News and Comment

NAS Study: Public Policy Group Offers Prescription To Promote Science-Government Cooperation

Last year, as concern about congressional attitudes toward science continued to grow within the scientific community, the Committee on Science and Public Policy of the National Academy of Sciences undertook a comprehensive review of the principles and working relationships underlying federal support of science.

The results of that review were issued this week*, and, if anything, they demonstrate that among the leadership of the scientific community a significant evolution of thought has occurred on the subject of reciprocal responsibilities in the partnership of science and government. For one of the dominant themes of this lucidly written report is that, while there is much to praise, nevertheless all is not well within the house of science, and that many of the problems and tensions that have arisen in the partnership can be attributed to the combined failure of universities and the scientific community to live up to their end of the bargain with the federal government.

This, of course, is not the only theme set forth in the study. It concludes, with ample justification, that the American people have been richly rewarded for their generous support of science, and that the scientific community has clearly demonstrated its responsiveness to the nation's needs. But it also concludes that, as science grows in cost and social impact and as it becomes increasingly dependent upon the support and understanding of the federal government, there are deficiencies within the scientific community and the universities that are nourishing the very difficulties that are now of so much concern to the nation's scientists.

Addressing itself to the role of the scientific community in the science-government relationship, the report states:

> . . . understanding of the purpose of federal support of basic research by the project grant/contract system is not sufficiently widespread in the scientific community. Grants and contracts are given as trusts to institutions for a purpose, which is substantially as described by the principal investigator in his proposal. The investigator assumes a major responsibility in accepting federal funds and has an obligation to account for their proper use. Acceptance of a grant commits him to a conscientious effort to achieve its stated purpose; he acquires no other rights to the granted or contracted funds.

And, it goes on to make such observations as:

> . . . where federal research money now equals the entire university budget of a few years ago, adequate mechanisms for supervising its proper, productive use are sometimes lacking. . . . We believe that all universities will do well to examine their mechanisms for the review of grant proposals and that nearly all these mechanisms require drastic improvements. . . . No university that does not now have a large program of federally supported research projects can realistically hope to gain one if it tries to manage its research grants by haphazard and outmoded policies.

These views, of course, have been circulating for years within federal research agencies and the academic and scientific communities, but their explicit enunciation by the prestigious National Academy of Sciences contrasts sharply with the line that has heretofore been followed by the leadership of the scientific community. That line, in general, has been that there is nothing wrong with federal support of science that could not be cured by more federal money and less restrictive policies by the granting agencies. The Academy study does not deviate from those points; in fact, it breaks new ground by advocating a new type of support—small and unencumbered research grants for junior scientists. And it argues for a "distinct and selective program" of grants to build up "some weaker institutions," as well as increased general financial assistance for institutions heavily engaged in federally supported research. It also comes out hard against the congressionally inspired tendency of some federal agencies to require closer accountability of researchers' time on the job. And it urges federal research agencies to simplify and harmonize their paperwork requirements.

But the principal significance of the report is in its contention that many current difficulties could probably be lessened by action within the scientific community itself.

A Closed Circle?

Without explicitly referring to congressional suspicions that research funds are being allocated by a closed circle of advisory panelists, it recommends that "membership in the panels and sections should be on a relatively short-term rotating basis, and wide circles (in terms of scientific disciplines, geography, and function) of the scientific community should be tapped for this service." It also notes that much of the friction between research and administrative staffs on campus arises from poor understanding between the two groups, and recommends the formation of joint committees to work out institutional policies for the management of grant funds. And it suggests that a great deal of misunderstanding over whether funds are being properly used could be avoided if federal research agencies would clarify and simplify their requirements for grant proposals, and if grant applicants and their institutions did a better job of formulating proposals.

The report is, of course, highly significant for its substance, but it is perhaps equally significant as an event in the evolution of the Academy toward a larger role in the public-affairs aspects of science. Mindful of the fact that any excursion into the public arena

* *Federal Support of Basic Research in Institutions of Higher Learning*, 97 pages; available for $2 from the Printing and Publishing Office, National Academy of Sciences, Washington 25, D.C. The report's formal conclusions are printed in their entirety in this issue of *Science*, starting on page 1300. The study was financed by a $24,000 grant from the Ford Foundation.

