Training Grants (I): There Is Hope Some May Be Salvaged

On Monday afternoon, 26 March, investment banker Benno C. Schmidt announced that the dying training grant and fellowship programs of the National Institutes of Health (NIH) might be restored to life, or at least partially revived. His was the first hopeful word on this sore subject since January, when President Nixon let it be known, through his budget proposals for fiscal 1974, that the training programs had been marked for extinction (*Science*, 26 January).

Officials of the Nixon Administration, particularly those in the Office of Management and Budget (OMB), have been gunning for the NIH training programs for the last 3 years, as had persons in the Johnson Administration before them. Each year, the programs were saved at the last minute. But this year it looked as though the anti-training grant forces hit their mark at last. In doing so, they have driven the biomedical community to distraction. Indeed, the demise of training grants is seen as a serious threat to the very future of biomedical research. Some people go so far as to say that without training grants there will be no training of young scientists at all. Others, of course, think this is not the case, but they are not saying so out loud.

Schmidt, who is chairman of the President's three-man Cancer Advisory Panel, made his announcement at a meeting of the National Cancer Advisory Board. He had, he told board members, spent the morning at the White House, where he informed Presidential aides that neither he nor any member of the board agreed with the OMB's decision to do away with training programs, at least not as far as the national cancer program is concerned. By the time he left the White House, he said, the decision had been reopened for discussion. Schmidt believes that, if he can make a "good case" for federal funding of training, he may win at least a partial reversal of the decision to drop it. He thinks selective support of training is necessary but is not pushing for the wholesale restoration of the NIH programs as they existed. In fact, there are very few people who contend that those programs were without significant flaws. What they are hoping for is a viable alternative.

The NIH training grant and fellowship programs have been around for a long time, but it was not until the 1950's that they began to take on any significant dimensions. According to a special report in defense of the training programs, prepared by the NIH at the request of the OMB, these programs had really come into their own by the late 1950's, when about 5000 young scientists were supported by training funds totaling $20 million. By 1962, the kitty had grown to $100 million and supported 16,000 individuals. In 1972, the NIH was spending $130 million to train 9444 persons seeking a doctoral degree in biomedical science and 5549 individuals who were doing postdoctoral work, about 1000 fewer than in 1962. In addition to supporting trainees through stipends, training funds have consistently been used to support the "environment" in which the individual is trained—which is to say that a significant portion of the money is spent on faculty salaries. This system of financing has become the mainstay of the biomedical enterprise in the United States, and it is understandable that the country's biologists are shaken at the thought of having it pulled out from under them. But the Administration's sympathy is marginal.

The training program issue is a highly emotional one, with people on both sides coming forth with long lists of reasons for their positions that consistently fail to have any effect on the views of the other side. At the very heart of the matter is a basic philosophic disagreement that colors the way one reacts to those long lists of reasons. It is this: the Administration believes that it is not the business of the federal government to support graduate education—in biology or anything else. The biomedical community, conversely, holds as an article of faith that the support of graduate training in biology is very much the government's business. Many biologists also believe that it would be entirely appropriate for the government to support graduate education in other fields as well. Here, then, is a major impasse.

Having acknowledged disagreement at this level, each side, nonetheless, presses its argument. Speaking recently before a subcommittee of the House chaired by Representative Paul G. Rogers (D–Fla.), John Zapp, a dentist who is now the deputy assistant secretary for legislation (health) in the Department of Health, Education, and Welfare (HEW), spelled out the Administration's point of view. (Before Zapp went into his testimony, Rogers let him know in no uncertain terms that he was put out that neither HEW Secretary Caspar Weinberger, who was head of OMB when the decision to eliminate training programs was made, nor one of his more immediate aides had bothered to show up to testify.)

The Administration's View

Zapp's testimony, given in opposition to a bill Rogers has introduced to reestablish the training programs in modified form, went like this. First of all, he said, the training funds will not be eliminated completely until 1977 (the plan is to honor existing commitments but make no new ones) and graduate schools will, therefore, have adequate time to find alternative funds to keep their programs going at a "level of effort adequate to supply national manpower needs." The question of manpower is central to the Administration's case.

Even a cursory look at the NIH's log of grants shows that there are a lot of research grant applications that have been approved but not funded because there is not enough money in the bank to go around. Therefore, Administration officials reason, there must be a fairly large pool of good scientists who have already been trained and who are in need of support. Why pour the taxpayers' dollars into the education of young people for a field that is well populated as it is?

Another of the Administration's objections to training grants stems

from the conviction that they are used to pay for the professional education of persons who will simply go on to make "substantial" incomes. This position leads to two others. First is the notion that federal assistance should go only to students in financial need. Second is the matter of equity. The government does not foot the bill for graduate training in physics or engineering or the arts or humanities. So why should it pay for biologists? And that brings one back to the basic question of philosophy.

