

A new beginning for science in Washington

President Ford's signing the White House science adviser bill into law is a most fitting tribute in this Bicentennial Year to the key importance of science to our society. Now for the first time in the nation's history both the legislative and executive branches of government have the apparatus they need to investigate and deal with the complex issues of science policy—the office of the new Science Adviser in the White House reporting directly to the President, and the Office of Technology Assessment established some time ago to serve the Congress. We are pleased that members of the council of Scientific Society Presidents, including Chien Shiung Wu, past president, and William A. Fowler, current president of The American Physical Society and presidents of other member societies of AIP, were able to play a role in shaping the White House adviser bill through their testimony and written comments.

We can look forward to joint efforts by the new White House office and the OTA to work out a responsible long-range policy for science that will have the support of both the Administration and the legislators. We cannot be reminded too often of how much the lack of such a policy has cost the nation in terms of both scientific progress and economic growth. Senator Edward Kennedy, in his address before the recent Washington meeting of the National Association of Science Writers organized by the American Institute of Physics, expressed the opinion that if the US had continued to invest 3% of the GNP in R&D instead of letting this figure decline to barely 2% in the 1970's we might have avoided the severe unemployment levels now facing us. "It has been estimated," he noted, "that each scientist or engineer engaged in R&D generates between six to ten other jobs throughout the economy."

Unfortunately many members of Congress still fail to appreciate the disastrous effect on our economy of cutting back on investment in R&D when other leading nations are increasing their support (for instance the Soviet Union at last report is investing over 3% of its GNP). Thus the House appropriations committee a few weeks ago completely rejected the increases totaling \$57 million for basic research that had been proposed by the White House in next year's budget for the National Science Foundation. We had previously described (April, page 96) the Administration's budget as a "highly commendable proposal . . . designed to strengthen the contributions of basic science to the national welfare." The action of the committee in rejecting the proposed increases can only be viewed as shortsighted and dramatizes the difficulties that the two new science offices must overcome in working out long-range plans and commitments.

On the other hand the scope of the charters and staffing provided for the White House office and the OTA are impressive and encourage us to believe they will be equal to the task. Thus the new law recognizes science and technology as constituting a national resource and requires that the Science Adviser and others throughout the

government must engage in planning and technology assessment (see page 61) to assure optimum utilization of this resource. As director of the White House office, the new adviser will have the same rank as the director of the Office of Management and Budget and will be assisted by four associate directors who must also be confirmed by Congress.

The OTA, in full operation now for barely two years, has already earned considerable respect with the quality and variety of studies it has carried out in performing its basic mission of identifying policy alternatives for Congress. Some Congressional committees, such as the House Committee on Science and Technology and Senate appropriations committee, are beginning to draw heavily on information developed by OTA in conducting their hearings. One of its most recent assignments is the assessment of national R&D policies and priorities. Under the leadership of Jerome Wiesner, Harold Brown, Lewis Branscomb, Harvey Brooks and Edward Wenk, Jr, the OTA will re-examine the entire national system of science and technology. This work will complement similar efforts mandated by law for the White House office.

In his address, Senator Kennedy (who is a member and past chairman of the Technology Assessment Board and chairman of the Senate subcommittee on the NSF) pointed to a number of fundamental questions that efforts to formulate science policy will have to come to grips with: "How can we assure continuity of support for basic science, while still maintaining public accountability? How can we make applied science relevant to social needs, without stifling the freedom of research? How can we forecast future demands for scientists and engineers, so as to plan career programs realistically? How can we balance public rights to Federally funded R&D with the need for industrial incentives to foster innovation? How can we bolster US technology to compete effectively with other advanced nations that do not have anti-trust laws? How can we bring the public into policy decisions in fields like genetic engineering and bioethics without impeding valuable research? How can we resolve public issues involving science and technology when expert opinion is deeply divided?"

With the existence of the two new science offices there is reason to believe that we can expect to see some genuine progress in working out these difficult issues and that we may well be able to look back and remember this Bicentennial Year as marking the beginning of a new era of science in the service of society.

—Harold L. Davis