

Chapter II

HISTORY OF LIBRARY COMPUTERIZATION

The history of library use of a punched card system can be traced back to the 1930's when the first computer had not yet been completed. Ralph H. Parker first used Herman Hollerith's punch card machine for circulation control at the University of Texas Library. Parker published an article, "The Punched Card Method in Circulation Work," in the Library Journal, December 15, 1936.¹ By 1947, there were punched card systems of circulation control installed and operating at the University of Florida Library, the University of Georgia Library, the University of Virginia Library, and the Montclair Public Library, New Jersey.² At the Montclair Public Library, the special-purpose punched card machine was used to reduce the clerical burden in the circulation department and to provide statistical insights into reader habits and trends.³

In 1947, Hans Peter Luhn of the International Business Machines Corporation (IBM) set up one of the first mechanized retrieval systems in which punch cards were read and sorted by an IBM machine called the "Luhn Scanner." Later, he devised a computer

¹Joseph Becker, "Circulation and the Computer," ALA Bulletin, 58 (December, 1964), 1007.

^{2,3}Ibid., pp. 1007-8.

program to handle "auto-abstracting." He also developed the program of disseminating information selectively to individuals in accordance with an interest profile with the help of a machine called "business intelligence system."⁴

In 1951, the first successful application of punched cards in printing book catalogs was made at King County Public Library, Washington.⁵

In 1952, American Library Association published a booklet by Ralph H. Parker entitled Library Applications of Punched Cards: A Description of Mechanical Systems.⁶ In this booklet, Parker explained very clearly the punched card methods then in use for circulation record control and analysis. After that other libraries such as the California University Library and the Harvard University Library accepted this card system for their use.

Los Angeles County Public Library has provided book catalogs, children's catalog and adult catalog by means of punched card system since 1952. It was reported that this library found many advantages of book catalogs. The maintenance costs for the card catalog as compared to the book catalog were at least seventeen to one. The

⁴J. Saha, Special Libraries and Information Sciences in India and the USA (Methuchen, N.J.: Scarecrow Press, 1969), pp. 136-7.

⁵Ibid., p. 135.

⁶Becker, op. cit., p. 1007.

book catalog had special features, such as annotations, increased subject headings and analytics, simplicity of filing arrangement, compactness, ease in use and list of the entire holdings of the library for every branch.⁷

At the early stage, the use of a punched card system was limited. Most of the libraries using it were university libraries and the applications of the system were circulation control and book catalogs. Later on, in 1957, the University of Missouri Library planned to use the equipment for all ordering, paying, and accounting for library materials. Plans were also developed for preliminary cataloging records.⁸

The history of library computerization started ten years⁹ after the first computer was completed in 1944.¹⁰ The earliest applications were designed primarily to benefit the user. These

⁷Catherine MacQuarrie, "The Book Catalog of the Los Angeles County Public Library: How It Is Made," Library Resources & Technical Services, 4 (Summer, 1960), 209.

⁸Ralph H. Parker, "Automatic Records System at the University of Missouri Library," College & Research Libraries, 23(May, 1962), 231.

⁹Frederick G. Kilgour, "History of Library Computerization," Journal of Library Automation, 3 (September, 1970), 219.

¹⁰Douglas A. Colbert, Data Processing Concepts (New York: McGraw-Hill Book Company, 1968), 103.

applications were machine searches of subject indexes employing post-coordination of uniterms.

Harley E. Tillitt presented the first report on library computerization at the U.S. Naval Ordnance Test Stations (NOTS), now the Naval Weapons Center at China Lake, California. This report entitled "An Experiment in Information Searching with the 701 Calculator," was given at an IBM Computation Seminar at Endicott, New York, in May 1954. The system was extended and improved in 1956 and a published report appeared in 1957.¹¹

The NOTS system imitated manual use of a uniterm card file. It could add new information, delete information related to discarded documents, match search request against the master file, and produce a printout of document numbers which the user had to take to a shelflist file to obtain titles. This system caused user dissatisfaction as search requests were run in batch operation so there was inevitable delays. Two years later, the system was reprogrammed and improved so that the user received a list of document titles.¹²

In 1958, General Electric's Aircraft Gas Turbine Division at Evendale, Ohio installed a system similar to the NOTS application. The system was improved to print out author and title information for a report selected, and an abstract of the report. However, this system did not satisfy the user because of its delay.¹³

¹¹Kilgour, op. cit., p. 219.

^{12, 13}Ibid., p. 219-20.