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Perspectives on Science from Across the Atlantic

Global political, economic, and environmental conditions have been undergoing momentous change. Has the United States responded well to the new realities and future prospects? In the arena of science and technology, the answer is, "No." The United States behaves as if its dominance of the 1960s prevailed. In fact, other countries are emerging as strong competitors. In the new era, the United States may find it advantageous to cooperate better with, and to learn from, others.

In a poem entitled "To a Louse: On Seeing One on a Lady's Bonnet at Church," Robert Burns wrote on the desirability of seeing ourselves as others see us. To help us in our vision, the Carnegie Commission on Science, Technology, and Government has provided a report on how we are seen from abroad.* A key comment is that U.S. scientists cooperate informally very well with European counterparts. However, joint activities in science and technology involving government departments have often led to disappointment.

In the Carnegie report, the author, Alexander Keynan, provides European views of the U.S. system for support of academic R&D and the corresponding systems in Europe. He contrasts the lack of focus for decision-making on R&D that exists in the United States with the much better organized apparatus present in the industrial countries of Europe. Currently about 20 different U.S. agencies cooperate independently with several foreign countries and with various international technical agencies. Some 40 different Senate and House committees yearly review various aspects of the R&D budget. Multiyear cooperative R&D projects may be funded for several years and be in the process of achieving their goals when suddenly their funding is canceled. The budgetary procedures do not allow the coordination of research conducted by different parts of the government. In contrast, "Most industrial countries have a ministry of science chaired by a cabinet minister who oversees and coordinates R&D efforts of the entire nation."

The author further points out that when considering "policies of international cooperation European countries usually weigh implications carefully and if they decide to cooperate their commitment is firm.... Scientists or scientific administrators expect the other side to have a focal point for negotiations, a policy framework in which it operates, and a mechanism that will lead to a clear decision and firm commitment."

Another area in which there is a marked contrast between the United States and countries in Europe is in modes of support of academic research. Until recently, the U.S. system worked well. The United States enjoyed an excellent worldwide reputation for the quantity and quality of its research. The research universities attracted many scholars from abroad. The current diminished rate of acceptance of research proposals is creating a malaise that could leave severe damage. Keynan says, "University research in the United States is largely based on the continuing ability of a scientist to obtain research grants (of limited duration) from extramural sources.... No other scientific community depends so much on professional entrepreneurship as does that of the United States.... European scientists are partly supported by internal university funds or as members of a basic research institute that has permanent research funds.... Part of basic research in European universities is financed by ministers of education as part of the core university budget. The basic research system in Europe is less competitive and more stable than that found in the United States."

The permanently funded research institutes in Europe are a feature worth considering for adoption here. For example, the Max Planck Institutes have been very creative. They were organized to support especially gifted individuals. The German government supports the Institutes as well as basic research at universities. The Germans also foster a number of other types of institutes. The United States should study procedures elsewhere for possible modification of the existing system of research support.

Keynan concludes with the suggestion that in the United States there should be created "an effective domestic nongovernmental forum to identify policy problems in international scientific and technological cooperation for the United States." This is a good suggestion, and the charge to the forum might include a survey of the comparative effectiveness of R&D support systems in the United States and abroad.—PHILIP H. ABELSON

*A. Keynan, "The United States as a Partner in Scientific and Technological Cooperation: Some Perspectives from Across the Atlantic" (Carnegie Commission on Science, Technology, and Government, New York, June 1991).