

DISSEMINATION OF SCIENTIFIC INFORMATION

Since World War II, with the great expansion of government and industrial support of research in the United States, the volume of publication has risen sharply. *The Physical Review*, for example, has increased from about 2,000 pages to 5,000 pages a year, and the *Journal of the American Chemical Society* has likewise shown an increase. The costs of production and publication have gone up appreciably. These facts have created severe financial problems for the journals and the societies which support them. Subscription rates and society dues have generally increased, articles have been trimmed to bare essentials and more words have been printed on every page.

A few journals sought relief by charging authors or their institutions a levy based upon the number of pages printed. This so-called page charge created additional problems since many individuals, notably those working for certain government agencies, found it difficult to pay these charges. Other journals looked to industry, the private foundations or Federal agencies for additional support.

PUBLICATION SURVEY

In view of these problems, the National Science Foundation has compiled information on the present status of journal publication. After checking with other interested agencies it sent out a questionnaire to selected journals to determine to what extent financial difficulties might be interfering with the scientific usefulness of the journals. The questionnaires were designed to obtain facts concerning circulation, backlog of unpublished papers, sources of financial support and distribution of expenses, and opinions of editors and business managers on various editorial and management policies. The answers to these questionnaires indicated that despite financial problems most journals appear to be doing their primary function well. There are, of course, exceptions, but on the basis of the returns the Foundation believes that these cases must be handled individually.

As a result of this analysis the Foundation does not believe that continuing Federal support of scientific journals is desirable at this time.

In critical cases emergency support of a temporary nature may be appropriately provided.

OTHER PROBLEM AREAS

The Foundation also has under study various other potential problem areas including abstracting services, translation services, and the function and organization of scientific libraries. One study will attempt to analyze and evaluate present library methods for assisting scientists engaged in research and development. Such studies are expected to provide insight into how scientific reference services, particularly for industrial laboratories, can be made more effective. The results will undoubtedly be of interest to research administrators.

The National Science Foundation is following the development of improved methods for compiling scientific information and for its rapid handling, economical storage, and efficient retrieval and distribution.

INTERNATIONAL EXCHANGE OF SCIENTIFIC INFORMATION

The availability of foreign scientific literature is important to scientists in the United States. This problem is currently acute in the case of literature originating in the Soviet Union and other Eastern European countries. Language barriers have imposed serious obstacles in the way of general access to the results of Russian research. Even where translation services are available, problems in distribution of Russian scientific periodicals within the United States increase the magnitude of the question. The Foundation considers this one of the important problem areas in the scientific information field. The first step is a complete survey of the present pattern of distribution and processing of Russian scientific literature in the United States. This is under way. Next will come a constructive program in which many Federal and private agencies have expressed a desire to cooperate.

During the year, the Foundation encouraged the formation of a Russian science group at Columbia University which is laying out plans for extending the availability of information about science progress in Eastern European countries. The first specific task undertaken by the group with the support of the Foundation was preliminary planning for the compilation of an improved and up-to-date Russian-English scientific and technical dictionary. A better tool for translating recent Soviet scientific papers is seriously needed by English-speaking scientists.

The Foundation has supported publication by the American Association for the Advancement of Science of several important papers on

Russian science read at a symposium in December 1951. The volume presents an appraisal by informed American scientists on the present status of Russian research in the fields of genetics, physiology, pathology, soil science, psychology and psychiatry, mathematics, physics and chemistry, and social sciences.

Attendance of American scientists at international meetings is closely related to scientific information since this is an important channel for exchange of views on new scientific developments. During the year 23 American scientists were enabled to travel to Paris, Rome, and Israel through Foundation support. Four mathematicians received travel grants to attend the First General Assembly of the International Mathematical Union in Rome. Eighteen biochemists received travel grants to attend the Second International Congress of Biochemistry in Paris. A list of individuals receiving travel grants during the year is given in Appendix III, p. 53.