted *by 1 April*. Nominees need not be members of the association. Further information may be obtained from the secretary of the association, William Horwitz, Box 540, Benjamin Franklin Station, Washington 4, D.C.

Mental health. The Adolf Meyer awards committee of the Association for Improvement of Mental Health, Inc., is inviting nominations for the 1958 awards, which will be announced in May during Mental Health Week. These awards are given annually to individuals and/or organizations who have made meritorious contributions to the professional care and treatment of the mentally ill, both in and outside of hospitals. Nominations for this award should be sent *before 1 April* to Dr. Milton M. Berger, Chairman, Advisory Committee, A.I.M.H., 50 E. 72nd St., New York 21, N.Y.

Ornithology. The Frank M. Chapman Fund of the American Museum of Natural History was established to provide financial assistance to those conducting research in ornithology. The awards are usually made to younger scientists, in particular to graduate students, but there are no hard and fast restrictions. Applicants should bear in mind that the field stations operated by the American Mu-

seum are frequently available for ornithological as well as other types of scientific work. The Archbold Biological Station at Lake Placid, Fla., the Southwestern Biological Station in the Chiricahua Mountains in southeastern Arizona, and the Lerner Marine Station at Bimini, Bahamas, as well as the collections and laboratories of the museum itself, should be mentioned in this connection. Applications should be received *before 31 March*. Each applicant should state clearly the nature of the proposed research and provide an estimate of the financial requirements of the project. Letters of recommendation should be included. All correspondence should be directed to the Chairman, Chapman Memorial Fund Committee, Department of Birds, American Museum of Natural History, Central Park West at 79th St., New York 24, N.Y.

Human Resources in Science

"America's Human Resources to Meet the Scientific Challenge" was the theme of a national conference at Yale University 3-4 February sponsored jointly by the President's Committee on Scientists and Engineers and the William Benton Foundation. The conference brought together 100 representatives of American science, education, industry, labor, government, religious and minority groups, and the nation's public communications media. The conferees considered the competitive position of the United States in world science and technology.

Principal speakers were Allen W. Dulles, director of the Central Intelligence Agency, who described "The Soviet Challenge"; James R. Killian, Jr., special assistant to the President for science and technology, who discussed steps needed "Toward a New Level of Excellence"; and Alan T. Waterman, director of the National Science Foundation and Lee A. DuBridge, president of California Institute of Technology.

Insecticide Threat

The National Audubon Society has urgently recommended that the Department of Agriculture stop all insect control programs in which highly toxic chemicals are broadcast unless incontrovertible evidence becomes available that no serious damage to human and wildlife resources will result. The society has requested the Secretary of Agriculture to stop the proposed control program for the imported fire ant on some 20 million acres in nine southern states. The program is already underway. At the same time, the society warned the general public that all use of highly toxic modern insecticides, fungi-

cides, and so-called pesticides by governmental agencies, farmers, and other land owners, including gardeners, carries with it a much higher potential of harm to human beings and wildlife than is generally recognized.

Mental Health Panel

A six-member panel of non-Government experts will provide consultation to the National Institute of Mental Health on the mental health research program conducted in laboratories and other facilities at the National Institutes of Health, Bethesda, Md., and at field stations. Membership of the panel, known as the Board of Scientific Counselors of the National Institute of Mental Health, is apportioned selectively between clinical and fundamental science categories to maintain balanced perspective. It is expected that in addition to their review of the institute's scientific activities the new counselling body will provide the director of the institute with objective viewpoints and guide lines on the long-range perspective of intramural research.

Membership on the board is for a term of 4 years. However, for the purpose of establishing a rotation of tenure, the terms of the initial appointees, which commenced 1 July 1957, will expire at staggered intervals. The board members are Horace W. Magoun, John Benjamin, Stanley Cobb, Jordi Folch-Pi, Robert F. Bales, and Neal E. Miller.

