Copying Methods as Applied to Library Operations

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ALTHOUGH THE REFERENCE DEPARTMENT of The New York Public Library established a photostat service in 1912[1] and added microfilming facilities in 1935,[2] it was not until 1940 that system applications of photography to library operations began. In the following year the use of photographic charging at the Gary Public Library was formally announced.[3]

Curiously, Richard Garnett envisioned some of the current system applications as he wrote in 1882: "when the British Museum shall have adopted photography as it has adopted electricity . . . the scattered portions of the nearest approach the world will have made to a universal catalog may be brought together, digested into alphabetical order, and reproduced in facsimile by this beautiful art—fit mate of printing in that she too preserves what would else perish, and brings light into many a dark place. . . ."[4]

C. F. McCombs in 1920 pointed out that photostat was a substitute for the typewriter in transcribing material in reference work.[5] He did not, however, pursue the logic of his observation. This came in 1948 when the pilot model of the Photoclerk was put in operation by the United States Department of Agriculture Library.[6]

Though this span of years may be discouraging, K. G. Slocum found it newsworthy in 1959 that photography was finally being used for industrial trouble-shooting, that is a substitute for the human eye and mind.[7]

After two years of successful experience with the Photoclerk, the United States Department of Agriculture obtained a grant in May 1950, through the American Council of Learned Societies from the Carnegie Corporation of New York for a cooperative experiment in photoclerical operations. Thirteen large public, university, and federal

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libraries participated. At this point, system appplications began in earnest.

Webster defines "system" in part as a "regular, orderly way of doing something. . . ." [8] Thus this article is concerned with the use of any method of photocopying to do something in libraries. It is not concerned with the use of copying as a direct substitute for manual or typewritten transcription.

Aside from the inspection function of photography which industry is just embracing, and which librarians may come to in due course, library system applications of facsimile reproduction are based on a simple idea which may be called the concept of the one-time-writing down. Given something put down on paper, that initial record can be used for a variety of purposes through the agency of reproduction. The user is not necessarily the originator. The method of the original writing down whether handwriting, typewriting, or printing does not matter.

In that section of the report on the cooperative Photoclerk experiment on "management implications of the Photoclerk," it was pointed out that photography among other things reduced error, shortened elapsed time, increased accuracy, and assisted in making maximum use of lower grade skills.[9] The other implications he reported are less basic and are generally effects of those noted above.

Looking at those points more closely it is undoubtedly true that whenever a human being transcribes something, there is opportunity for error. Machines simply copy, create no new errors, and are always consistent in reproducing both accuracy and error. As for the amount of elapsed time, reduction of this depends on both the machine used and the person replaced. Increased accuracy is but the positive expression of reduction in error. However the point that photoclerical procedures allow for the maximum use of lower grade skills is an important one. A clerk capable of typing order slips in a wide variety of languages will not be satisfied with that job for very long. A machine operator often aspires only to the operation of more complicated machines. But the machine is quite indifferent to promotion!

There are three desirable elements of facsimile copying: reproduction, reduction, and enlargement. Given these, one has the opportunity to create copies different in size and form, for altering the sequence of copied elements, and for combining discrete originals. In a sense, "copy" is a poor word here. The original may be a temporary, artificial creation enduring only long enough for exposure

—yet it serves its purpose. It is this opportunity to create, first demonstrated in photographic charging, that makes the system applications of photography worth the attention of all librarians. Many system applications of photography are obviously creative in their conception but mainly manipulative and mechanical in operation.

Examples taken from the experience of The New York Public Library may help to clarify what is meant by the creative potential of photography. For one, a flexoline record was made by photostating the face of a visible index, then cutting the sheets into strips for insertion in the flexoline frame. The photostating was done at a carefully calculated enlargement ratio. For another, information on the fronts and backs of visible index cards were migrated photographically to new 3 x 5 cards by cutting the old cards apart, turning one part of the card over, and then photostating at a reduction. Again, entries in bibliographies are photographed with overlays to create orders for library materials.

A thorough survey of the literature of photography in libraries from 1950 to the present was made by Adelaide Smith, research assistant in the Preparation Division of The New York Public Library.[10] Her survey indicates that the existing material is not generally written from a system point of view unless it is concerned with a single library application, although there are several important exceptions.[11, 12, 13]

Since photographic charging represents the initial break-through in system applications, it deserves at least brief attention. Helen T. Geer has described in various writings through 1956, the use of photography in circulation routines.[14] However, a thorough evaluation of the various systems including the photographic has been lacking. Hence, one welcomes the August 1959 announcement that the Council on Library Resources, Inc., has embarked upon a "preliminary inquiry into library book-charging systems."[15] Bro-Dart Industries have been active in this area with their Brodac Automatic Book Charging System based upon Thermography.[16] Recently, Bro-Dart announced SYSDAC, "Systematized Automatic Book Charging," which does not employ facsimile reproduction but is intended to couple with copying devices for sending out overdue notices.[17]

One would expect libraries to be the first to see the advantages of photography, particularly through miniaturization, in records management yet there is no evidence in the literature that photography is being used widely for this purpose. Among the few uses Constance Parché has described the Microtak system of reducing research note-

books in the Library of the Carborundum Company to editions-of-one microcards.[18] Also, the New York Public Library is studying the application of Microtak as a substitute for the filing and storing of originals of correspondence and invoices from book dealers. Likewise it records gifts on microfilm at periodic intervals and stores architectural drawings of its central building and branches in a unitized microfilm system from which full-size xerox copies are made as needed.

