
Democratizing Science Advice A Bulletin Board Could Benefit Policy-makers

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Proposals to ensure that the president receives a diversity of expert science advice have proliferated in recent years. President Reagan's science advisers have served as advocates of the administration's science policies, rather than as objective conduits for communication between the president and the science community.

Few would deny that the science adviser has a challenging assignment. He must brief the president on many varied expert opinions on science and technology matters (including those that deviate from the administration's ideology or stated policy). He must also support the president's decisions once they are made. It is a difficult balancing act, particularly in the absence of a President's Science Advisory Committee (PSAC), such as existed from 1957 to 1972. PSAC provided informed and wide-ranging debate in the executive branch.

Can one person really be expected, however, to represent the science community's multitude of often contradictory views? Personal experience and professional contacts will strongly shape the information and advice offered to the president. The current trend toward

a partisan role for the president's science adviser only underscores the need for democratizing science advice in the executive branch by reviving the PSAC.

I suspect, however, that even this action (which I fully endorse) may be inadequate in light of the increasing number and varied nature of science and technology issues that the president faces today. The handful of scientists who would sit on PSAC and the staff supporting them cannot be expected any more to provide informed judgment on all science matters by themselves. For this reason I suggest that the concept of PSAC be extended to include many more members of the science community. The knowledge, experience and judgment of the nation's entire body of scientists and engineers represents a rich resource, but one that is largely under-exploited by the government.

What I have in mind is an electronic bulletin board on which the nation's scientists and engineers could "post" their views on science and technology issues. The opinions expressed could be read by members of the science community and the public, but especially by officials and policy-makers in the ex-

ecutive, legislative and judicial branches of government (for whose use it would chiefly be maintained).

A scientist wishing to offer advice on a science and technology policy issue would prepare a brief statement of opinion (perhaps no more than 750 words or roughly three pages). Using electronic mail, the scientist would "post" his or her comments on the bulletin board of science and technology advice. A scientist holding a different view could respond. The dialogue would proceed until there is eventually a large and diverse body of expert opinion on a particular topic, such as the need for building the Superconducting Supercollider or for mapping the human genome. Whether or not consensus is reached, decisions could be based on informed opinions.

Many will wonder what this medium offers that is not already available to scientists or to policy-makers. After all, scientists can write letters to newspapers, magazines or journals. Or they can write directly to or testify before members of Congress; they can write to the president himself. Many scientists already sit on government committees or consult with government officials, and policy-makers benefit from their opinions.

One of the chief advantages of mounting a data base of expert scientific advice is the convenience it would provide. The electronic bulletin board would give easy access to diverse expert opinions now scattered in the Op-Ed pages of newspapers, magazines and

academic journals, and in government reports, etc. Moreover, specialist conferences could conclude with consensus statements transmitted directly to the bulletin board and thus to policy-makers.

Second, the electronic medium would give users instant access to these opinions and therefore offers a timeliness unmatched by other media. It would accelerate discussion. Timeliness, it should be noted, is vital to government policy-makers. George A. Keyworth II, President Reagan's past science adviser, complained to the House Science and Technology Committee in 1986 that policy-makers need but do not now get such advice quickly. For example, reports of the National Academy of Science (NAS) or the Office of Technology Assessment (OTA) take many months to prepare. An electronic bulletin board would not replace carefully prepared studies that weigh expert opinions and recommend specific actions; it would be supplementary to commissioned or volunteered studies as well as to all existing science advisory structures in the government. In fact, organizations such as the NAS and OTA could draw on the opinions on the bulletin board to produce their reports.

An electronic bulletin board also has the dual advantage of economy and ease of use. Submissions of opinion would cost a scientist less than sending an express-mail letter. Charges for on-line access to the data base could probably be kept to a minimum, especially if the bulletin board were maintained on an exist-

ing government-run network, such as ARPANET. Many scientists who might otherwise lack the time to consult with policy-makers in person may be willing to use the bulletin board, especially if they have some confidence that their opinions would reach the right policy-makers.

I have suggested that the public should be able to read submissions to the data base. By linking the public to the science community's expert views on various issues, the bulletin board would play an important educational role. Moreover, policy-makers might pay more attention to the opinions expressed if they know that the public is also reading those views. While I appreciate the desire of the public to participate in making science policy, this proposal is designed to increase the utilization of our vast reservoir of expert advice. Perhaps the bulletin board could even include opinions from the international science community.

Certainly this idea holds problems as well as promises. For example, what if too many opinions were submitted? Perhaps, as a practical matter, only a select group of scientists could participate. Even if practicality demanded this, the number of participants and range of ad-

vice offered would be greater than at present. And, I should add, there are objective, analytical methods using bibliographic data bases that can help to identify scientists working in a specialty area (regardless of their professional or social affiliations with government officials) who ought to be invited to express their views.

Obviously, scientists cannot be required to submit opinions or policy-makers to read them. And ultimately the utility of democratizing science advice hinges upon policy-makers' openness to debate and dissent.

Other scientists and policy-makers with experience in the middle and upper levels of government service will likely propose very different ideas for improving science advice to the government. I, however, have devoted my energies to opening up new channels of communication among scientists through the use of technology. As technology has transformed and improved communication among members of the scientific community, so too it can usefully serve government officials charged with the great responsibility of deciding how best to develop and use our scientific and technological assets. ■