

DOCUMENTARY REPRODUCTION BY MICROPHOTOGRAPHY

Recent amendments to the Evidence Acts of six of the Provinces of the Dominion have directed the attention of the legal profession to modern developments in the use of microphotography.¹ These amendments permit photographic copies of bank records and documents which have been destroyed, lost or delivered to a customer, as well as government records, to be admitted in evidence upon proof of compliance with certain conditions. In all the Provinces section 38 of the draft Uniform Evidence Act as adopted by the Conference of Commissioners on Uniformity of Legislation in Canada was used.²

A few years ago a New York bank started photographing bank cheques on motion picture type film as a means of keeping a permanent record of these cheques after they had been returned to the depositors. It was not long before the majority of the banks in New York were following suit. Since then the use of microphotography in business has grown by leaps and bounds. Rolls containing two hundred feet of 16 mm. or 32 mm. cellulose acetate film are ordinarily used. Department stores, insurance companies, even departments of the United States government, have adopted microphotography as an aid to their business and accounting procedures. Cheques can be photographed at the rate of one hundred and twenty-five a minute by using a special machine, and a two hundred foot roll of 16 mm. film will photograph sixteen thousand cheques. Whole ledger sheets may be recorded in a similar manner and the original bulky sheet destroyed. Later, prints of the same size as the original may be reproduced in any quantity, as required. Thus the use of film reduces the number of expensive filing cabinets used, the number of clerks required and consequently makes available valuable floor space. When it is desired to refer to a document recorded in this way the film may be inserted in a reader and the image, enlarged the same size as the original document, is projected on a ground glass screen. The whole projector, including the screen, is about the size of a large travelling bag.

¹ The Provinces of British Columbia, Manitoba, Ontario, New Brunswick, Nova Scotia and Prince Edward Island. A Bill containing a similar amendment was given first reading in the House of Commons at Ottawa on April 23rd of this year.

² Proceedings of the Twenty-Third Annual Meeting of the Conference of Commissioners on Uniformity of Legislation in Canada, page 80.

In Canada special legislation was necessary to enable banks to avail themselves of this economy. Not only was there the difficulty of presenting copies of documents in evidence, but subsection 2 of section 92 of the Bank Act continues any liability of Canadian banks under any law, custom or agreement to repay moneys notwithstanding any statute of limitation to the contrary. Canadian banks, as a consequence, have had to keep many of their records and documents indefinitely. The problem of finding space which will permit of safe storage and ready accessibility to records has been a serious one and some of the banks have been facing the necessity of erecting special buildings for this purpose. One bank took a file of two thousand five hundred and ninety-five sheets, occupying one thousand two hundred and sixty cubic inches and weighing twenty-eight and one-half pounds and photographed all the documents in the file on eighty-three feet of film at a total cost of \$2.49. The film occupied a storage space of seventeen cubic inches with a weight of four and one-half ounces. The ratio of space reduction was seventy-four to one and of the weight reduction, one hundred and one to one.

Now that the war effort requires all the available sulphite pulp for war purposes, waste paper is in great demand and these enactments will release from the banks and governmental departments a great tonnage of excellent waste for the paper mills which will save their sulphite pulp for war purposes. Original records can of course be destroyed by shredding or otherwise before being sent away as waste paper.

Microphotography is not a new art. Tissandier's "History and Handbook of Photography", published by Sampson, Low and Company, London, England, in 1876, has an account of its use during the siege of Paris in the Franco-German War. Printed messages were reduced by photography so considerably, that a bundle weighing fifteen grams and containing eighty thousand words, was flown by carrier pigeon to those outside.

Modern developments in the use of microphotography and the motion picture type projector or reader first came about through the demand for source material by scholars and students in America. Some years ago European libraries and museums started a service of reproducing rare books and documents by photography, largely for American scholars who could thus leisurely study their contents at home. The expense, however, was prohibitive. Then the development of small cameras, such as the Leica, using microfilm and equipped with improved lenses,

enabled travellers to reproduce documents at a greatly reduced cost and the use of a cheap projector further reduced the cost by rendering unnecessary the processes of enlarging and printing.

