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Identifying and Moving toward National Goals

The central role of science and technology in shaping this nation's future has been emphasized by leading scientists and politicians. Nevertheless, while spending some \$18 billion a year on research and development, the federal government has not provided dynamic leadership. William Carey, for many years a key figure in the Bureau of the Budget, has said, "The United States has no science policy." One measure of the inertness of the government is the fact that there have been only minor changes in emphasis and expenditures for R & D during the last 6 years.

In the meantime, this nation has encountered a great new set of domestic problems—social and environmental. We also face very important shifts in the nature of international competition. The Japanese and the West Germans have emerged as the real victors of the Cold War and the Vietnamese conflict.

Scientists and engineers alone cannot solve all the problems of society, but they can contribute significantly to the solution of many of them, if organized to do so. A useful analysis of ways in which science and technology can be mobilized to meet the needs of society has been provided in a thoughtful report by the Science Council of Canada.*

The Science Council has approached the matter in a logical way. It began with the axiom that the value of any scientific enterprise to a society is determined by the social, cultural, and economic goals that society seeks. The council members then proceeded to identify a set of goals that appeared to contain the main aspirations of their fellow countrymen—for example, national prosperity and physical and mental health. They then sought to identify the various factors on which attainment of each goal will depend. They found that, in moving toward the nation's major goals, science and technology might be expected to make important contributions. The council then considered how science and technology might best be organized to meet Canada's needs effectively. The recommendations necessarily take into account the special situation in Canada—its population, its resources, and the fact that most of its major industry is dominated by foreign-owned companies. To avoid frittering away resources by competing in every area, the council has recommended that Canada should concentrate on a limited number of major efforts. It proposes that "most new undertakings in Canadian science be organized as large multidisciplinary, mission-oriented projects having as a goal the solution of some important economic or social problem and in which all sectors of the scientific community must participate on an equal footing."

As a rationale for choosing this approach, the report points to the advantage of a national focus for efforts. "Ideally each program will give cohesion to the efforts of all levels of government, of industry and of the universities as they work towards a common goal. . . . Today it should be a measure of a nation's maturity that it can apply its problem-solving resources on the national scale to progress on matters affecting the public interest other than the defence of sovereignty by military means."

Policies that are well suited to Canada cannot be totally applicable to other countries. However, the Science Council has created an instructive precedent and erected a high standard of excellence for others. Leaders of its larger but less alert neighbor can learn much from the exercise that has been conducted. In the United States a searching analysis of national goals and of policies for science and technology now seems overdue.—PHILIP H. ABELSON

* "Towards a National Science Policy for Canada," *Science Council of Canada Report No. 4* (1968) (Queen's Printer and Controller of Stationery, Ottawa, Canada; 75¢).