provision of indexing, abstracting, translating, and other services leading to the more effective dissemination of scientific information, and also authorizes the Foundation to undertake programs to develop new or improved methods, including mechanized systems, for making scientific information available. No budget is included, but the bill authorizes the appropriation each year of such sums as may be necessary to carry out these provisions.

Research and information. The Administration bill authorizes the payment of up to $50,000 a year, on a matching basis, to assist any state to improve the adequacy and reliability of its educational statistics. This money is available only for new or expanded services.

The provisions of the Hill-Elliott bill are quite different: the Commissioner of Education is authorized to conduct, assist, and foster reseach on the development and use of television, radio, motion pictures, and related media of communication which may prove of value in education. In the next six years, $55 million would be provided for these purposes. Contracts may be written with educational or other institutions; motion pictures, film strips, recordings, and so on, may be purchased and adapted; and other materials may be obtained for these purposes.

Money and time. The Administration bill would, if enacted, last for four years. At the end of that time its authorization would expire, except for continuing to completion the scholarships and fellowships already granted. It is impossible to state precisely the cost, because dollar figures have not been established for all of the proposed programs. The cost would, however, increase slightly during the four years, because the total number of scholarship and fellowship stipends would increase. In round numbers, approximately $1 billion of Federal money would be called for over the four-year period.

The Hill-Elliott bill would extend for six years, but some of its provisions and authorizations would continue indefinitely. Partly because proposed expenditures in any one year are larger, and partly because the period of time covered is six rather than four years, the total amount of Federal money called for by the Hill-Elliott bill is approximately twice as great as the $1 billion of the Administration bill.

DAEL WOLFLE

AAAS

Control of Space Research

The Council of the Federation of American Scientists, an organization of some 2000 scientists and engineers, released a statement on 5 February that urges that "the most serious consideration be given by Congress and the Administration to placing further U.S. research and development in the field of outer space under civilian control," and that, further, "all outer space research by scientists of all nations be carried out under the aegis of a single international agency under the United Nations." The FAS statement also endorses legislation introduced in the Senate on 23 January by Senator Clinton P. Anderson (D., N.M.) "to achieve the development and control of outer space for peaceful purposes by the United States and all friendly nations working cooperatively. . . ."

Hearings on the proposal (S. 3117) opened on 6 February before the new Subcommittee on Outer Space Propulsion of the Joint Atomic Energy Committee. Anderson, who heads the subcommittee, would place United States space research under the Atomic Energy Commission, authorize a new national laboratory for space research, and urge establishment of an international space research laboratory [*Science* **126**, 331 (14 Feb. 1958)].

Other recent actions related to the administration of space research are as follows.

Senate space advisory group. On 6 February the Senate created a 13-member committee to explore the problems of outer space and recommend whether or not control of future programs should be under civilian or military auspices. A resolution authorizing the new committee was passed by a 78-to-1 vote just 24 hours after it was introduced by Senate Majority Leader Lyndon B. Johnson (D., Tex.). [Simultaneously, Representative Merwin Coad (D., Ia.) introduced a resolution in the House calling for a 31-member committee in that body to make a study of the problems of astronautics and space travel.] The new space group is made up of representatives of the following Senate committees: Appropriations, Foreign Relations, Armed Services, Interstate and Foreign Commerce, Government Operations, and the Joint Committee on Atomic Energy. All Senate bills dealing with astronautics and space exploration, now scattered among these committees, will go to the new committee.

Advanced Research Projects Agency. An Advanced Research Projects Agency to handle "the research and development phases of advanced science programs, including satellites and other outer space projects," was proposed by President Eisenhower in a request to Congress on 7 January for emergency funds to speed U.S. missile and defense programs. The House (15 January) approved a $549 million emergency defense bill, including authorization for establishment of ARPA. The Senate Armed Services Committee approved (28 January) the House-passed bill, but eliminated the provision for ARPA, indicating that it should be dealt with in separate legislation.

However, on 7 February Secretary of Defense Neil H. McElroy announced the establishment of ARPA and the appointment of Roy W. Johnson as its head. Johnson, a vice president of the General Electric Company of New York, will resign from General Electric on 1 April, but will spend two or three days a week on his new assignment prior to that date.

William M. Holaday, director of guided missiles in the Department of Defense, previously had been named to take charge of space planning. He and Johnson will decide between themselves when to transfer responsibilities. The Advance Research Projects Agency is the first federal agency created to devise rockets for outer space, antimissile missiles, satellites, and other vehicles for use in space.

NACA. The National Advisory Committee for Aeronautics proposed, in a resolution released 27 January, that it take over leadership of space research in cooperation with existing military and civilian scientific agencies. NACA director Hugh Dryden said the National Science Foundation and the National Academy of Sciences would plan scientific experiments: NACA would "conduct flights for scientific purposes within its capabilities or jointly" and expand its laboratories. NACA would work with ARPA, and eliminate the need for setting up a new agency or department. Said the *Washington Post* editorially (29 January):

"NACA's plan deserves sympathetic consideration. . . . A new civilian agency like the AEC would lack the advantage of established facilities, personnel, working relationships and experience. All-military control would be unwise . . . any hope of a joint Russian-American venture in space . . . would be seriously diminished by making the American role a military one."

Preparedness Committee proposals. In its Interim Report, released 23 January after extensive hearings, the Senate Preparedness Subcommitteee, which is headed by Senator Johnson, made 17 recommendations to improve the U.S. defense and missile organization. Included were the suggestions that (i) this country "provide for a freer exchange of scientific and technical information between the nations of the free world"; and (ii) "accelerate and expand research and development programs, provide funding on a long-term basis, and improve control and administration

within the Department of Defense or through the establishment of an independent agency."

