News of Science

Stagnant Deep-Sea Trench to be Studied

Research workers from the Woods Hole Oceanographic Institution recently left Woods Hole in the research vessel *Atlantis* to study a trench in the Caribbean Sea where the deep water is not in motion. Called the Cariaco Trench, the 4680-foot-deep basin is located near the coast of Venezuela. Shut off from the rest of the sea by a sill that permits no ocean water to enter from depths greater than about 500 feet, the trench contains stagnant water in which there is no free oxygen. Similar areas have been known to exist in the Black Sea and in some fjords but had never before been encountered in the open sea until 3 years ago, when the *Atlantis* research team reported the situation in the Cariaco Trench.

Of particular interest is the fact that petroleum is thought to have been laid down under similar anaerobic conditions. Higher forms of life are not possible, and the organic material sinking from surface waters is decomposed by bacteria; a layer of organic material is thus deposited on the bottom of the trench, and inorganic compounds which cannot return to the surface to aid plant growth are released.

Forty-foot cores of sediment will be obtained from the bottom of the trench under the direction of submarine geologist John M. Zeigler, while chemical oceanographer Francis A. Richards will be in charge of the chemical studies of the ocean water. The cruise is supported by funds from the Office of Naval Research. An underwater camera capable of making three-dimensional photographs of the bottom will be used by photographer David M. Owen. The scattering of light in the sea will be measured by David H. Shonting, and Vaughan T. Bowen will obtain large quantities of sea water from various depths for analysis of radioactive elements.

A bottom probe designed to measure the heat-flow from the earth's interior through the bottom sediment also will be tried out by Richard G. Leahy. This probe will be taken next spring to the IGY arctic ice-floe station A. In addition, a continuous profile of the ocean bottom's configuration will be made with the aid of an echo-sounder recorder.

Finally, workers in a fishing program under Herman Tasha will set out a Japanese long-line containing 80 hooks at mid-depths in various places in the Caribbean and in the Windward Passage between Cuba and Hispaniola. Large quantities of tuna have recently been reported off Venezuela. A large deep-freeze has been placed on the deck of the *Atlantis* to bring specimens back to Woods Hole for identification.

Frank J. Mather of the institution's game fish program believes that some of the bluefin tuna reported from the area may turn out to be bigeye tuna. The latter species was not known west of the Azores until 1955, when Mather and H. Bullis identified a bigeye in the Caribbean. Since that time the species has also been identified near Miami and at Ocean City, Md.

The *Atlantis* will return to Woods Hole on 2 December, when she will immediately be made ready for a 7-month cruise to the South Atlantic Ocean and the Indian Ocean under the IGY program.

Nominations for Nutrition Awards

The American Institute of Nutrition invites nominations for the 1958 Borden Award in Nutrition and the 1958 Osborne and Mendel Award for research in nutrition. Nominations may be made by anyone and must be submitted *by 1 January 1958* to the chairman of the appropriate nominating committee. Membership in the American Institute of Nutrition is not a requirement for eligibility, and there is no limitation as to age. For full details about the procedure for nomination, see the September and October issues of the *Journal of Nutrition*.

Radioactive Fallout on Farmland

Farm land at Compton in Berkshire, England, was made temporarily radioactive recently to simulate contamination from a nuclear bomb explosion; farm hands carried out their work in respirators and suits of polythene. The whole area was sealed off with a chain-link fence, and even tractors and farm implements were fitted with plastic covers.

The tests were designed to find out how much radioactive strontium would be taken up from the soil by various crops sown on land that had been subject to radioactive fallout, and what different methods of cultivation affected the amount taken up. The trials, which took place at the Agricultural Research Council Field Station, involved the spraying of the ground (chalk soil) with radioactive strontium 89.

The results published so far suggest that where the soil has a marked calcium deficiency, liming can reduce a plant's absorption of strontium, but that, apart from this, little can be done to bring contaminated land into safe use quickly. Some advantage, however, might be gained by choosing crops less affected by radioactivity, and there is a chance that uptake might be reduced where shallow-rooted crops are grown on soils that have been deep-plowed in one operation. Similar experiments are to be conducted at five other agricultural research centers, each having a different type of soil.

AAUW International Fellowships

The American Association of University Women offers a number of $2000 international fellowships for the academic year 1958–59. They are unrestricted, but the candidate must use them in a country other than his own. The awards are open to women who have completed residence requirements for the doctorate before 1 July 1958. Application forms may be obtained from Miss Mary H. Smith, AAUW Fellowship Program, 1634 I St., NW, Washington, D.C. The deadline date for submission of applications is *15 December*.

Eklund to Head Second International Conference on Atomic Energy

Sigvard A. Eklund, director of research for the Swedish Atomic Energy Company, Stockholm, has been named secretary-general of the second International Conference on the Peaceful Uses of Atomic Energy that is to held under United Nations auspices in Geneva, Switzerland, 1–13 September 1958. Eklund arrived in New York recently, for in his capacity as conference secretary-general, he will serve as an officer of the United Nations Secretariat.

Plans for the second conference have been made by U.N. Secretary-General Dag Hammarskjold and the Advisory Committee on the Peaceful Uses of

Atomic Energy, composed of representatives of Brazil, Canada, France, India, the U.S.S.R., the United Kingdom, and the United States. The agenda and rules of procedure for the conference were sent earlier this year, along with formal invitations, to all members of the United Nations or of affiliated specialized agencies. Titles and abstracts of papers to be presented at the conference are to be submitted *by 1 March 1958* and the full texts *by 1 June*.

