Science in the News

Peace Agency Bill Is Based on Democratic Science Group Statement: Mercury and U.S. Prestige Discussed

Efforts of the new Advisory Committee on Science and Technology of the Democratic Advisory Council have already borne legislative fruit, for on 6 January a bill (H.R. 9305) "to create and prescribe the functions of a National Peace Agency" was introduced in the House by Charles E. Bennett (D-Fla.). The bill, which has gone to the Foreign Relations Committee, embodies proposals contained in a committee statement that was released in early December as Advisory Council policy.

Eleanor Roosevelt summarized the purposes of H.R. 9305, known as the National Peace Agency Act, when she quoted from it as follows, as reported in the Chicago *Sun-Times* of 26 January: "It is the purpose of this act to deal with problems related to achieving peace through arms limitation agreements, to developing international control and inspection systems to enforce such agreements, and to applying scientific and technical resources to promote peace by eliminating or reducing the economic causes of war." She endorsed the bill by commenting that it was worthy of study by all those interested in "safe disarmament."

Representative Bennett describes his proposal as a "searching bill," one that would launch studies which would find the mechanisms for peace. He says: "We don't have a Utopian idea that this is going to end all wars, but even if just a little comes out of it, it can't help but be good." He feels that if this country spends so much money on wars, it ought to spend some on peace.

Science Committee's Statement

This thesis was strongly presented in the Democratic Science Committee's original statement, which points out that while the national defense budget is more than $44 billion, there is no substantial separate appropriation "for meeting the peace needs of our time." The report lists the few, small governmental groups, chiefly temporary, that are dealing with disarmament—including international agreements for arms limitation and nuclear-test suspension—and comments:

"The present government machinery for peace consists of the part-time efforts of a small number of people and the full-time efforts of a handful of experts.

"While the government has long understood the need to generate special organizations to resolve the problems of defense, it has not yet generated a single special organization to explore the problems of peace."

The committee warns that agreements on the limitation of nuclear tests and the production of nuclear weapons are urgent while the "nuclear club" is still small; that France will soon be a nuclear power; and that Communist China, and perhaps a dozen other countries, may not be far behind. The statement says: "Time is running out. It is absolutely vital that we organize our best thinking and processes of government so that our science and technology can be applied with all of its resourcefulness and ingenuity to devising solutions to . . . the maintenance of peace."

The committee statement also gives major attention to underdeveloped countries, pointing out that it is not enough "to apply organized scientific resources to neutralizing the military forces of war. We must also strive to capitalize these resources . . . by organizing to apply them to new positive programs for improving the economic lot of the underdeveloped nations of the world."

As conceived by the committee, the new agency would have a $1-billion budget and a program that is comparable in scale to that of the National Aeronautics and Space Administration.

Space Program Evaluation

The Democratic committee of 17 scientists was organized last spring under the chairmanship of Ernest C. Pollard, head of the department of biophysics at Yale University. Since that time it has analyzed a number of critical areas in which it believes scientific advice is important to national objectives. In addition to the peace agency proposal, the committee has issued a statement describing the relation of science and technology to our foreign and military policy, a statement on nuclear test suspension, and a statement on science and politics.

At present the committee is working on an evaluation of the space program and its objectives. In this connection, there was a meeting on 24 January at Democratic Advisory Council headquarters in Washington. A mid-day press conference opened vigorously because a 25-page committee working paper that was sharply critical of the United States space efforts had somehow reached the Baltimore *Sun*. The *Sun* article conveyed the mistaken impression that the committee was suggesting that the government delay Project Mercury, the NASA man-in-space program.

Pollard said emphatically that the report quoted in the *Sun* contained "anything but" the final thinking of the committee. He explained that committee working papers are prepared by only a few members and that they are especially designed to be challenging and therefore contain as many points of controversy as possible, including statements that are deliberate "jabs" to stimulate the committee members and keep them alert.

Mercury Another Vanguard?

Of Project Mercury, Pollard said that the committee feels that announcing Mercury prematurely and with such emphasis repeats the Project Vanguard procedure and unnecessarily jeopardizes national prestige. (Project Vanguard was the Navy's much publicized and often unsuccessful satellite program for the International Geophysical Year.) Above all, the committee objects to Project Mercury's being committed to a specific time schedule. The proposed launching should be carried out only when the "*right* time comes and we are ready," Pollard said.

When a reporter observed that Congress and others insist on target dates. Pollard replied: "What is your target date for curing cancer?" To amplify, Nobel laureate Polykarp Kusch of Columbia University commented: "There is a certain rate at which technological progress moves. No amount of money changes that."

Trevor Gardner, former assistant secretary of the Air Force for research and development, then suggested de-emphasizing Mercury and giving higher priority to "more reasonable programs, doable things on which target dates are feasible," such as the development of a communications satellite, a weather satellite, an international television satellite, and—"if we want to dream a bit" —a postal satellite. Kusch added: "We want to propose a challenge in an area in which we are likely to win, rather than taking up the Soviet challenges."

In closing, Pollard said that there was only a minority feeling in the group that the space program as a whole might be de-emphasized. There was unanimous agreement that this country is committed to an international space race "whether it likes it or not," and that therefore the entire program should be "overhauled" and speeded up. There was a suggestion that space-program problems are not only a matter of funding and that there should be "civilian management and thought, together with help from the military, like the Soviet system." A formal report on space is being prepared for release in the near future.

