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Basic Research and National Goals

During the past 2 years the National Academy of Sciences has been increasingly active in exploring policy questions relevant to science. A major instrument for this effort has been a Committee on Science and Public Policy, of which the chairman is George B. Kistiakowsky. This committee in 1964 issued a useful report entitled, "Federal Support of Basic Research in Institutions of Higher Learning." Panels appointed by the committee have studied opportunities and needs in several subjects. An excellent report on ground-based astronomy already has been issued. Another group, a panel on Basic Research and National Goals, has issued its report recently (*Science*, 30 April). This was prepared in response to two extremely difficult questions posed by the Committee on Science and Astronautics of the House of Representatives.

1) What level of Federal support is needed to maintain for the United States a position of leadership through basic research in the advancement of science and technology and their economic, cultural, and military applications?

2) What judgment can be reached on the balance of support now being given by the Federal Government to various fields of scientific endeavor, and on adjustments that should be considered, either within existing levels of overall support or under conditions of increased or decreased overall support?

Most scientists faced with two such riddles are reminded of the good old days when problems were simpler; for example, "How many angels can dance on the head of a pin?" Nevertheless, the two questions are of a kind that Congress frequently faces.

The panel responded to the questions in a manner which was almost unprecedented in Washington. Usually when scientists address themselves to political problems their performance is that of inexperienced politicians. They place a higher value on a consensus than on unearthing the facts, and their report represents only a fraction of the ideas of the group.

In the present instance the approach was different. A panel was constructed whose members held diverse views. Instead of a single report, there were in effect 15. As a consequence, there was much good thinking on the broad problems of basic research and national goals. Scientists generally will find the report interesting and thought-provoking. Congressmen may not find it so valuable; only by interpreting the contents of the 336 pages will they obtain advice.

Nevertheless, a politician can find an answer to the first question. Some panelists advocate an increase of 15 percent per year in the support of basic research. Others do not call for an increase. Few of the panelists make a convincing case that major opportunities are being neglected. A politician may well conclude that an increase of no more than 0 to 15 percent is justifiable.

The report is weak in dealing with question 2. Yet it is in the area of allocation of funds among fields that Congress most needs advice. The report points out that of $1.6 billion devoted to basic research, half goes to space research. We know that another sizable chunk goes to high-energy physics. Not much over $600 million a year goes to areas that are likely to produce substantial benefits for society. In the disposition of the sum remaining there are further inequities. Chemistry, a major source of our industrial strength, gets a tiny fraction. Ultimately we must find better means of allocating research funds.

The report, though uneven, is an important contribution to what is likely to be a continuing dialogue. The panel and its chairman merit our gratitude.—PHILIP H. ABELSON