NASA: New Fellowship Program Will Make Space Agency Biggest in Graduate Aid

The National Aeronautics and Space Administration has set forth its plans for supporting graduate science education, and, as befits an organization that is reaching for the moon, NASA is not thinking small.

It is on its way to providing more graduate fellowships than are now offered by any other government agency, and the accompanying stipends are going to be about the most attractive on the federal marketplace. The program, which had been in preparation for the past year, was announced shortly after a presidential panel produced a series of recommendations calling for expanded federal support of graduate education in engineering, mathematics, and the physical sciences. In many respects the NASA program falls in line with the panel's recommendations, but there are discrepancies, and these raise the question of what is being done about the much-lamented but so far untouched disarray in federal support of graduate science studies.

Several persons associated with the preparation of the presidential study, which was reported in this space on 21 December, displayed a grudging admiration for NASA's big and bold move into the field. But they point out that what is good for the space agency is not necessarily good for the nation where overall manpower needs are concerned, and that the White House has yet to take hold of the manpower issue and lay down guidelines that will bring some coherence into a multitude of federal support programs that have just been allowed to grow, at the discretion of various agencies.

The panel report specifically referred to this problem when it stated that "immediate assignment of responsibility for leadership and coordination is needed to assure prompt realization of [graduate] program aims, consistency in administrative arrangements with universities, and comparability between existing and new program elements." The report did not offer any suggestions on where this responsibility should be assigned, but it is generally assumed that it will eventually fall to the White House's science advisory body, the Office of Science and Technology. OST acknowledges that it is wrestling with the problem, but, according to one staff member, "it's much easier to find out that a problem exists than it is to do anything about it."

The NASA fellowship program actually got under way last fall with a pilot project designed to give the agency experience in the acquisition and sustenance of graduate students. The project, involving 100 students spread among ten universities, apparently has worked out to NASA's satisfaction, for next fall the agency plans to provide 3-year fellowships for approximately 800 predoctoral students at 88 universities. These institutions, NASA says, have been selected because of their doctoral programs in space-related science and engineering and "their willingness to undertake a strengthening of their programs in these areas."

In the 1964–65 academic year, NASA expects to level off the annual intake at 1350 students a year. Once the program is in full swing, and allowing for attrition, NASA plans to have about 4000 students spread over the 3-year training period, at an annual cost of $25 million. The fellowships, which will be awarded by the institutions, will provide a $2400 stipend for 12 months of training. Up to $1000 in dependency allowance may be given to the student at the discretion of the institution, and the institution itself will receive a "negotiated" allowance that is expected to average out to $2000 to $3000 per student.

Under the program students maintaining what the institution considers a satisfactory record are assured of 3 years of support, and, in "unusual cases," NASA will provide funds for additional study. It seems likely that it will do so more often than not, since the agency acknowledges that 3 years is usually insufficient for the completion of a doctorate.

The program, according to NASA, is intended for "space-oriented" studies. This, the agency says, means the physical and biological sciences and engineering. The social sciences are not excluded, but these are considered by NASA to be low on the list, and support in this area will be limited to studies on such subjects as the political and economic effects of space activities.

Since there are virtually no ground rules to guide federal agencies in setting up fellowships, NASA has set up stipends that one of its officials once described as "competitive without going overboard." The National Science Foundation, which has 2700 fellowships this year, provides $1800 for the first year, $2000 for the second, and $2200 for the third. It also provides $500 for each dependent. The National Defense Education Act provides a maximum of 4500 fellowships, about half of them in the sciences and engineering. The stipends, which are among the few specifically prescribed by Congress, are $2000 for the first year, $2200 for the second, and $2400 for the third. An allowance of $400 is made for each dependent. The National Institutes of Health this year has about 1000 predoctoral fellowships, carrying stipends identical to NSF's.

NASA Initiative

For those students who survey the market and plan accordingly, NASA will, in most cases, be the most attractive source of support. However, the lure of a slightly more lucrative fellowship is not the primary concern of the individuals who responded with less than complete enthusiasm when NASA announced its programs. They are concerned over what one of them described as "NASA's failure to appreciate the academic process," and the effects that this is likely to have on the institutions that are hungry for funds at a time when the space agency is ready to dispense sizable quantities to those that will help it carry out its mission.

"You have to admire NASA for grabbing the ball and running with it

while other agencies are sitting around and talking about doing something," one White House aide commented, "but this is not precisely what we were talking about in our proposals to improve and expand graduate science education in this country."

Throughout those proposals, it was noted, heavy stress was placed on expanding graduate training without any sacrifice in quality. "It seems unlikely," one of the panel's consultants said, "that you can maintain this principle when you're offering 800 fellowships at 88 institutions in one jump." Not to be invidious, he pointed out, the 88 includes a number whose quality leaves a good deal to be desired.

