News and views

Atoms for Peace Proposal

AN amplified view of the international agency for developing the peaceful uses of atomic energy, first proposed last year by President Eisenhower, was presented to the United Nations on November 5th by Henry Cabot Lodge, Jr., chief United States delegate to the UN. Calling for an agency that might bear a relation to the UN similar to that of the ten established specialized agencies (Unesco, the World Health Organization, etc.), Mr. Lodge also spelled out in some detail the actions which the United States is now prepared to take pending the agency's creation.

The President's original proposal visualized an agency which would receive from "the governments principally involved" joint contributions from their stockpiles of normal uranium and fissionable materials; but the USSR rejected the proposal until such time as an agreement could be reached on banning the use of atomic weapons. The United States, Mr. Lodge explained, then proceeded with conversations with other states which have developed raw material resources or advanced atomic energy programs—namely, the United Kingdom, France, Canada, Australia, Belgium, Union of South Africa, and Portugal. All eight nations having agreed to proceed in forming the agency, Secretary of State Dulles introduced an agenda item before the UN Assembly on September 23rd calling for the creation in 1955 of "an international agency whose initial membership will include nations from all regions of the world" and for an international scientific conference to consider the entire subject, which would meet under UN auspices in 1955. The United States, Mr. Dulles said, plans to open a reactor training school for foreign students early next year and will issue invitations to "a substantial number of medical and surgical experts from abroad" to participate in the work of cancer hospitals in which atomic energy techniques are used.

In his statement, Mr. Lodge explained the United States' position with respect to the proposed agency in the following terms: "We believe that the agency should encourage world-wide research and development of the peaceful uses of atomic energy; it should arrange for nuclear materials to meet the needs of research, development, and practical application to all manner of peaceful activities, including the eventual production of power. We believe the agency should foster the interchange of information on peaceful uses. We expect that the international agency will conduct its activities in such a way as to prepare for the time when the use of atomic energy for peace becomes the predominant and perhaps the exclusive use of this great force. The agency should be created by a treaty which in our opinion should define the standards and principles governing the organization in the discharge of its functions. All states which originally ratified the agreement should become members of the agency, and there should be a provision for accepting additional members. We believe that members should accept an obligation to supply materials and information for the work of the agency, financial support, facilities for open discussion, and contacts among scientists engaged in peaceful research activities. . . . We are prepared to start discussions with other countries for the conclusion of bilateral agreements which will make it possible for us, under our laws, to furnish technical information, technical assistance, and necessary amounts of fissionable materials for the construction and operation of research reactors to be located abroad."

Mr. Lodge then described the "chief forward steps" contemplated by the United States for 1955, of which the foremost will be a government-sponsored training program open to foreign scientists and a plan whereby unclassified scientific and technical information will be made available to the agency when it is set up.

The training program is to include a reactor school to which 30 or 40 scientists and engineers from abroad will be admitted to study reactor engineering; special AEC courses in radiation safety (industrial medicine and hygiene and radiological physics and use of radiation instruments); training courses and research collaboration with foreign experts in atomic biology and medicine at Brookhaven, Oak Ridge, and the Argonne Cancer Hospital; and a special AEC training program of four-week courses for foreign scientists in the field of radioisotope tracer techniques.

Information material which the United States is prepared to make available consists of ten (or more if more are demanded) complete libraries of published documents on atomic energy research, together with complete sets of index cards, and journals of the last seven years, abstracting 50 000 scientific and technical books and reports. "Stated in physical dimensions," said Mr. Lodge, "what we are prepared to furnish to each one of these foreign libraries is the equivalent of more than 300 lineal feet of published reports, and over 200 000 index cards."

On November 6th, the Western states sponsoring the plan submitted to the United Nations their formal resolution to set up the atomic energy agency and to call an international scientific conference next summer to consider the problems involved. It also has been proposed that the conference be organized with the advice of a committee composed of representatives of the United States, Britain, Canada, France, Brazil, India, and the Soviet Union.

In the course of the ensuing debate in the Political and Security Committee of the UN's General Assembly, Mr. Lodge stated on November 15th that the

United States has allocated 100 kilograms of fissionable material to serve as fuel for experimental nuclear reactors to be built by the proposed international agency. The next day British Minister of State Anthony Nutting announced that his country's "initial contribution" of fissionable material would amount to 20 kilograms. Indian delegate V. K. Krishna Menon then told the Committee that India would allocate large quantities of thorium and uranium ores for the agency providing that none of the materials would be directly or indirectly used for military purposes.

