Mathematics and Federal Support

A QUESTION much discussed in scientific circles in Washington and in the universities is the level of Federal support of basic research in the sciences that is appropriate in terms of national policy and adequate in the view of research scientists. As new policies emerge in the Defense Department which seek to apply to all military programs the test of relevance to defense needs, it is not unnatural that particular concern should be felt (and expressed) by the mathematicians of the country about the fate they may expect for mathematics, and particularly for so-called "pure" mathematics.

It is still recognized in responsible military circles that a country strong scientifically must be strong mathematically. It is still clear that the total pattern of Federal support must provide adequate financing and broad and wise administration of funds. We are, however, in a period of reformulation of the details of policy.

One of the outcomes of our experiences in World War II was a commitment on the part of the Federal Government to the support of basic research. In 1946, this commitment found expression in the establishment of the Office of Naval Research. It was early decided as a matter of policy that sound support of mathematical research in this country must include support of work in pure mathematics. This policy still stands. But with the establishment of offices in the Army and the Air Force, also committed to the support of basic research, and with the emergence of the National Science Foundation as a civilian body with broad responsibility for maintaining and enhancing the scientific strength of the country, it has become necessary to restudy the shape of Federal support. The Foundation is concerned with all aspects of mathematical research and with related problems of mathematical manpower at all levels. It is natural that, in mathematics, it should support an outstanding program in some of the more abstract fields, where much of the most significant research is going on. Recognizing this, ONR has planned for gradual withdrawal from some of these fields, while maintaining a strong program in analysis and in various less abstract fields. But this withdrawal has always been conditioned by ONR's continuing concern that the total support for mathematics provided by Federal agencies should be maintained in such a way and at such a level that the Navy's long term needs would be adequately served. The Office of Ordnance Research of the Army and the Office of Scientific Research of the Air Force also initiated vigorous mathematics programs; and these continue.

In the course of the last 2 years, the funds provided for research in abstract mathematics by the National Science Foundation have been slightly less than the funds withdrawn from these fields by ONR; but fellowships and conferences have won support greater than that provided by ONR for comparable purposes (ONR had no fellowship program—but certain contracts did provide for the individual research of exceptionally promising young mathematicians). The Army and the Air Force have maintained such strong programs that the total funds for mathematical research have not been reduced. Although the future of military contracts is not clear, a vigorous effort is being made to preserve adequate financing of mathematical research within the military budget.

Responsibility for initiating and defending policy with respect to the support of mathematics within the three military departments is shared by the mathematicians working in these departments; and they, together with the mathematics staff of the National Science Foundation, are trying in the most serious and intelligent way to use the funds and other resources at their disposal to secure a continuation of the lively and significant development of mathematical research that has characterized the postwar era. The responsible leaders of the mathematical community are giving them needed help in this effort; but the position of mathematics would be greatly strengthened by a clearer presentation by mathematicians of the needs of mathematics.

MINA REES
Chairman, Section A, AAAS
Hunter College, New York

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