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NSF at Age 25

On 10 May, 25 years ago, President Truman signed the act that created the National Science Foundation. Since 1952, the first year the Foundation had funds for grants and fellowships, annual expenditures have increased from \$3.5 million to \$700 million and annual grants have increased from 96 to 6400. The Foundation's first annual report was largely an essay on the nature of basic research; the most recent includes dozens of pages of brief accounts of solid scientific accomplishments obtained through research supported by the Foundation. Thus this is occasion for hearty congratulations to the National Science Board, the staff, and the many advisers who have helped bring the Foundation to its present stage of influence and usefulness. We wish the Foundation a happy birthday, but not a trouble-free one.

If the Foundation does its job, troubles are unavoidable. It would be a timid agency indeed that never supported anything that was not criticized. Nor can it expect every grant to turn out successfully; nobody bats 1000, in grant making or in baseball. From time to time critics have contended that certain NSF grants are a waste of public money, or worse. Such charges—and there are likely to be more in the future—cause temporary trouble for Foundation officers, but they are one of the hazards of the business. And well-informed criticism can be a valuable means of keeping staff and advisers alert to the problem of maintaining a high level of quality.

Trouble can also be expected on the more general grounds of purpose and priority. It took an act of faith to establish an agency of the federal government with basic research as its central purpose, faith that greater scientific understanding would lead to practical improvements in public welfare. This faith prevailed in 1950, but it has never been truly popular, and in the Foundation's first annual report James Conant, then chairman of the National Science Board, warned that basic research is a long-term investment, that practical applications would not come rapidly. Since then, historical analyses supported by NSF have provided substantial evidence of the complex interlinkages between research and application, the necessity of combining research results from several fields, and the often long delay between a critical research finding and its practical application.

To some critics this pace is too slow. As NSF has grown, efforts to lead or push it into applied areas have increased. Political reality or scientific interest may sometimes require the Foundation to engage in these efforts. But such work is a major function of other agencies and a secondary one of the Foundation. Its primary contributions cannot be in seeking solutions to immediate problems, but in supporting and improving basic research and the capacity of the nation to conduct research of high quality.

Despite gradually more penetrating analyses of the economic benefits of research, appropriating several hundred millions a year for uncommitted research is still partly an act of faith. Not everyone agrees, however; there will continue to be those in government who want to push the Foundation toward more immediately applicable work, and this conflict will probably still be with us when the Foundation celebrates its 50th birthday. But creative tension is not always a bad state of affairs for a vigorous and healthy institution.—DAEL WOLFLE, *University of Washington, Seattle 98195*