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Science Advice to the Government

With the Reagan years winding down and a presidential campaign increasingly tense, individuals and groups are speculating about how future developments will affect them. In particular, many scientists and engineers are wondering about their role in a new administration. All of them share a widely held belief that in the future science and technology will be even more important to society than they are now. But some scientists and engineers feel that expertise in research and development is inadequately utilized at the highest levels of government.

William T. Golden, treasurer of the AAAS, who has long been interested in the improvement of the science advisory apparatus, has focused attention on the matter. He is the editor of a just-published book* that contains more than 80 essays about science advice to the federal government. The contributors include seven presidential science advisers, past and present, a number of key congressmen, and former President Gerald R. Ford. As might be expected, the presentations differ in content and recommendations.

One strain that emerges is a longing for the good old days of the President's Science Advisory Committee (PSAC) of the 1950s and 1960s. At that time, technical people of distinction had the attentive ear of presidents. Many of the matters dealt with had to do with nuclear weapons, a topic in which PSAC had expertise while competing sources of advice were limited. But now, the issues of prime concern to presidents have changed, and the availability of technical information and advice has expanded enormously.

Some of the issues cited as having precedence over R&D are economic competitiveness, trade agreements, deficits, foreign policy, education, jobs, and arms control. Science and technology are relevant to all of these matters but are not recognized as the crucial components in them. Gerald Ford writes (p. 141)

The major portfolios of defense, health, foreign affairs, space, commerce, etc., all contain items of science and technology. As issues in these major portfolios come through government processes . . . pertinent scientific research and development are judged on the basis of their importance to those larger governmental missions.

Another great difference between the days of PSAC and the present is the existence now of many sources of technical expertise. The resources of the departments and agencies of the Executive Branch have increased. More impressive has been the expansion of technical expertise available to the Congress. This includes scientists and engineers who are members of the congressional staff and personnel at the Office of Technology Assessment, the Congressional Research Service, and the General Accounting Office. The National Research Council serves both the legislative and executive branches. In addition, the more than 2000 scientific and professional associations located in Washington, D.C., are determined to advise anyone who will listen or who can read.

In the midst of such a Tower of Babel, a presidential science adviser may or may not be heard above the crowd. Presidents are the targets of countless position papers, and their day's agenda is filled with urgent matters. Issues of science and technology are rarely of sufficient immediate urgency to preempt attention.

Edward E. David, Jr., has pointed to one of the frailties of scientists when they are called upon to advise the government. Too many of them are unable to keep separate their technical knowledge and their ideological convictions.

H. Guyford Stever, who has had extensive experience as a presidential science adviser and as director of the National Science Foundation, is suspicious of highly centralized institutional arrangements for science and technology. He believes pluralistic decentralized mechanisms work best. He recommends that scientists and engineers take responsibility for identifying individuals who are technically competent and who are capable of managing departments and agencies of the government. Such individuals should be brought to the attention of transition teams when the new administration prepares to assume office.

Scientists and engineers will enhance their influence in such matters if they work actively and visibly for candidates and contribute to campaign funds.—PHILIP H. ABELSON

*W. T. Golden, Ed., *Science and Technology Advice to the President, Congress, and Judiciary* (Pergamon, New York, 1988).