Science Adviser's Responsibilities

The 3 February Department of State *Bulletin* comments as follows about the recent appointment of AAAS president Wallace R. Brode as science adviser, a long-vacant State Department post [*Science* 126, 175 and 182 (24 Jan. 1958)]:

"Dr. Brode's appointment signals a fresh emphasis on a postwar Department of State function curtailed in 1955 in order that the program might be reviewed and plans made for the future. Reexamination during the past year indicated the growing importance of activities of scientists as a significant element in formulating foreign policy and in carrying on relations with other governments. The new work will therefore be oriented more closely than before to the objectives of the Department and the Foreign Service. Both the Science Adviser and the science attachés will be responsive to requirements of other government departments that carry on scientific activities abroad, since certain of these activities form parts of the pattern of our foreign relations. Dr. Brode will also keep in close touch with Dr. Killian.

"As counterparts overseas of the Science Adviser in Washington, certain science attachés will be appointed to advise and collaborate with political, economic, and other embassy officers on those foreign-relations questions in which scientific considerations play a part. They will also assist other Federal agencies and private groups in carrying out their programs of scientific cooperation abroad, such as those of the National Science Foundation, the International Cooperation Administration, the National Academy of Sciences, etc. Like other members of the Foreign Service, they will keep the Department currently informed of developments significant for international relations."

White House Dinner for Scientists

Recently the President gave a science-military dinner at the White House, the first such state dinner ever held. It was about three-tenths military. All the rest of the guest list, which totaled 49 couples, represented the scientific community from Boston to California, with the exception of the chairman of the Federal Reserve Board.

In general, the military men outranked the scientists in protocol. The highest-ranking scientist, James R. Killian, Jr., the President's new special assistant for science and technology, was placed tenth on the protocol list. The next scientist named was Alan T. Waterman, director of the National Science Foundation, who was nineteenth on the list and immediately under Lieutenant General James H. Doolittle, chairman of the National Advisory Committee for Aeronautics. There the official protocol ended, and the other guests were named alphabetically.

Four Nobel Prize winners were present: John F. Enders, medicine and biology, Harvard University; Edward M. Purcell, physics, Harvard University; Isidore K. Rabi, physics, Columbia University; and Glen T. Seaborg, chemistry, University of California.

Navy Roster of Scientists

The Office of Naval Research has prepared a roster listing all civilian scientists and engineers, GS-13 and above, employed by the Department of the Navy. Bureau chiefs, commanding officers, and technical directors of laboratories use the list to locate qualified individuals for consultation or for unique assignments. The list supplements the roster of scientific and technical manpower maintained by the National Science Foundation.

Special lists of scientists and engineers can be prepared easily from the Navy

roster, which includes some 3000 names on I.B.M. cards that contain 24 items of information about each person. Forty-five items are included in the questionnaire completed by each scientist or engineer. Special runs of I.B.M. cards have been made to obtain an alphabetical listing of all persons included, an alphabetical listing by naval activity, scientific speciality in which most competent, and by profession.

British Association Sends Congratulations

The British Association for the Advancement of Science congratulated the United States on the launching of an earth satellite in the following message to the president of the U.S. National Academy of Sciences:

"The British Association for the Advancement of Science congratulates the scientists of the United States of America on the successful launching of an artificial satellite. In itself a brilliant achievement, the launching has put into orbit around the earth a new instrument for the scientific investigation of extra-terrestrial phenomena which will assuredly lead to the acquisition of knowledge of inestimable human significance."

Tests of Educational Progress

Late in 1957, the Educational Testing Service released a new series of achievement tests for schools and colleges called the Sequential Tests of Educational Progress (STEP). Designed for use in grades 4 through 14, the tests are measures of critical skills in reading, writing, listening, mathematics, science, and social studies.

The STEP series, developed over a 4-year period, began with four basic assumptions about teaching and testing, which were agreed upon by the test specialists at ETC and the hundreds of educators they consulted. These assumptions are (i) that the primary goal of all education is the development of the individual student, (ii) that education is a continuous and cumulative process, (iii) that the focus of education is upon development of critical skills and understandings, and (iv) that the success of education can best be measured in terms of the individual's ability to apply his school-learned skills in solving new problems.

Educators then worked with ETS to build tests that focus on the outcomes of instruction rather than on its content. The tests confront a student with new and realistic problem situations. To solve them, he must use and apply the skills and understandings he has learned in the classroom.