

Introduction to the Microfilm Forum: Experiences, Problems, and Plans of Microfilm Users*

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Microforms have now gained a firm foothold in information programs because of systems that speed or ease the document work of the average user. One such system packages 16-mm roll microfilm in cassettes which users easily insert in microfilm reader-printers. This system is especially suitable for publication sequences, such as journals, and is now in rapidly growing use. In another modern system, documents are microfilmed as unit records, such as microfiche or aperture cards; these are especially advantageous where there would be serious delays if completion of sequences had to precede distribution, and where users want only a few items. Users have played their parts in these developments, including the chairmen and speakers of this forum.

Microfilm in its various forms has at last gained a firm foothold in library use and in other information systems. This has resulted from several recent innovations. First among these has been the development and application of user-oriented systems—systems that speed or ease the document work of the average user.

One such system packages 16-mm roll microfilm in cassettes which users easily insert in appropriate microfilm reader-printers. These, in turn, make it readily possible for users to prepare and to carry away hard copy, as desired. As the papers in this Microfilm Forum will attest, this system is particularly suitable for complete-as-issued sequences—whole volumes and long runs of primary and secondary journals (especially those whose issues are consecutively page-numbered), numerically ordered sets of patents, and collections of periodical reports in numerical order. File integrity is a major asset.

In another modern system, microfilmed documents are published as unit records—single documents chiefly in the form of sheet microfilm in 4- × 6-inch card size, called microfiche; or microfilm pieces inserted in windows in cards (usually tab cards), called aperture cards. These unitized microforms have advantages where frequent access would be slowed by the length of microfilm rolls, no matter how well packaged; where there would be serious delays if completion of sequences had to precede distribution; and/or where users want to receive only single items or small portions of regularly issued sequences. Microfiche and aperture cards can be used in special reader-printers,

so here again one may carry away hard copy as desired. As major publishers or purchasers of reports are aware, also, microfiche is cheaper to produce and to mail than the equivalent hard copy.

Other microfilm variants exist. Roll microfilm can be cut into strips and inserted in parallel pockets in transparent jackets, which can then be used like conventional microfiche. Microcards (microopaques) are still in occasional use, but prints from these are much more difficult to obtain.

The next users' forum on microimages may well deal also with systems employing high-reduction microfilm, such as "Ultrafiche"; videotape, videobuffering, and closed-circuit television, such as "Videofile"; COM (computer-onto-microfilm) variants; and even direct computer storage. However, these systems are not yet heavily used in technical-information programs.

One test of any major system is whether standards exist or are being developed. For 16-mm microfilm systems, the answer is quite ambiguous. Cassettes for 16-mm film are not interchangeable from the equipment of one manufacturer to another. Moreover, Eastman's cassette-based Lodestar reader-printer requires microfilm that has been photographed with the film feeding from left to right, the reverse of the normal order for the filming of simple rolls. Also, vertical images must be perpendicular to the length of the microfilm, because no rotation is possible in the Lodestar. Since film prepared in this way is also available in cassettes for other reader-printers, these qualifications must be considered a tentative standard for roll microfilm produced for insertion in all varieties of cassettes.

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Speedy look-up systems are also largely unique for each equipment manufacturer. 3M's odometer readings (listed on its cassettes, not indicated on the film) are useful only on the appropriate 3M equipment. Eastman's Image Count opaque blips at the bottom of microfilmed pages have been valueless on 3M reader-printers, prior to its latest one. However, Eastman's Kodamatic lines between microfilmed pages are usable on any 16-mm microfilm unit to which the appropriate scale has been added alongside the screen. The present tentative standard for page location must be the inclusion of both of Eastman's systems on 16-mm roll microfilm produced generally for insertion in cassettes, plus the microfilm publisher's readiness to put 3M odometer instructions on cassettes intended for 3M's regular equipment.

Most of the present 16-mm microfilm reader-printers have magnification ratios in the range of 21-23X, and yield paper prints of 8½- × 11-inch size, or a little longer. Therefore, the reduction-ratio standard employed for a given document by publishers must allow for the printout of full images on 8½- × 11-inch paper on all of the available cassette equipment, including those which do not permit vertical movement of the image on the screen.

When it comes to standards for microfiche, the COSATI format standard is widely used by government agencies, but it is still not the only one for the 4- × 6-inch size. Moreover, microfiche is also available in tab-card size. Reduction ratio is commonly about 20X, however, so some reader-printers can take most sizes of microfiche and aperture cards.

By now, you will certainly have noted that the stress is on 16-mm microfilm. At least one microfilm publisher still has many documents (journals, books, theses, etc.) available only on 35-mm film, and presumably would prefer to market modern equipment for this size, but the time for this has long passed. The quality of 16-mm microfilm (photoreductions of 20-23X) long ago reached the point where resolution is fully adequate for microform images and copies of documents of page sizes common to journals, reports, and patents. That is why recent systems and equipment now widely marketed were based on 16-mm microfilm. Many special libraries—possessors of 16-mm microfilm systems—are firmly refusing to buy additional 35-mm microfilm equipment. Microfilm publishers, by and large, are now accepting 16-mm microfilm as a fact of life, a fact which may well also inhibit the rapid commercial acceptance of high-reduction microfiche and/or 8-mm roll-film cassette systems.

Users have played their part in these developments, including the chairmen and some of the authors of papers in this Microfilm Forum. In 1963-65, the senior co-chairman was a pioneer in the development of *Chemical Abstracts* on microfilm.⁴ In 1967, both co-chairmen were the prime instigators of the now-famous "grass roots" meeting of microfilm users and publishers, recently mentioned by J. H. Kuney.² Your other co-chairman was a prime mover in the development of the ACS program for publishing its journals on microfilm.³

Your co-chairmen have also been the representatives of the ACS Division of Chemical Literature on the joint committee which has implemented the thesis of the "grass roots" meeting, working with members of three divisions of the Special Libraries Association. This joint committee has surveyed the immediate desires of the members of their divisions for 16-mm microfilm-cassette editions of specific journals,¹ and has given this information to microfilm publishers as a guide to priorities. Our colleagues in the Special Libraries Association reviewed recent microfilm developments at their meeting in Montreal last June, but this ACS Microfilm Forum is focused on microfilm products and plans more specific to chemical information.

As the papers in this Microfilm Forum attest, we deal here with some of the highlights of user experiences with microfilms of primary journals, secondary journals, patents and patent guides, Government-report and other microfiche, catalog files, internal reports, and the control of internal mail. While there are many other uses for microfilm in information work—microfilm storage of engineering drawings, microfilming of laboratory notebooks for security, Microstrip book catalogs, etc.—the present papers are typical of the state of the art.

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