The Administration consistently maintains that it has seen no factual data to prove that federal support of young biological scientists is in the national interest, that there is no compelling evidence that the existence of training grants is a determining factor in career choices, and that, even without training money, the normal forces of supply and demand will assure an adequate supply of biomedical researchers. As OMB officials see it, young biologists should either be supported by senior investigators who use part of their research grant money to pay trainees, or they should take out loans and look at the cost of their training as a sound investment in their own futures.

The biomedical community is just not buying these arguments and has, of course, its answer to each one. The best and most imaginative ideas come from young people, leading biologists point out, and we need those ideas if we are to make any progress in the fight against disease. But by the time a young person reaches the stage in his education at which he would be eligible for pre- or postdoctoral assistance, he will have already accumulated a hefty string of debts for his college, medical school, or early graduate school education. Particularly with regard to doctors, the argument goes, students will go into private practice rather than take out a loan and incur even further debts. Thus, they will be lost to research. (The Administration, of course, is not loath to see more people practice medicine.)

As things stand now, according to most biomedical scientists, the majority of persons who receive grants or fellowships do go on to financially modest careers in academic research and teaching—that, in fact, they do not use their support as a free ride to a lucrative career. Thus, they insist the Administration is just plain wrong in taking the opposite view. And as for those trainees who do drop out of research and switch to medical practice, they are far better doctors than they would otherwise be, so their training is not exactly a loss. However, there are those in the OMB who counter this by suggesting that there is really no need for the country to have an enormous supply of physicians trained far beyond a level they are likely to need in ordinary practice, especially not at the public's expense. And so it goes. For every argument, there is a counterargument, and one gets the impression that no one is hearing what the other is saying.

It is obvious that, even if the biomedical community is justified in its conviction that training programs are vital to the creation and maintenance of a high-quality enterprise in biological research, they have failed to express themselves in terms the business-oriented officials of the Nixon Administration can understand.

NIH Report Unconvincing

One of the few sources of documentary evidence on the training program situation is the NIH report referred to earlier. Along with its budget requests for fiscal 1972 and 1973, the NIH submitted "unusually detailed overall justifications" for its training programs. But the OMB was not satisfied and asked for further material, which was compiled in the 160-page report that accompanied the submission of the budget request for fiscal 1974. The report contains scores of figures about the numbers of trainees, breaks them down into clinical or basic departments, and comments on their socioeconomic backgrounds. (As a rule, young biologists are neither very rich nor very poor.) It makes projections about manpower needs and goes into detail about salaries someone in biomedical research can make. And, of course, it lists conclusions and recommendations.

One problem, as some Administration officials see it, is that those conclusions and recommendations, each of which favors the training program concept, do not necessarily flow from the data. The first of the NIH's seven conclusions is an example. It is that biomedical research training is vital to the NIH program and that the success of the federal research effort depends on excellent scientists and a network of first-rate institutions. "Common sense and conventional wisdom would affirm this when Federal investments alone in biomedical R & D stand at about $2 billion and seem poised for a rapid increase. [They do not say where the idea that there will be a rapid increase comes from.] The investment of an additional $150 million or so in the training of future research workers would surely be adjudged sound on intuitive grounds, and is supported by several lines of evidence developed in the agency's studies."

To this the OMB has, in effect, said "nonsense." It is not impressed by the scientists' judgments about common sense and conventional wisdom, and, as is clear, its intuition about things is at variance with that of most research biologists. The lines of evidence in the NIH study are shaky, too. Some, for instance, are drawn from a survey conducted by the Bureau of Social Science Research, an independent organization. The bureau sent questionnaires to the deans of medical and graduate schools and to the chairman of every medical school department. The questionnaire asked these people to check a list of ten "attitudinal" items. At best, it was getting the respondents' feelings or impressions about such matters as whether NIH training support has helped improve research and training programs. And, it was directed to the very people whose institutions have been living off these training funds for a decade or more. The surveyors, of course, admit that their sample is not exactly an unbiased one but admitting the problem does not get around it. It is hardly surprising that OMB officials were not converted to the NIH's point of view.

This does not mean, however, that the OMB is right and the NIH is wrong. As usual, the truth falls somewhere in the middle. The biologists are hoping that a compromise of some sort is in the offing.

At this point, whether training programs can be salvaged is moot. But there are attempts to do so. One possibility is that people like Benno Schmidt, who have no vested interest in the programs and who can look at them with the experienced eye of a businessman, can, in fact, persuade the White House to alter its course. Another is that Congress, through Rogers on the House side and Edward Kennedy (D–Mass.) in the Senate, will fight for legislation that would put training programs back in business. These possibilities will be the subject of a second article.

—BARBARA J. CULLITON