

OCLC: FROM AN HISTORICAL PERSPECTIVE

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The Online Computer Library Center, Inc. (OCLC) has had a major impact upon libraries. This article provides an overview of the history of that organization. The goals of OCLC—a nonprofit computer service and research organization whose network and services link more than 22,000 libraries in the United States and sixty-three countries and territories—are to further access to the world's information and reduce information costs. OCLC services help libraries locate, acquire, catalog, and lend library materials. At the heart of organization is the OCLC Online Union Catalog, which is the world's largest and most comprehensive bibliographic database. Established in 1967 and made available online in 1971, it was the first large, multi-participant, computerized, online union catalog system.

The objectives of OCLC are to increase the availability of library resources and to reduce the rate of increase of library costs. Its broad public purpose is to further access to the world's information. As set forth in OCLC's Articles of Incorporation, the objectives of the organization are to:

Establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing rate-of-rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific, literary and educational knowledge and information. (OCLC, 1996, p. 23)

In 1967, the presidents of the colleges and universities in the state of Ohio founded the Ohio College Library Center to develop a computerized system in which the libraries of Ohio academic institutions could share resources and reduce costs. The Ohio College Library Center was a pioneer in the technological revolution in libraries when it introduced its online shared cataloging system in 1971. The organization has gone on to provide a wide-range of computer-based products and services to libraries and to facilitate cooperation and resource sharing among libraries on a global scale (Smith, 1993).

It is no exaggeration to say that the Online Union Catalog and Shared Cataloging System pioneered the computer revolution in libraries. It enabled libraries to rapidly and efficiently catalog books and custom-printed catalog cards. The database was not only an electronic card catalog, it was an electronic union catalog that provided location information for the materials listed in the catalog by participating libraries. It was a new library tool that was dynamic. (Smith, 1994, p. 320-321)

A look at the history of OCLC will help us better understand the organization that exists today and estimate its future potential.

THE BEGINNINGS: THE OHIO COLLEGE ASSOCIATION

The origins of OCLC lie in the cooperative activity among Ohio academic institutions and fostered by the Ohio College Association which was founded in 1876. The Ohio College Association consisted of committees of librarians and academic executive officers who

met at various times between 1951 and 1967. Their purpose was to explore means of library cooperation in order to increase the availability of library resources at each Ohio academic institution, and, at the same time, reduce library costs. Topics addressed included revising an Ohio union list of serials, cooperative acquisitions, and establishment of a common storage center. In 1967, the Ohio College Association consisted of 54 private and public colleges and universities highly motivated by a sense of cooperation.

These libraries were not alone in exploring new methods to serve their users. In the 1960s, several institutions sought to harness the computer to develop an integrated library automation system for a single library. Computer storage capacity and speed were increasing, while the cost to capability ratio was decreasing. In 1967, the MARC II (Machine Readable Cataloging) standard was accepted; now libraries would not have to develop a format locally, though some still did. Prominent among the institutions that developed automated alternatives to the card catalog in the '60s and early '70s were Stanford University, Northwestern University, and the University of Toronto. Ohio State University was one of the pioneers in catalog automation (Millsap, 1995). Many factors made possible the development of OCLC—it was a time when librarians were beginning to experiment with new ways of handling information.

Years of concentrated work and individual efforts by academic librarians and college presidents, working through the Ohio Library Association (OLA) and the Ohio College Association (OCA) were required to bring OCLC into being. In 1961, study director Wyman Parker, then librarian at Wesleyan University, was engaged to form a plan of action. His report specifically recommended the establishment of a bibliographic center, constructed in a separate building near a large university library (Reed 1991). In 1964, OCA's Ohio College Library Project Committee had narrowed their future choices to a debate on whether it should be a microfilm-based union catalog or a computerized one. After a careful review of proposals by IBM, Recordak, Remington-Rand, and Bibliomatics, Inc., the committee decided that the two most promising proposals were those of Recordak (microfilm) and IBM (computer); all members of the committee but one favored the Recordak proposal (Branscomb & Rogers, 1981).

It was at this point, in 1965, that OCA's Ohio College Library Project Committee brought in two consultants: Ralph Parker, then director of libraries at the University of Missouri, and Frederick G. Kilgour, then

associate librarian for research and development at Yale University. They were asked to evaluate the proposals developed by the group to create either a microfilm or a computer-printed book catalog of Ohio academic library holdings.

