often let several years go by without taking a careful look at agency activities. The lengthy space hearings and the extensive press coverage that they generate contribute to the impression that the scope, pace, and goals of the space program are under meaningful debate, but the program is now so well along the way to the moon, and has developed so great a constituency, that politically there is very little room for debate that can actually affect the course of events. Last week the New York *Times* stated editorially that "there are more urgent needs in American national life than those posed by the arbitrary goal of sending an astronaut to the moon within the next five years. We suspect," the editorial concluded, "most Americans would prefer faster progress toward the Great Society right here on our own planet." Whether or not they would, there is little possibility that Congress will do anything significant to NASA's budgetary plans. The aerospace industry is suffering from underwork, and, if political tremors were produced by efforts to close a few naval shipyards, political earthquakes can be anticipated from efforts to turn down the space effort.

NASA's work with rockets and spacecraft has tended to draw attention away from the fact that the space agency has quietly and quickly developed into a significant source of support for graduate science education. The new budget calls for $46 million for NASA's sustaining university program, including $25 million to provide another 1275 graduate fellowships. This would bring the total of NASA fellows to 3200 by next fall. In addition, NASA provides the nation's universities with $70 and $80 million for various research and educational activities.

Congress has been unresponsive to a proposal by the defunct Elliott Committee for the establishment of a Joint Committee on Research Policy, but just this past Monday, the House Government Operations Committee gave its approval to Elliott's recommendation for creating a Government Operations subcommittee on research and technical programs. The subcommittee, to be headed by Representative Henry S. Reuss (D–Wis.), would have the function of reviewing the management of government-supported research and development programs, and thus would be in a position to carry on where the Elliott Committee left off. Still to be settled are questions of budget, staffing, and the scope of activity for the subcommittee. Reuss, a Harvard Law graduate who was first elected to the House in 1954, is widely respected for his legislative diligence and knowledge of economic affairs. It is quite likely that under his leadership, the subcommittee could evolve into an important focal point in science-government relations. Meanwhile, the House Space Committee's subcommittee on Science, Research, and Development, headed by Representative Emilio Daddario (D–Conn.), is relatively inactive, pending the parent committee's lengthy examination of the space authorization bill. When that is completed the Daddario group plans to resume examinations of various aspects of government support of research and development.

Finally, that bugbear of NIH, the intergovernmental operations subcommittee, headed by Representative L. H. Fountain (D–N.C.), has been occupied with problems of drug safety for some time, and it is unlikely that it will be devoting much attention to NIH until spring, if then.—D. S. GREENBERG

ACDA: LBJ Supports Agency Plea for Bigger Budget, Longer Life; but Old Problems Still Remain

The Arms Control and Disarmament Agency (ACDA) has begun its annual joust with Congress with somewhat sturdier backing than in earlier years. Despite persisting criticism of the agency, President Johnson has indicated which side he stands on by supporting the agency's latest request for a $55 million authorization ceiling for a 4-year period. In addition, Johnson sent a special message to Congress in which he went out of his way to refute critics who "questioned whether there was effective work for such an agency to perform," and he praised it for helping the country stay "vigilant for opportunities for improving the hopes for peace."

The new authorization would not dramatically affect the agency's style or level of operation, but it might go a long way toward ending the insecurity induced by a history of low budgets and congressional opposition. ACDA was established in 1961 and given a budget of $1.831 million for its first year. For fiscal 1963 (the first full year of operation) it had a budget of $6.5 million. This rose to $7.5 million in fiscal 1964 and to $9 million for the current fiscal year. Although the increase was steady, however, it was never as substantial as agency officials had hoped, and they also had to contend with the need for periodic authorization, the act of Congress that is to government agencies more or less what an internal passport is to citizens of the Soviet Union. In 1963 agency officials sought a permanent authorization and were granted instead a 2-year term; in asking for a 4-year term now they have modified their request. The budget request, which calls for $12.3 million of the $55 million to be allocated in fiscal 1966, is also scaled down from an early request of $15 million that was never granted.