While the simple reproduction of an original is not a system application, the use of reproductions for either interlibrary loan or intralibrary routing is. G. von Busse,[19] A. Seidell,[20] G. Pleskit,[21] C. H. Melinat,[22] L. J. Van der Wolk,[23] and Margaret D. Uridge,[24] among others, have given consideration to the use of microfilm as a substitute for originals in interlibrary loan. W. H. Simon has reported the use of copies of journal articles, made on Contura, for routing purposes in the library of the Olin Mathieson Chemical Corporation.[25] He also describes the circulation of copies of tables of contents of magazines as a basis for individual requests for originals or copies of specific articles. As yet, however, there is little if any written on the possible role of electrostatic reproductions in interlibrary loan.

The simple reproduction of catalog cards is outside the scope of this discussion. However, L. Polly-Bassitta reports the use in the Padagogische Zentralbibliothek in Berlin [26] of reproductions of title pages on standard catalog cards, with entries, paginations, sizes, and call numbers added. W. T. Mason describes the use of an "abstract overlay" process, based on microphotography, for cataloging technical reports.[27] F. C. Francis outlines the techniques now being used for printing the full card catalog of the British Museum,[28] recalling Garnett's forecast in 1882.[29] R. E. Kingery describes the techniques of G. K. Hall Co., Inc., for publishing card catalogs in book form by laying out the original cards in page form, microfilming, and then preparing offset plates from the film by xerox,[30] and the photographic creation of full sets of catalog cards with subject and added entries.[31]

If one criterion of a system application is that it represents a machine method of doing something formerly done by hand, then the photocomposing machine for Chinese, Japanese, Korean, and Cyrillic alphabets manufactured by Shashin-Shokujiki Kenkyusho of Tokyo certainly qualifies. This machine is presently in use at the Library of Congress for preparing catalog card copy for offset reproduction.[32]

Among the few general accounts of photocopying methods in system

applications in libraries, R. R. Shaw's report to the American Council of Learned Societies on uses of the Photoclerk remains the pioneer, germinal account to date.[33] In listing 129 different applications to many library operations the point is well made that the "Photoclerk was used for many more things than those included in the original planning. The normal experience was that after one set of experiments demonstrated what could be done, other staff thought of new applications, and the whole had a snowballing effect, with the program starting slowly and rapidly gaining momentum."

Recently, J. Burkett has provided an excellent summary of system applications of all kinds.[34] He notes that "librarians may wish to consider the medium of microphotography as a possible factor in reducing costs under such headings as: the acquisition programme, binding, storage, cataloguing, charging." Also, M. F. Tauber has provided a standard text with references to the application of photographic methods to a variety of library operations.[35]

Just as the general accounts of system applications are few, so too are those of applications in single libraries. Dorothy B. Keller has reported on the use of photographic reproduction with overlays by the University of California Acquisition Department for requesting invoices from dealers, cancelling orders with dealers, requesting quotations on out-of-print items, obtaining faculty recommendations on securing back files of serials, etc.[36] J. H. Treyz, although primarily concerned with the xerographic reproduction of catalog cards at Yale University, briefly mentions "the making of a weekly accessions list, reproduction of reports, forms, articles that are out-of-print, and holding cards for serials."[37] This writer has outlined the use of photography in the reference department of The New York Public Library for ordering, making process records, updating serial records, and offering exchange items.[38] Finally, F. S. Henshaw reports numerous system applications at the Library of Congress, using a converted Model E Recordak, among them order and process records.[39]

The meagerness of the literature suggests the need for more accounts of system applications of photocopying in individual libraries. Aside from the cost studies made on the Photoclerk,[40] there is little information available on the economies of system photocopying. A comprehensive study of possible applications in different kinds of libraries of varying size is highly desirable. Especially needed is an evaluation of presently available photocopying devices from a system application point of view.

Shaw has pointed out "that if the technology of photography could be built into the equipment, so that the camera work and the processing could both be done by people who knew nothing at all about photography, a powerful new office tool would be forged." [41] His Photoclerk was a giant step in that direction. Future hope probably lies with electrostatic methods rather than with photography. In 1957, the Council on Library Resources, Inc., entered into a contract with the Radio Corporation of America to prepare an engineering design plan for a "cataloger's camera." [42] Subsequently, the Council entered into a further contract with R.C.A. for the construction of a working model. It is expected that the machine will be capable of reproducing catalog cards from a full size master and will demonstrate the feasibility of Electrofax as a reproduction method. Some system applications could undoubtedly be made of this device if it becomes available.

