

tary exploration," they said. "On the one hand, there is the Voyager program, centered around unmanned Saturn V launched missions to Mars in 1973 and 1975. . . . On the other hand, the panels were presented with a detailed plan for a manned mission to fly to the immediate vicinity of Mars and return (Mars flyby), possibly as early as 1975. . . . It was suggested that a single Mars flyby mission of this type might return a greater amount of useful information than is likely to be returned by the entire proposed program of Voyager missions to Mars in the 1970's. . . . There was, however, little indication of joint studies to develop agreed comparisons of the two types of missions or to develop a possible mixed strategy. . . ."

While the panels proposed nothing unsettling, such as a merger of the Office of Manned Space Flight with the Office of Space Science and Applications, they did offer a general guideline. "We recommend that NASA study the advantages of adopting a planning and decision-making structure which emphasizes program objectives rather than the means used to obtain them," they said.

The panels also recommended that, with respect to the emerging earth-resources-survey program, NASA undertake detailed cost-benefit studies of the manned and unmanned flights proposed for the survey tasks. It was suggested that, for some survey work, satellites, whether manned or unmanned, may not be the most economic means at hand. The panels noted that there have been proposals to use satellites to survey geological, agricultural, and forest resources, and to examine such things as the use patterns of metropolitan areas. "On the whole, the studies undertaken have not yet presented a convincing case that such survey programs can best be carried out by satellites," the panels said.

However, the expression of these doubts and reservations does not detract much from the essential fact that NASA has the support of the President's scientific advisers. Moreover, the President himself, by submitting to Congress a NASA budget which seems to point toward eventual planetary flight, has given the space agency a vital boost. Those who have long been inquiring about the space program's ultimate destination have not received a final answer, but they have been given more than an inkling.

—LUTHER J. CARTER

NEWS IN BRIEF

● **U.S. AND INTERNATIONAL SCIENCE:** A catalog of major international science programs in which the federal government participates is contained in a report issued by the Science Policy Research and Foreign Affairs Division of the Legislative Reference Service. The report was drawn up at the request of the Science, Research, and Development Subcommittee of the House Committee on Science and Astronautics. In its 167 pages, the report describes the international science activities of government departments and agencies, the National Academy of Sciences—National Research Council, and intergovernmental agencies. Where possible costs of the programs are given but an accounting of the entire amount that the United States spends on international cooperative programs "is not known, nor is it likely that it can be known," the report says. The study was not intended as an evaluation of the programs but a section of the summary states: "None of the activities appears to be without justification, but there is reason to question, as always, whether or not coordination is adequate or if it exists at all." The report, *The Participation of Federal Agencies in International Scientific Programs*, may be obtained from the Committee on Science and Astronautics, 2318 Rayburn House Office Building, Washington, D.C. 20515.

● **FDA FINALLY APPROVES FISH PROTEIN:** After 6 years of asking, urging, and studying on the part of others, the Food and Drug Administration has set aside its aesthetic squeamishness and scientific doubts and approved the use of fish protein concentrate (FPC) as a food additive for human consumption. The Bureau of Commercial Fisheries of the Department of the Interior is now surveying possible sites for the construction of a demonstration plant to manufacture the product. This construction was authorized in a bill passed in the last session of Congress and signed by President Johnson on 2 November, contingent on the approval of fish protein by the FDA. The bill also authorizes the Interior Department to lease another plant to demonstrate the feasibility of production of FPC by the commercial fishing industry. Approval of FPC was requested in separate petitions to the

FDA last year by the Department of the Interior and the VioBin Corp. of Monticello, Illinois. The Bureau of Commercial Fisheries has been working on a method of manufacturing fish protein concentrate for the last 3 years at a model unit in Beltsville, Maryland. The FPC food additive regulations of the FDA appear in the 2 February Federal Register.

● **AEC AWARDS:** Three members of the Atomic Energy Commission's headquarters staff have received the AEC Distinguished Service Award—highest honor it bestows upon employees—for their contributions to U.S. nuclear energy programs. The award—a medal, certificate, and citation—went to: Edward J. Bloch, Deputy General Manager, for outstanding service in directing and administering major AEC programs; Brig. Gen. Delmar L. Crowson, USAF, Director, Division of Military Application, for his contributions to the national defense; and George F. Quinn, Assistant General Manager for Plans and Production, for outstanding contributions to Commission programs.

● **SOCIAL, BEHAVIORAL SCIENCES STUDY:** Increased interest in the social and behavioral sciences on the part of government agencies, Congress, and others concerned with national support of the sciences has prompted a survey of the two disciplines under the joint auspices of the Social Science Research Council and the National Academy of Sciences—National Research Council. The purpose of the survey is to provide a basis for an informed and effective national policy for strengthening and developing the fields. A committee, headed by Ernest R. Hilgard, professor of psychology, Stanford University, is being set up to organize and execute the survey. The study will give major emphasis to anthropology, economics, history, political science, psychology, and sociology, with a more compact treatment of geography, linguistics, and psychiatry. The resulting report, expected to be published by autumn of 1969, will include information on manpower in research and training, financing of research and teaching, levels of research activity, and equipment, facilities and space, both actually used and forecasts of needs.