Letters

NSF Policy Analysis

M. Granger Morgan argues (Editorial, 16 Dec., p. 1187) that the National Science Foundation "is not, and has never been, a good place for a federal policy analysis job shop." This seems to me to miss the point. Rather, the question is whether there is any other government organization that can perform top-level policy analysis in science and technology. Two trends have converged to make NSF perhaps the *only* place in the Executive Branch where such comprehensive policy analysis, with a "national" rather than an "agency" perspective, can be performed. One trend is the growing recognition by the Executive Office of the President, particularly the Office of Science and Technology Policy and the Office of Management and Budget, that such analyses can make important contributions to improving policy-making on crucial national issues, especially with White House unwillingness to give the Executive Office an in-house policy analysis staff. The other trend is to treat NSF, not as a true foundation that dispassionately distributes public funds in pursuit of scientific excellence, but rather as an agency of government, responsive to changing political priorities and to the objectives of the elected leadership. One might argue that this is an undesirable evolution, but one cannot deny its reality.

The question then is whether NSF can simultaneously (i) provide effective policy analysis for both the central elements of government and its own leadership; (ii) support the kind of development of policy analysis capability called for by Morgan; and (iii) carry out its traditional function of supporting basic research and science education. It is not obvious that all of this is possible, but if it is, the benefits would outweigh the undeniable risks of politicizing NSF, which in any case is a resilient organization that historically has resisted much stronger threats to its integrity.

NSF's Division of Policy Research and Analysis (PRA) is about to issue a program announcement that proposes just the kind of longer range effort in improving the theory and practice of policy analysis that Morgan calls for; several million dollars are likely to be devoted to this effort in fiscal year 1984. If PRA did not also have a major role as a performer of policy analysis for influential users, it is unlikely that this level of funding for research support would be available. Rather than call, as Morgan does, for a "drastic reorientation of PRA" before it is well embarked on its current direction, perhaps the community of science and technology policy analysis should become more familiar with PRA's plans, criticize them when criticism is deserved, and work with NSF to advance *all* of the objectives it is seeking.

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In remarks he made to the American Society of Biological Chemists in New Orleans in 1980, John Logsdon said, "NSF has been assigned a number of tasks appropriate for a central policy staff, tasks which probably ought to be carried out by the White House Office of Science and Technology Policy" (*1*). I share that view. He went on to point out, as he does in this letter, that "the current OSTP is unwilling, and probably unable, to carry out such tasks, and NSF gets them almost by default" (*1*). This correctly describes the situation, but I do not share Logsdon's current view that this arrangement is inevitable, appropriate, or acceptable.

Agencies like the Environmental Protection Agency have tried to combine long-term fundamental work with short-term applied activities and have not done very well. The short-term activities have generally taken over, or forced out, the long-term work. To be useful, long-term technically focused policy research need not be tightly tied to or directly responsive to the current agendas of specific policy-makers. Good policy-focused research (*2*), undertaken independently, on specific problems like acid rain, or methodological issues like the treatment of uncertainty, can substantially inform and shape future understanding, public discussion, and decision processes. While NSF-supported work of this kind should be undertaken with an awareness of political and institutional realities, current Executive Office and agency agendas should not be allowed to dominate the process of problem selection. Individual investigators should be able to independently set their research agendas: identifying, proposing, and justifying research on demonstrably important problems using the classic NSF vehicles of unsolicited proposals and peer review. By fostering a tradition of technically focused policy research that is both independent and long term, NSF could help to significantly enlighten and improve our processes for managing, governing, and regulating our technological society.

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References

1. J. M. Logsdon, "The National Science Foundation as an instrument of national policy," a speech delivered to the annual meeting of the American Society of Biological Chemists: Biophysical Society, New Orleans, 4 June 1980.
2. M. G. Morgan, *Science* **201**, 971 (1978).

Nuclear Test Yields

In replying to a briefing by R. Jeffrey Smith (News and Comment, 17 June, p. 1254) about a recent American Geophysical Union symposium on the verification of nuclear test bans, Ralph Alewine and Thomas Bache (Letters, 29 July, p. 418) make several statements that we, the coorganizers of the symposium, believe are misleading or incorrect. In an invited paper, Alewine and Bache presented the views of the U.S. Department of Defense on two issues: has the U.S.S.R. complied with the 150-kiloton limit set by the as yet unratified Threshold Test Ban Treaty (TTBT) of 1976, and can a comprehensive test ban treaty be verified with high reliability? Their conclusion that many Soviet tests since 1976 exceeded the 150-kiloton limit is at odds with that of many other speakers at the symposium and with the views of many members of a panel that debated that issue at the conclusion of the symposium. The seismologists at the symposium agreed that attenuation of short-period seismic P waves is much less for waves leaving the main Soviet test site in eastern Kazakh than it is for waves from the Nevada Test Site, the source of most U.S. calibration information on seismic magnitude and yield. The disputes were about the size of that bias and about the observed body-wave magnitude (m_b) values for specific explosions. Use over the past 15 to 20 years of uncalibrated m_b