References

1. McCombs, C. F.: The Photostat in Reference Work. *Bulletin of The New York Public Library*, 24:535-540, Oct. 1920.

2. *Bulletin of the New York Public Library*, 40:173, Mar. 1936.

3. Shaw, R. R.: Reducing the Cost of the Lending Process. *A.L.A. Bulletin*, 35:504-510, Oct. 1941.

4. Garnett, Richard: *On the Printing of the British Museum Catalog; A Paper Read at the Cambridge Meeting of the Library Association of the United Kingdom*. London, Clowes, 1882.

5. McCombs, *op. cit.*

6. Shaw, R. R.: *The Use of Photography for Clerical Routines*. Washington, American Council of Learned Societies, 1953, p. 1.

7. Slocum, K. G.: Factory Photos. *The Wall Street Journal*, Sept. 21, 1959, pp. 1, 19.

8. *Webster's New World Dctionary of the American Language*. College Edition. Cleveland, World, 1957, p. 1480.

9. Shaw, *op. cit.*, ref. 6, pp. 15-19.

10. Smith, Adelaide: *Literature Survey of the Systems Applications of Photography in Libraries, 1950 to the Present*. Unpublished paper, 1959.

11. Shaw, *op. cit.*, ref. 6.

12. Burkett, J.: *Microrecording in Libraries*. London, Library Association, 1957.

13. Kingery, R. E.: New Library Technology. *Library Journal*, 84:1387-1391, May 1, 1959.

14. Geer, Helen T.: Charging Machines. *Library Trends*, 5:244-255, Oct. 1956.

15. Preliminary Inquiry into Library Book-Charging Systems Announced. Council on Library Resources, Inc., *Recent Developments*, no. 26, Aug. 12, 1959.

16. Bro-Dart Industries: *Library and School Supplies Catalog*, S58-59. Newark, [1958?], p. 20.

17. *SYSDAC; Another New Idea for Book Charging.* Los Angeles, Bro-Dart Industries, [1959?].

18. Parché, Constance: Microcards in an Edition of One. *Special Libraries,* 50:36-37, Jan. 1959.

19. Busse, G. von: Original oder Fotokopie? *Nachrichten für Wissenschaftliche Bibliotheken,* 4:38-39, Mar. 1951.

20. Seidell, A.: Microfilms in Relation to Reference Service. *Medical Library Association Bulletin,* 39:203-205, July 1951.

21. Pleskit, G.: Za Dal'neishee Razvitie Mezhdubibliotechnogo Abonamenta. *Bibliotekar',* pp. 12-15, Aug. 1953.

22. Melinat, C. H.: Interlibrary Lending. *Library Trends,* 2:573-580, April 1954.

23. Wolk, L. J. Van der: Het Leenverkeer Tussen de Wetenschappelijke Bibliotheken en de Bedrijfsbibliotheken. *Bibliotheekleven,* 39:185-197, June 1954.

24. Uridge, Margaret D.: Interlibrary Lending and Similar Extension Services. *Library Trends,* 6:66-86, July 1957.

25. Simon, W. H.: This Works for Us: Periodical Handling with Photocopy System. *Special Libraries,* 50:206-207, May-June 1959.

26. Polly-Bassitta, L.: Die Mikrophotographie im Dienste der Katalogisierung. *Zentralblatt für Bibliothekswesen,* 66:418-423, Nov.-Dec. 1952.

27. Mason, W. T.: Use of Microphotography in Cataloging Technical Documents. *American Documentation,* 5:162-165, Aug. 1954.

28. Francis, F. C.: Meeting the Challenge; The British Museum Reprints Its Catalog. *UNESCO Bulletin for Libraries,* 11:237-241, Oct. 1957.

29. Garnett, *op. cit.*

30. Kingery, *op. cit.,* ref. 13, p. 1390.

31. Kingery, Robert E.: Photo-Processing at NYPL. *Library Journal,* 83:1330-1334, May 1, 1958.

32. LC's Photocomposing Machine. *Library of Congress Information Bulletin,* 18:329-332, June 15, 1959.

33. Shaw, *op. cit.,* ref. 6.

34. Burkett, *op. cit.*

35. Tauber, M. F. and associates. *Technical Services in Libraries,* New York, Columbia University, 1954.

36. Keller, Dorothy B.: *IBM Multiple Order Forms and the Microphotostat.* Unpublished transcription of speech given at the ALA Heads of Acquisition Departments of Research Libraries Round Table, January 30, 1951, with unpublished supplement.

37. Treyz, J. H.: The Xerox Process and Its Application at Yale. *Library Resources and Technical Services,* 3:223-229, Summer 1959.

38. Kingery, *op. cit.,* ref. 31.

39. Henshaw, F. S.: Development and Use of Bibliofax in LC. *Library of Congress Information Bulletin,* 13:9-12, April 12, 1954.

40. Shaw, *op. cit.,* ref. 6, pp. 48-84.

41. *Ibid.,* p. 1.

42. Council on Library Resources, Inc. *Recent Developments,* no. 4, Mar. 31, 1958.