Libraries, museums and archives have been turning more and more to microphotography as a means of keeping permanent records. Newspapers are one of the most fruitful sources of information for historical research but their use of cheap pulp paper has resulted in many libraries now finding their newspaper files in a dangerous state of decay. For this reason, the *New York Times* has been printing a special library edition on rag paper. Acetate cellulosefilm, under proper conditions, has a permanence equal to the best one hundred per cent rag paper and is less of a fire risk since it is not as combustible and will barely support a flame. Microfilmed newspaper files are more easily available for ready reference than unwieldy bound volumes and afford a great saving in storage space. Copies of the *London Times* from 1785 to 1940 contained on eight hundred and fifty reels are now available from the Recordak Corporation of New York for \$6,750. Back copies of hundreds of newspapers throughout the United States and Canada can also be secured in this form.

The W.P.A. used microfilm in their project of indexing newspapers throughout the United States and the low cost, as compared with other methods of reproduction, has made it popular with many other branches of the United States government as a means of keeping a permanent record of their proceedings.

Libraries are also finding films indispensable for preserving rare books and manuscripts, inter-library loans, for aiding library acquisitions and serving as a medium of dissemination of research and other material. For example—it is now possible for any library to obtain a complete series of microfilms of English books before 1550 on one hundred and thirty reels, and arrangements were made a few years ago to extend this series to 1640 embracing the entire period covered by Pollard and Redgrave's Short Title Catalogue. This entire collection of valuable source material will then be available to libraries throughout America and Canada. The University of Michigan Law School has microfilmed at the Public Record Office in London, sixty Decree Rolls and twenty thousand pages of Decrees of the Chancery, and in 1938 a project was under way for the reproduction of all known English legal treatises printed before 1600. Dr. Herbert Kellar, Director of the Experimental

Division of Library Co-operation of the Library of Congress, heads a committee for microfilming materials in foreign archives. This committee has already ordered some twenty-five millions of pages to be filmed. It is also planned to reproduce letters and documents in English country houses and in other scattered places thus ensuring a permanent record of valuable source material which might otherwise be lost. A committee of the American Association of Law Libraries arranged for setting up The Legal Microfilm Association to microfilm United States Supreme Court records and briefs. The first filming covered ninety-two thousand pages and was contained in thirty-five rolls whereas the original records and briefs took up twenty-seven lineal feet of shelving.

One of the most recent and interesting improvements in the field of microphotography has been the development of microprints. Some years ago the American Historical Association was considering the microfilming of the British House of Commons Sessional Papers from 1801 to 1900. The undertaking was a large one. There are nearly 6,000 volumes for this period, each volume averaging seven hundred pages, a total of over four million pages. The committee did not hurry into the project but spent considerable time investigating various methods of reproduction. Last year a process developed by the Readex Microprint Corporation of New York was finally adopted.

The Readex microprint method makes possible the reproduction of one hundred pages of the Sessional Papers on each side of a sheet nine inches by six inches in size. Prints of six thousand volumes can be stored in specially designed cases, on five feet of shelf space instead of the one thousand feet required for the original volumes. The cost of reproduction where more than ten copies is required is less than the motion picture type filming. Twenty-five complete sets are being made for libraries throughout the States at a cost of \$5,000 a set.

Readex microprints are made by laminating a film of cellulose acetate containing the microphotographs to each side of a sheet of white paper. This white paper serves as a reflective screen producing a black print on a white background, the image of which can be magnified and projected in a manner not unlike a magic lantern, to a non-glare translucent screen. The title, volume, page and other identification material appear in normal size print on the top of each sheet. This makes possible quick and easy reference.

The ease with which microprints may be read commends itself to the student who must refer from one volume to another. A sheet is laid in a tray at the base of the reader and by turning the dials which move the tray, any one of the one hundred pages on the exposed side of the sheet may be located in an instant.

This is but a brief indication of the widespread use of microphotography to-day. Until recently it was of more interest to the scholar than to the practising lawyer. The possibility of using microphotography in law libraries has already received the attention of the American Association of Law Libraries.³ The amendments mentioned above and the increasing use of microphotography in business as well as research will inevitably bring it to the attention of the legal profession with increasing frequency.

ROY C. SHARP.

Toronto.

³ Coffey, *The Use of Microfilm in a Law Library*, 31 Law Lib. J. 252.