News of Science

Another Nobelist Urges Nuclear Test Ban

Another Nobel laureate, Linus Pauling, head of the division of chemistry and chemical engineering at California Institute of Technology, has publicly called for the cessation of hydrogen bomb tests. In Chicago recently he warned that the proposed British test in the Pacific would cause 1000 cases of leukemia and suggested that cancellation of the test be the first step in international disarmament.

Pauling also stated that radioactive materials released by current nuclear explosions are causing a 1-percent increase in the total number of mentally retarded or deformed children born in the world. He said this would be an increase of 200,000 in one generation.

When told of Pauling's statements, Samuel K. Allison of the University of Chicago's Nuclear Physics Institute, said:

"Dr. Pauling is well informed in his field, and knows what he is talking about. His statement is worthy of publication. . . . I am in favor of discontinuing tests of bombs above one megaton (equivalent to a million tons of TNT)." Allison, one of the leaders in producing the first A-bomb, also agreed with Pauling about the British test.

National Academy of Sciences Award Winners and New Members

At the 94th annual meeting of the National Academy of Sciences, which took place 22–24 Apr. in Washington, D.C., the following men were honored.

James R. Killian, Jr., president of the Massachusetts Institute of Technology, received the Public Welfare Medal, generally recognized as the most distinguished of the academy's medals. It is unique in that it is awarded for the application of science in the public interest, whether by a scientist or not, rather than for specific scientific achievements.

Killian was inaugurated as the 10th president of the Massachusetts Institute of Technology in April 1949 at the age of 45. His administration has been marked by an increased emphasis on general education and the humanities in the education of scientists and engineers, by the development of M.I.T. as a residential college, and by the institute's steady evolution into a "university polarized around science."

Sven P. Ekman of Uppsala, Sweden, received, in absentia, the 1953 Daniel Giraud Elliot medal, which is given for "the most meritorious work in zoology or paleontology published each year." Every year the committee of selection reviews the literature of 3 years back in order to have the advantage of the perspective of passing time. For 1953 the committee selected Ekman's book, *Zoogeography of the Sea.* This work, issued in Great Britain, is a volume of 417 pages outlining our modern understanding of ecological distribution of marine animals. Containing much learned discussion and significant information on the relationships of the various faunas throughout the seas of the world, it embodies the summary of a lifetime of research on the part of the author.

Ekman progressed through successive appointments at the University of Uppsala until he became a professor in 1927. He also served as director of the university's Klubban Zoological Station and of its Zoological Museum until he was given emeritus status in 1941. He has worked extensively on the systematics of the Holothurians, of certain Hydroids, of Amphipods, and of other crustaceans, in addition to his general studies of zoogeography.

A. H. Sturtevant, professor of genetics at the California Institute of Technology, received the Kimber Genetics medal "for his long and distinguished career as discoverer and interpreter of fundamental genetic phenomena, as observed not only in the fruit fly but also in a number of other organisms, plant and animal; and for his brilliant studies on the evolution of genetic systems." One of Sturtevant's earliest and most important contributions to genetics was his demonstration that the genes are located in single linear order on the chromosomes, and that it is possible to establish the order in which the genes are arranged.

At its business session, the academy elected a vice president, two members of the council of the academy, 30 members, and four foreign associates. Farrington Daniels, professor of chemistry, University of Wisconsin, was elected to serve as vice president for a 4-year term beginning 1 July 1957, succeeding George W. Corner who has served since 1 July 1953. Daniels has been a member of the council for the past 3 years. Harry L. Shapiro, chairman of the department of anthropology, American Museum of Natural History, New York, and Frederick Seitz, professor of physics, University of Illinois, were elected to membership on the council of the academy to succeed Farrington Daniels and Merle A. Tuve.

Present officers of the academy, all of whom are members of the council, are as follows: president, Detlev W. Bronk; vice president, George W. Corner; home secretary, Hugh L. Dryden; foreign secretary, John G. Kirkwood; treasurer, William J. Robbins. Additional members of the council at the present time are E. A. Doisy, Farrington Daniels, Theophilus S. Painter, I. I. Rabi, F. E. Terman, and Merle A. Tuve.

Newly elected members of the academy are Charles A. Anderson, chief, Mineral Deposits Branch, U.S. Geological Survey, Washington, D.C.; Edwin B. Astwood, New England Center Hospital, Boston, Mass.; Joseph C. Aub, Massachusetts General Hospital, Boston, Mass.; Hendrik W. Bode, director of research in physical sciences, Bell Telephone Laboratories, Murray Hill, N.J.; Herbert C. Brown, professor of chemistry, Purdue University; Edwin H. Colbert, curator of fossil reptiles and amphibians, American Museum of Natural History, New York; Joseph L. Doob, professor of mathematics, University of Illinois; Paul M. Doty, professor of chemistry, Harvard University; Charles S. Draper, professor of aeronautical engineering, Massachusetts Institute of Technology; Walter M. Elsasser, professor of physics, University of Utah; Katherine Esau, professor of botany, college of Agriculture, University of California, Davis; Jesse L. Greenstein, staff member, Mount Wilson and Palomar Observatories, Pasadena, Calif.; Alexander Hollaender, director, Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tenn.; Donald F. Hornig, professor of chemistry, Brown University; Joseph Kaplan, professor of physics, University of California, Los Angeles; Charles Kittel, professor of physics, University of California, Berkeley; Heinrich Klüver, professor, division of biological sciences, University of Chicago; Arthur Kornberg, professor of microbiology, Washington University Medical School, St. Louis; Joshua Lederberg, professor of genetics, University of Wisconsin; Howard J. Lucas, emeritus professor of chemistry, California Institute of Technology; Alden H. Miller, professor of zoology, University of California, Berkeley; Hallam L. Movius, Jr.,

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.