It is too early to predict congressional reaction. Agency officials, in the traditional stance of supplicants, are "hopeful." But early signs from the House Foreign Affairs Committee, which held 2 days of hearings on the proposal last week, indicate that the skepticism which has dogged ACDA for so long will continue. (The Senate authorizing committee, Foreign Relations, has scheduled its hearings for late February.)

Much of the criticism was directed toward the agency research program which has absorbed about two-thirds of all ACDA funds so far. For the coming fiscal year the agency would like to spend $8.2 million on studies ranging from mathematical description of various verification systems to evaluation of the potential effects of arms control measures on Latin America, Africa, and the Middle East. In the view of the agency, the contract research program is just beginning to pay dividends by providing solid information useful in supporting, or developing, disarmament proposals. Many congressmen, however, evidently feel that what agency director William C. Foster described as the most urgent mission of his agency—"the prevention of nuclear spread"—is a subject for political negotiation, not academic research. It was also felt that because the agency continues to occupy a position in government far more peripheral than that envisaged by its early supporters, costly research contracts are a waste of money. Thus, the agency has begun to spend a good deal of money investigating the economic impact of disarmament measures, and Foster was asked by Leonard Farbstein, Manhattan Democrat, whether he had had a role in the decision to shut down the Brooklyn Navy Yard. Foster replied that he had not. "Don't you see the inconsistency?" Farbstein asked.

The inconsistencies are troubling not

only to Congress but to some members of the agency's staff, for it has never found solutions to certain discontents that have plagued it from the beginning.

The "Navy Yard syndrome" appears to afflict much of the agency's operation. ACDA is divided into four bureaus—International Relations, Weapons Evaluation and Control, Economics, and Science and Technology. With the exception of the Science and Technology group, the bureaus are staffed with individuals who were more or less drafted into the agency and who owe their principal allegiance elsewhere. The staff of the Weapons Bureau, for example, was largely borrowed from the military and consists of individuals whose ties with the services appear nearly as strong as their links with other parts of the agency. The other two bureaus have a substantial number of foreign service officers on temporary assignment, whose chief interests do not lie in arms control. These links may promote ACDA relationships with certain other government operations, such as the military sector of the Defense Department, and with its own parent agency, the Department of State. But the agency's most dedicated supporters of disarmament—the handful of men, mainly scientists, who have freely laid aside academic careers because they believe in the agency's work —are without a reliable pipeline to the places in the government where the most serious work on arms control is done—the civilian sector of the Pentagon and the White House. Information developed by the ACDA staff is frequently not utilized by Defense Department planners, nor does ACDA always have the opportunity to take advantage of DOD's knowledge and experience. The absence of coordination, in the view of several staff members, has not been remedied by Mr. Foster's dealings with the two officials whom he is supposed to advise, Secretary of State Rusk and President Johnson. Rusk, it is felt, though a skilled diplomat, has tended to give a low priority to arms control measures, particularly if they appear unsettling or likely to produce diplomatic confusion. And Johnson, like Kennedy, has tended to rely for advice chiefly on Secretary of Defense McNamara and on his White House special assistant for national security affairs, McGeorge Bundy.

Doubts about the agency's research program similar to those expressed by Congress are privately shared by some members of the agency's staff. "There are about 200 people here," one staff member said recently, "and it seems to me that almost all of them spend all their time developing and signing and watching over contract research. I'm not against research," he continued. "In the beginning, especially, a lot of technical problems needed solving, we let contracts, and now we have the answers. But this kind of thing is now being spun out indefinitely into lots of irrelevant areas. The worst of it is, there are some finished contracts that no one seems to have time to read, so it's obvious they aren't doing anybody any good." The suspicion that completed studies may be largely ignored is supported by reports that the agency recently prepared 1-page abstracts of each study. "No one will ever read the reports," one agency official is reported to have said, "but they might read a 1-page summary."