Although these reservations exist at influential levels they are not likely to have any serious effect on NASA's program. For one thing, the reservations are combined with approval of NASA's bold approach to the problem of getting a good deal of money quickly pumped into the nation's graduate science programs. And no one is holding NASA at fault in offering a "competitive" stipend in the absence of any high-level efforts to promote uniformity among federal agencies supporting graduate education. Finally the administration is not at all displeased by the fact that Congress, despite some occasional rumblings, appears content to let the space agency plot its own course in its difficult assignment of beating the Russians to the moon.

While federal aid to education is encumbered by a variety of still insoluble racial, religious, and political problems, by long-standing tradition, aid at the graduate level is exempt from these difficulties, and when such aid is tied to a Cold War justification, Congress does not ask any serious questions. (It is one of the curiosities of NASA's relations with Congress that the act establishing the space agency says nothing about educational activities. NASA's lawyers are ready to justify the graduate program on the grounds that all federal agencies are authorized to award grants and contracts to nonprofit institutions for work associated with their missions. There are several agencies that, with some envy, would like to emulate the space agency's free-wheeling approach to the spending of its funds, but their congressional appropriations subcommittees have made it clear that they would like to have a specific say in the expenditure of any large amounts by agencies under their jurisdiction. The most downtrodden and timid of these agencies, of course, is the U.S. Office of Education; ironically, it has headquarters in the same building as NASA, but in all other respects the two are worlds apart.)

NASA's fellowship venture is actually only a small part of a big and growing university program that is likely to give the space agency the role in the physical sciences that NIH now firmly occupies in the life sciences. Last November in Chicago, at a NASA–University Conference on the Science and Technology of Space Exploration, the agency set forth prospects that can hardly be ignored by any financially strapped university finance officer or by a researcher seeking support for his work.

In an address on NASA–University relationships, T. L. K. Smull, director of NASA's Office of Grants and Research Contracts, noted that since the founding of NASA, a little over 4 years ago, the support of project research had doubled each year. It reached $30 million last year, he said, and, in the current fiscal year it may run as high as $70 million. Another $15 million, he said, has been allocated for the first stages of the fellowship program, and $10 million, to help universities acquire the facilities they need for training and research.

"It is extremely difficult," he explained, "to predict the level at which this activity might ultimately stabilize. Obviously, it will not double each year. However," he concluded, "it is probable that it will at least double again following this year's program before the program will stabilize."

If, from all this, students and researchers conclude that a good piece of the financial future lies in space, they will not be in error.—D. S. GREENBERG

Birth Control: U.N. Eliminates Aid Provision but Records Concern over Population Problems

The U.N. General Assembly has voted down a proposal to include birth control assistance in U.N. technical aid programs, but it has gone on record as being concerned over population problems; this is no small step away from its previous position of official indifference.

The final vote, which was 69 to 0, with 27 abstentions, is regarded, even by sponsors of the rejected proposal, as one of the most significant accomplishments yet achieved in spreading concern over the "population explosion."

The resolution, as adopted, points particularly to the problems of the underdeveloped nations and recommends U.N. assistance in demography and other studies related to population problems.

Perhaps the most significant outcome of the debate was a remarkably strong American statement endorsing the original resolution, including the provision "that the United Nations give technical assistance, as requested by governments, for national projects and programs dealing with the problems of population."

However, once having expressed its approval of these words in no uncertain terms, the United States abstained on votes to eliminate them from the resolution. The official explanation was that the provision is superfluous, since, as the U.S. explained, previous Assembly actions gave the U.N. authority to provide whatever technical assistance member nations requested. American officials explained privately, however, that in view of fierce opposition from a number of Catholic nations, they felt that no useful purpose would be served by saddling the trouble-ridden U.N. with a program to which a sizable portion of its membership was violently opposed.

In any case, the adopted resolution brings the subject farther out into the open than it has ever been before, and it provides a substantial foundation for additional U.N. action, as well as for a less timid approach on a national level.

Just where the next steps will be taken is something on which neither U.S. nor U.N. officials care to speculate openly. One feeling is that things have gone far better than anyone had a right to expect, and that it would be politic now to consolidate the newly won gains and not attempt anything that would force the opposition onto an aggressive course.

One possibility, however, is that with the U.S. now openly committed to the principle of assisting nations that request birth control aid, the Agency for International Development may be less skittish about the whole subject. Heretofore, it has been able to assert with truthfulness that aid funds are not buying birth control, but now that the Administration has moved off dead center, AID is in a good position to do some things that many of its officials have wanted to do all along.—D.S.G.