Science and Politics

Occasionally members of the Democratic Advisory Committee on Science and Technology emphasize their nonpolitical attitude toward work on the committee. For example, physicist vice chairman Richard B. Roberts of the Carnegie Institution of Washington said recently: "We are not trying to start a political controversy. What is important about the committee is that there is enough interest in what it has said to have launched legislation in the Congress."

The statement on "Science and Politics" that was released at the 24 January press conference expressed the following opinions:

"We feel that the citizen-scientist has a responsibility to think about the problems of science and society and to communicate his thoughts to those who can convert ideas into the fabric of national policy. . . .

"We are aware that we are breaking new ground in formalizing a relationship between science and politics. To those of us who are participating in this new venture, it appears that developments so revolutionary as the A-bomb, the H-bomb and the ICBM make it mandatory that new techniques in government . . . be tried."

Navy Craft Makes Record Descent to Ocean Floor

The Navy's bathyscaphe *Trieste* descended to the floor of the Marianas Trench in the Pacific Ocean on 23 January in a record dive of 37,800 feet, or more than 7 miles. This is probably the greatest ocean depth so far explored. The previous record depth was 36,198 feet, attained in August 1957 by the Russian ship *Vityaz*. The *Trieste* was piloted by Navy lieutenant Don Walsh of San Diego. He was accompanied by Swiss scientist Jacques Piccard who, with his father Auguste, designed and built the undersea craft.

The project was part of an oceanographic research program—Project Nekton, headed by Andrew Rechnitzer —that is being conducted by the Navy's Electronic Laboratory in San Diego and the Office of Naval Research in Washington. This was the third dive in a series that started in November to gather information about sunlight penetration, underwater visibility, natural underwater sounds, transmission of man-made sounds, water currents and temperatures, sea-floor configurations, and the effect of deep-water pressures on various mechanical devices. At full depth, the *Trieste*'s hull sustained a pressure of 16,883 pounds per square inch.

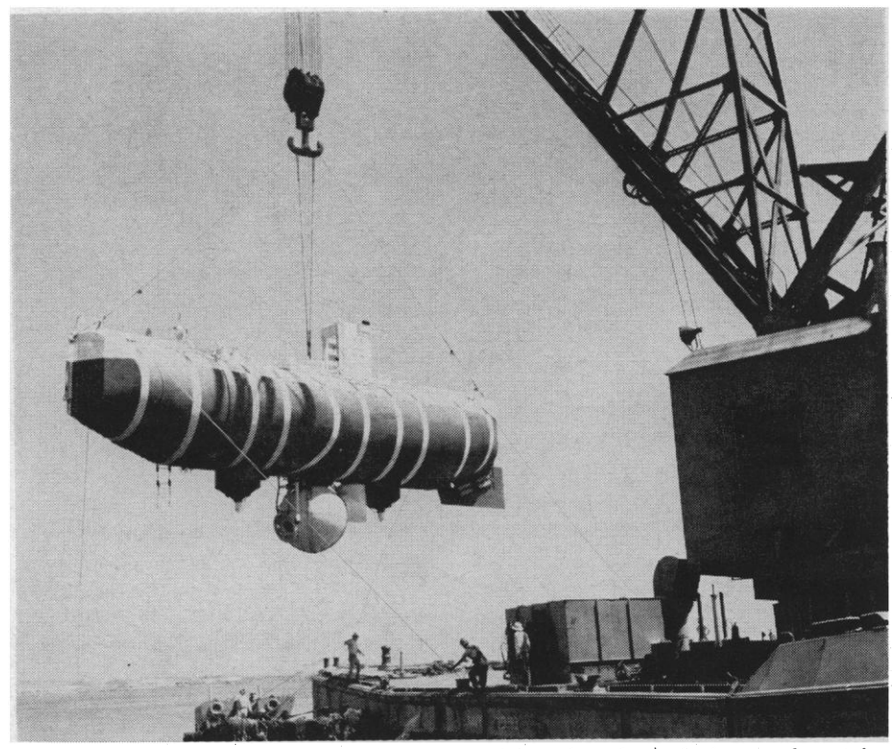
The vessel weighs 70 tons. A steel float that is 50 feet long and 11 feet deep provides buoyancy. Beneath this float is a 6½-foot, two-man cabin with two windows. The *Trieste* carries 10 tons of small iron pellets as ballast. To return to the surface, these shots are released at the rate of 1 ton for each 3000 feet of ascent.

Descent Described

The recent Marianas descent, which occurred approximately 250 miles southwest of Guam, took 4 hours and 48 minutes. The two men stayed on the bottom about 30 minutes, then began the trip to the surface, which took some 3 hours and 17 minutes. Both men emerged wet and shivering but were otherwise in good condition. Walsh made the following remarks about the trip:

"When the tube was flooded and we determined that the door was not leaking, we then ordered the ballast tanks flooded and the dive began. Unlike a submarine, the bathyscaphe *Trieste* is submerged by the topside crew on orders from the pilot in the sphere. This saves a great deal of weight in not having to install operating mechanism and additional wiring. . . .

"It stayed light outside until about 800 feet, when we saw our last bit of daylight. The trip to the bottom was long but uneventful; both Jacques and



The *Trieste* is lifted from the water by a crane. The sphere beneath the vessel contains a window from which pictures can be taken and undersea life observed.