George B. Kistiakowsky, chairman, NAS Committee on Science and Public Policy

carries with it the possibility of a bloody nose, the Academy had previously followed the practice of venturing no closer than necessary to matters of public controversy. It based this policy on the argument that its charter specified that it was to speak only when spoken to by government agencies seeking its assistance. The charter has not changed, but since science has grown to a point where it is a legitimate subject for public policy debate, events have led the Academy to a new conception of its role. And with formation of the Science and Public Policy committee, under the chairmanship of George B. Kistiakowsky, it has been demonstrated that if the Academy wishes to speak out on a subject, it is not difficult to elicit an invitation. In the case of the current report, the invitation came from the American Society of Biological Chemists, but it is clear that Kistiakowsky felt the study was long overdue, and clear that if that particular society, or the several others that later issued similar invitations, had not invited the study, one means or another would have been found to bring the Academy to grips with the subject.—D. S. GREENBERG

Fermi Prize Money: Congressional Committee Takes Steps To Assume Control of Annual $50,000 Award

The congressional Joint Committee on Atomic Energy has quietly moved to assert its control over the $50,000 prize that accompanies the Enrico Fermi award.

The award, which honors "specially meritorious contribution to the development, use, or control of atomic energy," would still be given annually by the President upon the recommendation of the General Advisory Committee of the Atomic Energy Commission. But the prize money either would be substantially reduced or, if maintained at the present sum, would be awarded only with specific congressional approval.

The committee's move, which was first revealed by the New York *Times*, comes from a combination of diverse motives. First of all, the committee is currently incensed by the administration's seeming preference for supporting basic research at the expense of developmental research (*Science*, 13 March, p. 1149), and, in its pique, it has noted that basic researchers have predominated among bestowers and recipients of the award. (The latter have been John von Neumann, Ernest O. Lawrence, Eugene T. Wigner, Glenn T. Seaborg, Hans A. Bethe, Edward Teller, and J. Robert Oppenheimer.) It would like to see the honor go to some of the people involved in nuclear engineering developments, among them Admiral Hyman G. Rickover.

An Alumni Prize?

Furthermore, the committee has chosen to view as conspiratorial the fact that five of the Fermi recipients were, at one time or another, members of the nine-man General Advisory Committee whose nominations have governed the award. "They just give it to each other," was the analysis of one member of Congress.

The size of the award is also something that has impressed the money-minded members of Congress. The $50,000, which is tax free, is the largest monetary award regularly given by the U.S. Government. Congressmen have noted that the Nobel Prize is generally about $40,000 and is often shared by several recipients.

Finally, complementing the committee's general inclination to take control of the prize is a small undercurrent of hostility toward last year's award to Oppenheimer. It is worth noting, though, that this hostility alone probably could not carry the issue. Before the award was made to Oppenheimer the committee informally indicated its assent, and several members of the committee were on hand last December, happily beaming, when President Johnson carried through President Kennedy's plan to present the award personally to Oppenheimer at the White House.

The most conspicuous source of discontent with the selection of Oppenheimer was the committee's senior Republican senator, Bourke Hickenlooper, of Iowa, who does not share the view that the Oppenheimer security case was a sorry chapter in the nation's intellectual history. Hickenlooper declined to attend the White House ceremony for Oppenheimer, and since then has freely used words such as "revolting" and "shocking" in reference to the Oppenheimer selection. It does not appear that many of Hickenlooper's committee colleagues share his sentiments, but when the diverse motivations are put together, they add up to a consensus for giving the committee control over the prize money.

It is the money, incidentally, that seems to have caught the committee's attention. Hickenlooper himself commented in an interview last week that "since the prize is a technical one, it should be given by technical people. But the money part should be decided in congress."

The committee has not yet completed action on the prize money, but it has agreed informally either to cut down the monetary award or, if the amount is kept at $50,000, to make the award contingent upon congressional approval, which means its approval, since the Joint Committee is the fount of virtually all legislation concerning atomic energy.—D.S.G.

Stanford: Boom in Electronics in the San Francisco Bay Area Was Ignited Down on "the Farm"

Palo Alto. Stanford's central quadrangles, with their vaguely Romanesque "mission" architecture and cloistered calm, present a pleasantly anachronistic picture for a university which is generally regarded as a powerhouse of industrial development on the San Francisco peninsula.

Stanford and the University of California at Berkeley get credit for doing, by a kind of symbiosis, for "high technology" industry in the San Francisco region what M.I.T. and Harvard have done for the Boston–Cambridge area. And Stanford is viewed as the chief begetter of an electronics industry