Chief Soviet delegate Andrei Y. Vishinsky, while criticizing certain aspects of the Western nations' resolution, maintained a conciliatory attitude during most of the Political Committee debate. A Soviet-sponsored amendment to the Western resolution that would make the agency responsible to the UN Security Council and subject to its veto provisions was expected to be rejected by the Committee. The USSR, however, has accepted the Western invitation to serve on the advisory committee that is to aid in organizing next summer's international conference, and it is expected that Russian representatives will take part in the conference itself.

Nobel Prizes for 1954

THE Nobel Prize in physics for 1954 has been awarded jointly to two German physicists, Max Born and Walther Bothe, with the Prize in chemistry going to an American, Linus Pauling. Born, now 73 and living in retirement at Bad Pyrmont, Germany, was honored "for his fundamental works in quantum mechanics, especially his statistical interpretation of the wave function". Until recently he taught at the University of Edinburgh, and before that at Cambridge and Göttingen. Bothe, 63, is presently at the Max Planck Institute at Heidelberg. His award was in recognition of his development of the coincidence counting method in the study of cosmic radiation "and the discoveries he made with it", notably that charged particles were present in cosmic rays. The work for which Born and Bothe share the Nobel Prize was done about twenty-five years ago. Pauling, 53, was born in Portland, Oregon, and is on the faculty of the California Institute of Technology. He was cited for "his works on the nature of chemical bonds, especially as applied to the structure of complicated substances". The Nobel Prize carries with it a gold medal and a cash award currently worth about $35 000. The presentation ceremonies take place on December 10th in Stockholm.

Low Temperature Scale Needed

IN a resolution adopted by the Ninth Calorimetry conference at its meeting in Schenectady last September, the National Bureau of Standards has been called upon to "undertake investigations aimed at providing the following urgent needs of American scientists: (1) an accurate temperature scale from 10°K to the oxygen point; and (2) a provisional temperature scale and standard thermometers to cover the range 0.1° to 20°K". Pointing out that fixed temperature points and mathematical relations between resistance and temperature below the oxygen point are becoming increasingly necessary, the resolution said that NBS, which has as one of its authorized functions the establishment and maintenance of thermometric standards, is uniquely fitted to undertake the required investigations. Noting that the development of the Collins Helium Cryostat (a research instrument now in use in many parts of the world) has played a major role in making available the temperature range below the boiling point of oxygen, the resolution stated that the measurement of temperature in that range is of primary importance to the value of the work accomplished, and is international in scope. The resolution was drawn up and proposed by D. R. Stull and J. G. Daunt and was presented to the Board of Directors and to the Conference by Guy Waddington. Approximately 130 scientists representing over 75 government, academic, and industrial laboratories throughout the United States took part in the deliberation.

Atomic Energy Commission

ON October 23rd, the White House announced the appointment to the Atomic Energy Commission of John von Neumann, research professor in mathematics at the Institute for Advanced Study at Princeton. Dr. von Neumann, a consultant to the Los Alamos Scientific Laboratory since 1943 and a member of the AEC's General Advisory Commission, succeeds former Commissioner Eugene M. Zuckert, who resigned last June. Well-known for his contributions to mathematical physics, the arts of high-speed computing, and the theory of games, von Neumann is the second scientist named to the AEC by President Eisenhower in recent weeks. In September, chemist Willard F. Libby of the University of Chicago was appointed to fill the unexpired term of physicist H. D. Smyth when the latter retired from the Commission to return to his post at Princeton University. Both von Neumann and Libby are Fellows of the American Physical Society.

Another AEC vacancy was created on November 8th when it was announced that Joseph E. Campbell, Columbia University treasurer on leave to the AEC since 1953, had been named Controller General of the United States.

Dr. von Neumann's place on the Commission's General Advisory Committee has been filled by the appointment of Edwin M. McMillan, professor of physics at the University of California. Also named to the GAC were Jesse W. Beams, professor of physics at the University of Virginia, and Warren C. Johnson, chairman of the University of Chicago chemistry department.