Allergy Fellowships

The American Foundation for Allergic Diseases has announced the availability of 2-year postdoctoral fellowships in research and clinical allergy. The stipend for the first year is $4500; second year, $4750; laboratory and travel expenses for the 2-year period, $750. Candidates must be graduates of approved medical schools and must have completed 1 or 2 years of the graduate training required as a preliminary to certification by the Boards of Internal Medicine or Pediatrics.

Requests for applications should be sent to Dr. Colin M. MacLeod, University of Pennsylvania, 820 Maloney Clinic, 36th and Spruce Streets, Philadelphia 4, Pa. Applications should be filed no later than *15 December*.

Research Support in Engineering Schools

The National Science Foundation reports that in 1953–54 more than one-fourth of the cost of research and development conducted by colleges and universities was spent by engineering schools. Their share of a total of $300 million in research expenditures by academic institutions was $75 million. Of this amount, about $55 million represented government research support, chiefly through contracts with the Department of Defense.

These figures are given in *Funds for Research and Development in Engineering Schools, 1953–54,* which is No. 7 in the NSF series of *Reviews of Data on Research and Development*. Copies of the report may be obtained by writing to the National Science Foundation, Washington 25, D.C.

Berkeley Program for Public Health and the Social Sciences

A new research program designed to acquaint doctoral candidates from the fields of public health and the social sciences with the problems and practices of each other's profession has been established at the University of California, Berkeley. The work will be directed by L. Knutson, former chief of the behavioral studies section in the General Health Services Division of the U.S. Public Health Service, Washington, D.C.

The first participants in the Berkeley program will be four doctoral candidates in public health who will undertake research in behavioral science. There are about 2000 local public health departments in the United States, but there are probably less than 50 public health workers who have been trained at the doctoral level in the behavioral sciences. There is an ever-increasing shortage of this type of public health leader, and this is one of the first programs specifically organized to satisfy the need.

Office of Critical Tables

Guy Waddington, chief of the thermodynamics branch of the U.S. Bureau of Mines Petroleum Experiment Station, Bartlesville, Okla., has been named director of the newly established Office of Critical Tables at the National Academy of Sciences–National Research Council. The new office will seek to make more readily available to science and industry the large quantity of numerical data about the physical properties of chemical substances which are being collected and confirmed by independent research groups in universities, industry, and government.

The independent data-reporting groups will continue to perform the fundamental task of collecting and confirming the essential information. The projected contributions of the Office of Critical Tables are (i) to survey current programs for preparation of critical tables and to determine the need for new tables; (ii) to encourage the reporting groups to provide these tables on a continuing basis (iii) to suggest uniform standards of presentation; and (iv) to maintain a current indexing and directory service.

The contemplated body of information is so vast that—for the present, at least—there are no plans to assemble all data in a single set of volumes. It is anticipated that the total budgets for all cooperating independent groups will approach $1 million a year.

The new operation grew out of a report submitted by an Academy–Research Council committee in 1955. The committee had been asked to assess the practicality of revising the International Critical Tables, a compilation of similar numerical data published as a series of volumes from 1926 to 1933 under the auspices of the NAS–NRC. The report of this initial committee stated that the extent to which recent research had revealed new data, increased the accuracy of current data, and opened up completely new areas of investigation made revision appear unwise. The report also pointed out that there was a need for a new approach to accommodate the accumulation of unorganized data and the multiplicity of publications. The solution offered was the present program of the Office of Critical Tables.

An Executive Committee for the Office of Critical Tables was established under the chairmanship of Allen V. Astin, director of the National Bureau of Standards, to formulate policies for the new enterprise. Representatives were selected from the four divisions of the Academy–Research Council most concerned: chemistry and chemical technology, Frederick D. Rossini of Carnegie Institute of Technology; physical sciences, Robert B. Brode of the University of California; engineering and industrial research, Fred B. Llewellyn of Bell Telephone Laboratories; and earth sciences, Francis Birch of Harvard University. This committee will continue to serve as a policy-making group. (At present the Division of Engineering and Industrial Research is represented by Edgar C. Bain, division chairman.)

Mathematics TV Series

"Adventures in Number and Space" is the title of a new educational TV film series designed to make mathematics interesting to secondary school students. The program, which will start on 10 November, was conceived by the Westinghouse Broadcasting Company and prepared with the cooperation of the department of mathematics at Columbia University Teachers College. It will star Bill Baird and his Marionettes, and will be aimed primarily at junior high school students. The series will first be seen over the WBC TV outlets in Boston, Baltimore, Pittsburgh, Cleveland, and San Francisco, but the films will be made available at no cost to educational TV stations elsewhere.

Physics of Fluids

In January 1958 the American Institute of Physics will publish the first issue of *The Physics of Fluids*. F. N. Frenkiel, of the Applied Physics Laboratory, Johns Hopkins University, will edit the new journal with the aid of an 18-member editorial board. *The Physics of Fluids* will start as a bimonthly and will become a monthly as soon at it appears desirable. The journal will contain original papers on significant research results that have not been reported elsewhere.

Correspondence on editorial matters should be addressed to: F. N. Frenkiel,