Eisenhower on space control. On 12 January President Eisenhower wrote to Premier Bulganin: "I propose that we agree that outer space would be used only for peaceful purposes. We face a decisive moment in history in relation to this matter. Both the Soviet Union and the U.S. are now using outer space for the testing of missiles designed for military purposes. The time to stop is now. . . . If indeed it be the view of the Soviet Union that we should not go on producing ever newer types of weapons, can we not stop the production of such weapons which would use or, more accurately, misuse, outer space, now for the first time opening up as a field for man's exploration? Should not outer space be dedicated to the peaceful uses of mankind and denied to the purposes of war? That is my proposal. . . ."

National Federation of Abstracting Services

A National Federation of Science Abstracting and Indexing Services was formed last month at a 3-day meeting in Philadelphia (see editorial, "Strength through Union," in 14 February issue). The conference, which was organized by *Biological Abstracts* and supported by the National Science Foundation, was attended by 34 representatives of 14 United States abstracting and indexing services and 11 representatives of the following organizations: the AAAS, the NSF, American Geological Institute, the American Geophysical Union, UNESCO, and the U.S. Joint Publications Research Service.

The new federation will endeavor through cooperative measures, education and research to improve the abstracting, indexing and analysis of scientific information so that such information will be more readily available to all scientists and technologists in this country and throughout the English-speaking world.

The opening session of the conference was addressed by Detlev W. Bronk, president of the Rockefeller Institute and president of the National Academy of Sciences. He commented that the conference provided an example of American institutions working at their best, the participants having come together in an informal way to see how by cooperation they could improve their services and work together toward common goals. He deplored the growing tendency to believe that large and difficult tasks should be relegated to the Federal Government.

In the area of scientific information services, Bronk said that he does not think it necessary to create a large national scientific information center just because the Soviet Union has such a center.

The objective of the newly formed federation is to improve the documentation (abstracting, indexing, and analyzing) of the scientific and technological literature of the world in such a manner as to make it readily available to all scientists and technologists: (i) by encouraging the development of abstracting and indexing for those specialized subject fields not at present covered by such services, and the further development of existing services; (ii) by seeking greater uniformity in such matters as journal citations and abbreviations, and transliteration of foreign language titles; (iii) by cooperation, education, research, and the pursuit of mutually useful enterprises, to strive for the best possible research information services for science and technology in the United States and abroad.

Each of the abstracting and indexing services represented at the conference will name a representative to a temporary council to serve until the new federation is formally organized, at which time other eligible abstracting and indexing services will be invited to join. An interim executive committee of three will act for the temporary council in taking the necessary steps leading to the formal organization and incorporation of the federation. The members of the executive committee are G. Miles Conrad of Biological Abstracts, chairman; Dale B. Baker of Chemical Abstracts; and John C. Green of the Office of Technical Services, U.S. Department of Commerce. Funds for setting up a secretariat of the federation will be contributed on a voluntary basis by services represented at the conference as an expression of their interest in the development of the new organization. It is expected that grants and donations will help to maintain and to expand the activities of the federation.

Grants, Fellowships, and Awards

Cardiology. The American Heart Association has received a special grant from the National Heart Institute to permit a limited number of research scientists in the cardiovascular field to attend the third World Congress of Cardiology in Brussels, Belgium, 14–21 September. The funds will provide for round-trip air travel from New York to Brussels plus a per diem allotment during the Congress. Younger investigators who would otherwise be likely to experience difficulty in obtaining funds for this purpose will be given preference. Requests for application blanks should be sent *immediately* to the Assistant Medical Director for Research, American Heart Association, 44 23rd St., New York 10, N.Y.

Secondary School Teaching. The National Science Foundation has announced that it will accept proposals from universities and colleges interested in sponsoring in-service institutes for secondary school teachers of science and mathematics to be held during the academic year 1958–59. These especially designed in-service institutes will be held outside regularly scheduled school hours so that teachers may attend while still teaching full time in their schools. Foundation support to some 25 institutes will cover all tuition and fees, plus any other direct costs to the college or university directly attributable to the program. Though the foundation does not provide stipend support for participants in the in-service program, the NSF grants provide funds to underwrite travel expenses in connection with attendance at the institutes. Deadline for submission of completed proposals to the foundation is *15 March.* Directions for preparing proposals may be obtained from the Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D.C.

Scientists in the News

NORMAN F. RAMSEY, professor of physics at Harvard University, has been appointed science adviser to Paul-Henri Spaak, Secretary General of the North Atlantic Treaty Organization. In the post, established by the NATO heads of government at their meeting in December, Ramsey will advise on all aspects of NATO activity in research, applied science, and the production of scientific manpower. He will act as chairman of the Science Advisory Committee, which is composed of scientific representatives from each of the NATO countries. This group was also established at the December meeting. At that time, the principal argument advanced in favor of closer scientific collaboration among the NATO powers was that the present compartmented national programs resulted in waste and duplication of effort. Ramsey will go to Paris in March to begin his new job.

The appointment of ADEN B. MEINEL as director of the new National Astronomical Observatory has been approved by the National Science Foundation. Meinel's appointment as first director of the observatory was recommended by the Association of Universities for Research in Astronomy, Inc., which is under contract to the National Science Foundation for the estab-