And Some Roses

Despite the persistence of disaffection in some quarters, however, the agency has a somewhat rosier glow than formerly, chiefly because of the changing outlook of the Geneva disarmament negotiations and the growing significance in the government of arms control planning generally. The 18-nation disarmament conference, in which the agency plays an important role, is not about to produce the agreement on general world-wide disarmament that it has been contemplating for 3 years. On most of the approaches to complete disarmament the Soviet Union and the United States remain as far apart as they have ever been. But the position of the United States has always been that there were certain collateral measures which, while they fell short of general disarmament, could nonetheless go a long way toward building mutual confidence and reducing the risk of war. After years of opposition, the Soviets have begun to accept this limited approach. Their changed attitude, which American officials attribute to the lesson of the Cuban missile crisis, has already produced three significant results —the "hot line" from Washington to Moscow, the limited test ban treaty, and the simultaneous announcement last spring of mutual cutbacks in the production of fissionable materials. And it has also opened the tables at Geneva to serious discussion of other limited measures to lessen the fragility of the peace.

Proposals made by the United States include a verified freeze on production of strategic nuclear delivery vehicles, the verified cutoff of production of fissionable materials, and a system of observation posts to reduce the possibilities of war by accident, miscalculation, or surprise attack. In addition, particular attention has been given to measures to halt the proliferation of nuclear weapons, which has been of heightened concern to both countries since the Chinese actually exploded their bomb last October. Anti-proliferation measures suggested by the U.S. include (i) agreement that nuclear weapons not be transferred to nations not now controlling them; (ii) extension of the 1963 test ban treaty to include a prohibition against underground testing; and (iii) opening by the nuclear powers of an increasing number of their nuclear facilities to international inspection, to establish that production is for peaceful purposes only. The U.S. took a modest step in this direction last March when it announced that the 600,000-thermal-kilowatt nonmilitary reactor in Rowe, Massachusetts, would be placed under the safeguards of the International Atomic Energy Authority (IAEA). This was the biggest power reactor opened to international inspection so far, and the U.S. delegates took advantage of the chance to urge the Soviets to follow along. (The first IAEA inspection took place last November.)

Fruitful discussion of the proliferation problem was obstructed by the Soviet conviction (a conviction shared by many in this country) that the multilateral force for which the U.S. has been pressing was a means of passing nuclear weapons to West Germany, thus abetting, rather than curbing, proliferation. The United States was similarly cool to many of the Soviet proposals, including one for an agreement to reduce defense budgets by 10 to 15 percent. This approach was pleasing to the neutrals on the committee, who as much as said they would be pleased to receive the difference in contributions toward their own economic development, but less pleasing to American delegates, who claimed that differences in the budget systems of different states made verification of such an agreement impossible. (The Soviet military budget consists of "sixteen words and one sum," ACDA Deputy Director Adrian Fisher said at Geneva, explaining why the scarcity of information made the Soviet plan unworkable.) The U.S. maintained that verified reductions in ar-

maments was the most sensible approach to reducing military expenditures.

At the end of the session there was no solid evidence of progress. But American officials were heartened by the relative absence of polemic, by the willingness of the Russians to discuss concrete measures apart from the context of general disarmament, and by what seemed to be the growing recognition of all parties that the gradual approach would be most productive in the end.

Where does all this leave the disarmament agency? The change in attitude of both American and Soviet governments which benefits arms control is not of the agency's making. Nor is it clear —judging from Mr. Foster's early reception on Capitol Hill—that the agency is going to benefit from it. The agency is still beset by congressional hostility and internal problems, and it has not become the source of dynamic new proposals or the effective governmental advocate of arms control policies that its supporters initially hoped it would be. On the other hand, it has helped considerably in focusing the attention of both government and scholars on the difficulties and possibilities of arms control, and it is widely thought to be performing patiently and well in its sometimes delicate international negotiations. Further, any upgrading in the status of arms control within the government is inevitably going to upgrade the status of the agency as well. This does not mean that the agency is about to take over the chief role in formulating U.S. disarmament policy. But it has secured a comfortable place in the government establishment, it appears to have the backing of the President, and it will undoubtedly continue to function from the galleries in the modest role it has so far been content to assume.—ELINOR LANGER

