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EDITORIAL

Science and Technology in Government

Science and technology (S&T) have had profound effects in modifying human existence. Their influence will continue in a new era marked by global economic competition, cessation of the Cold War, potential terrorism, and U.S. budget deficits. In the future, it is highly desirable that governments seek to optimize processes of decision-making in the host of circumstances in which research and development (R&D) has an important role.

Components of governance can benefit from careful consideration of 400 recommendations issued by a high-level Carnegie Commission on Science, Technology, and Government. The 22 members of the commission consisted of distinguished scientists, engineers, industrialists, and other notables including U.S. senators, governors, and President Carter. The 31 members of a related advisory council included President Ford and a broad spectrum of eminent persons. Another 150 experts participated in various task forces of the commission.

Initiative to create the commission was taken by David Hamburg, president of the Carnegie Corporation of New York (a private foundation). The work of the commission began in April 1988 and its major activities ended on 1 April of this year. A series of 18 reports have been issued during the 5-year interval, the first in October 1988 entitled *Science and Technology and the President*. Recommendations in that report urging enhancement of the status of the president's science adviser and his role in coordinating R&D activities of the executive branch were implemented by President Bush. A majority of the reports have dealt with S&T in the executive branch. However, matters relating to the Congress, states, judiciary, education, and international affairs were also treated.

In the past, reports of distinguished commissions have produced a brief flurry of publicity followed by a collection of a thick layer of dust. The current crop is likely to have continuing impact. One reason is that they are timely and address new, current needs. Perhaps more important is that some of the people who were participants in preparing the reports now are government officials. William J. Perry, who is now Deputy Secretary of Defense, was a principal author of a report entitled *National Security/New Thinking and American Defense Technology*. The document recommended a drastic change in defense R&D and procurement to reflect the present realities including termination of the Cold War. At one time, defense spending dominated U.S. R&D, and accounted for one-third of funding of R&D in the first-world nations. It now funds less than one-ninth of the total first-world R&D. Commercial products are now often equivalent or superior to those meeting costly rigid, complex military specifications. Huge sums could be saved if the military's outmoded system of procurement from defense contractors were modified. Deputy Secretary Perry is in a position to implement recommendations he made earlier in the Carnegie Commission report.

In preparation of the reports, potentially affected entities, such as Congress, were usually consulted and ideas from them incorporated. Members of the judiciary seemed particularly eager to improve their handling of litigation involving S&T. There has been an increase in S&T cases such as toxicology and epidemiology. Too often decisions have hinged on biased testimony provided by mercenaries. Judges cannot be magically transformed into expert scientists but they can be provided with tools that enable them to deal more effectively with complex cases. Under the sponsorship of the Carnegie Commission, a comprehensive reference manual is being prepared that will provide suggested questions for judges, helping them to make quicker and more effective rulings.

In a government highly focused on emotionally charged issues of the moment, there is little attention and inadequate investment for means of dealing with future contingencies. One of the reports entitled *Long Term Goals—Linking Science and Technology to Societal Goals* grapples with this governmental deficiency. A major recommendation is the creation of a nongovernmental national forum on S&T goals. The forum would facilitate the process of defining S&T goals and monitor the effect of policies to achieve them.

More than 150,000 copies of the reports have been distributed and more of them have gone to second printing. A synopsis of each of the reports and the names of commissioners and associates are contained in *Science, Technology, and Government for a Changing World.**

Richard S. Nicholson and **Philip H. Abelson**

*Copies may be obtained from the Carnegie Commission on Science, Technology, and Government, 10 Waverly Place, New York, NY 10003.