

frames that qualify, the operator may remove the least significant descriptors until the request is fulfilled.

Computers to Microfilm - Digital information from computers may now be passed through an interface to 16 mm. microfilm at the rate of four pages per second. This is accomplished through equipment which displays the content of the computer by means of a cathode ray tube and photographs it rather than printing it out on a line printer.

Super Microfilm - One of the most interesting developments is in the field of super micro photography. Researchers have been able to produce a grain-free film that allows effective enlargement of film images to a much greater extent than heretofore. One form of this development is called Photo-Chromic Micro-image, or PCMI. Using this film the image of a document can be reduced 40,000 to 1 and later reproduced by enlargement in a legible form. Using this method the entire Library of Congress comprising 270 miles of shelf filing could be photographed and stored in six ordinary filing cabinets. National Cash has developed a form of supermicro-photography which permits reduction of 1 to 50,000. The entire Bible photographed by this process occupies a small piece of film measuring less than two inches square.

New Research - I could go on to describe additional fascinating ways to store information and retrieve it quickly and efficiently, but not necessarily inexpensively. Some of the more sophisticated but very costly systems such as video tape to cathode ray viewing screens are very impressive but as yet impractical for the average user. Hundreds more developments of this type are on drawing boards and in laboratories. Industry is about ready to break out and this research work will permit it to expand rapidly when the time comes. This could be in 1970 to 1975, but it is my suggestion that we all keep abreast of these new products and be ready to use them when they become available.

The terminology and trade names of some of the equipment on the market and in the course of development begin to sound like electronic computer language, and of course some are closely related to data processing. All are quite intriguing. Examples are: electrofile; conservamatic; lektriever; centroc; peek-a-boo systems; termatrex; MWIC; DACOM.

Government Applications - Some installations similar to those I have described are in operation in the Government of Canada today. For example, the National Research Council is using what is called an SDI system - Selective Dissemination of Information. Interested persons enquire about new articles in periodicals, indicating a profile. The document file is searched by the system and the recipient receives a list of authors, titles, sources and abstracts from which he requests what he wants.