Announcements

The U.S. Atomic Energy Commission is soliciting proposals from U.S. citizens for biological research to be carried out at the **Eniwetok Marine Biological Laboratory**, Marshall Islands. Transportation and living costs will be defrayed for male investigators with approved research programs. Brief proposals should be submitted at least 3 months prior to the expected date of travel. Inquiries about the feasibility of research projects at EMBL should be sent to Robert W. Hiatt, University of Hawaii, Honolulu.

A collection of the **scientific writings of Fritz W. London**, late professor of chemical physics at Duke University, is available in the university library's manuscript department. The collection consists of more than 1900 items, including correspondence with several hundred scientists throughout the world, his early notebooks and manuscript drafts, and a book-length unpublished manuscript. Copies of specific items are available on request. The library's rare book room has a complete set of reprints of Professor London's published works, also available on request. For further information contact the Librarian, Duke University, Durham, North Carolina.

The University of California has announced plans to establish a center for continuing education in **hospital administration**, to be administered by the university's extension division. It will have headquarters on the Berkeley campus. The center will develop a statewide program of in-service courses, institutes, and workshops in cooperation with regional and state hospital associations and the schools of public health at Berkeley and Los Angeles. Financial support, projected at $75,000 for the first 3 years, is intended to cover the initial development costs, the program becoming self-supporting when it is fully established. E. Dwight Barnett, of the school of public health at U.C.L.A., has been appointed coordinator of the center's educational programming.

Grants, Fellowships, and Awards

The Dartmouth medical school has begun a graduate program that combines the first year's study in the departments of **physiology** and **pharmacology and toxicology**. Participants working toward the Ph.D. degree in the program will receive stipends of $3000 a year. Additional information and applications are available from H. Borison, Department of Pharmacology and Toxicology, Dartmouth Medical School, Hanover, New Hampshire.

Grants for short-term studies of **computer simulation** programs are available through the Social Science Research Council's committee on simulation of psychological and social processes. The program, funded by the I.B.M. Corporation, will allow social scientists working on simulation to spend up to 15 days at a computer installation in supervised study of a simulation program. Applicants must hold a Ph.D. degree, or have completed all requirements except the dissertation. Application deadline: *1 May*. (Social Science Research Council Fellowships and Grants, 230 Park Avenue, New York 10017)

Graduate assistantships are being offered in **communication and technical writing** programs leading to a master of science degree at Rensselaer Polytechnic Institute. Each assistantship provides a remission of tuition of $55 a credit hour and a stipend of between $2000 and $2400. Scholarships, fellowships, and part-time editorial work are also available. (Sterling P. Olmsted, Department of Language and Literature, R.P.I., Troy, New York)

Yale University is offering a 4-year fellowship leading to a Ph.D. in **forest economics**, with emphasis on industrial forest economics. The stipend is $3300 a year, plus dependents' allowance and extra funds for research and publications during the last 2 years. Applicants must be U.S. or Canadian citizens. Application deadline: *1 March*. (Dean, Forestry School, Yale University, New Haven, Conn.)

Courses

The college of engineering at the University of Michigan is offering a series of 1- and 2-week, noncredit courses for practicing **scientists and engineers**. The courses, scheduled for May through August, will cover recent advances in the various areas of engineering. Additional information regarding schedules, fees, and course content are available from Engineering Summer Conferences, West Engineering Building, University of Michigan, Ann Arbor.

The University of Wisconsin's extension division will present a course in work design 7–18 June. It will cover the design of complete **management systems**, with emphasis on application, presented through the use of case studies. (W. W. Wuerger, Engineering Institutes, University of Wisconsin Extension Division, 432 North Lake Street, Madison 53706)

Applications are being accepted for **summer internships** for graduate students in the physical sciences, mathematics, economics, and research engineering. The program is sponsored by