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Journal Publication in Microform

Communication is the blood-stream of science. So emphatically is this the case that it may truthfully be said that science did not become an identifiable human activity until arrangements for communication between scientists were effected. Among these arrangements, publication has always taken a place of principal importance.

Yet publication, so ancillary though so necessary to the progress of science, has continuously presented scientists with one of their principal problems. There is either too little of it, or too much; it is too ubiquitous, or too inaccessible; it is too deficient in detail, or too plethoric. Above all, it suffers from delays and expense which greatly reduce its potential effectiveness. Science has continuously sought for media and methods of publication which would speed up communication, reduce its cost and volume, and—by narrowing a field of interest—both reduce the total quantity of material to be read and at the same time permit greater detail in that which remains to be read.

Microphotography has long seemed to offer possibilities for these purposes. Almost a hundred years ago it was successfully applied by the photographer René-Prudent-Patrice Dagron to the carrier pigeon post which linked Paris to the outside world during the seige of 1870; in similar fashion, it was adapted to the V-mail of the last war. In a notable application, the development of which has not yet expended itself, it was brought to the management of business records in the 1920's, and was thereafter almost immediately extended to lowering the cost and improving the accuracy of the reproduction of scholarly materials.

Microphotography, then, would seem to have demonstrated many of the merits required of a vehicle for scientific communication. Editions can be as small as desired; format can be convenient; publication can ensue as quickly as a legible and edited copy is in hand, and many of the costs associated with letter-press publication are avoided; the enormous compression offered by the miniaturized image is reflected in savings of material, transportation, and storage. The publication of the meteorological data produced by the International Geophysical Year is thus expected to provide subscribers, for $5000, with 24 trays of 3-by-5-inch cards containing material which, by conventional letter-press methods, would cost more than $60,000 to produce and would occupy some 750 feet of shelving.

These successes would argue for the possibility of journal publication in microform; yet this has not as yet achieved success. There are a number of reasons for this. Letter-press publication is normal; it conveys prestige; it serves as a vehicle for advertising; but, principally, it can be read with the naked (or nearly naked) eye and requires no elaborate optical mechanisms. And here it may be observed that the greater the reductions used, the more expensive, unportable, and complicated become the ancillary optical apparatus.

Microfilm was borrowed originally from the motion picture industry, and with it all the norms of format, dimension, and allied apparatus. These norms have affected all use of the microforms ever since. It would seem necessary, to achieve better application of microphotography to the communication needs of working scientists, to take a look at the whole process, beginning at the consumer's end. In recent years there has been a great increase in the use of 105-millimeter as contrasted with the original 35-millimeter film, especially for the reproduction of engineering drawings and plans. This size greatly reduces the original, but the material can still be read without apparatus. It may be that we have been asking too much in the way of space-saving.

Several scientific groups are now looking afresh at the possibilities of micro-journal publication. Their experience will be awaited with interest by all who are concerned with the problems of scientific communication.—VERNER CLAPP, *Council on Library Resources, Inc.*