Kilgour (1987) remembered that in 1937 he had been inspired by a "stimulating article by Ralph H. Parker, then Loan Librarian at the University of Texas Library, Austin. Parker had developed and installed on February 1, 1936, the first library system based on Hollerith punched cards" (p. 381). They did not meet in person, however, until 1965, when they were invited by OCA to serve together as consultants. Asked to break a deadlock on the choice of which way to proceed, Parker and Kilgour rejected both proposals and instead recommended their own radically new approach: a shared computerized cataloging system and an online union catalog (Reed, 1991; Smith, 1994). In Kilgour's own words (1987), "Ralph and I spent a day with the committee in September and that evening decided that 1965 was not the time to establish a traditional center" (p. 383).

Kilgour and Parker said such a network was needed to meet demands on library service due to the research explosion in the sciences, medicine, and technology. These demands had outrun libraries' abilities to meet them. To quote from Kilgour and Parker's report to OCA in 1965:

Along with research explosion has also come a new kind of demand in libraries for information, the principal characteristics of which are urgency and speed. . . . The absolute increase in information explosion has generated serious problems for information activities in libraries. . . . The one hope for coping with the flood is the mechanization of library procedures which have been converted into an integrated library system. (Smith, 1994, p. 306)

The Committee of Librarians met in January 1966 and endorsed the Parker-Kilgour report in principle. Questions raised by the report were answered to their satisfaction and the committee recommended its adoption. In October 1966, the OCA approved The Ohio College Library Center as recommended by the Committee of Librarians, the Committee of Presidents, and the OCA Executive Committee. It empowered OCA President Novice G. Fawcett (Ohio State University) to appoint a committee with the power to form a non-profit corporation, choose a location, make funding arrangements, appoint a board of trustees and employ a director (Branscomb, 1981).

FREDERICK G. KILGOUR: A DRIVING FORCE AT OCLC

To put the event in perspective, in 1965 and 1966 computerized library systems networking several libraries together did not exist. There were no cathode ray tube terminals with lower-case characters; there were no retrieval systems that could retrieve single entries from an online catalog. This did not deter Kilgour and Parker from recommending a comprehensive library system that would not mimic existing procedures, but "... would produce new benefits by new means" (Smith, 1994, p. 307).

The leaders of Ohio's academic libraries accepted their bold recommendation to create a shared cataloging system and an online computerized union catalog that would have many functions, including not only cataloging but online acquisition of machine-readable catalog records from the Library of Congress, searching of machine-readable indexes, resource sharing, serials control, and circulation functions. From this initiative would come the first large, multi-participant, computerized online union catalog system (Millsap, 1995); growing and vital, it remains to this day the heart of OCLC.

In July 1967 the representatives of OCA signed the articles for incorporation and the Ohio College Library Center (OCLC) came into being and hired as its first executive director, Frederick G. Kilgour. The Ohio College Library Center, as it was then named, began with not-for-profit status and with a financial philosophy and membership and governance structures that proved both visionary and practical. The initial cost of development was to be supported by granting agencies. Once the Ohio system was operating routinely, it was assumed that all costs would be supported by participating institutions.

Current president and CEO of OCLC, K. Wayne Smith (1994), wrote of Kilgour:

If, as Ralph Waldo Emerson said, an institution is the lengthened shadow of an individual, then for OCLC that individual was Frederick G. Kilgour. He was its founder, its first and only executive director, and its first president. He is a historian who looks to the future, an entrepreneur who knows how to manage, and a dreamer who knows how to get things done. (p. 306)

In Ann Allan's opinion, without Fred Kilgour and his extreme self-confidence, OCLC could not have survived. Even those not fond of Kilgour or who have parted less than amicably from OCLC respect his drive,

his salesmanship, and his adaptability to technological advances (Allison & Allan, 1979). President and Chief Executive Officer from 1967 to 1980, Kilgour retired from the OCLC Board of Trustees in February 1995 after having served as Permanent Founder Trustee since 1980.

When it awarded its highest honor, Honorary Life Membership, ALA cited Mr. Kilgour for his contributions to librarianship, including "the establishment and development of a practical vehicle for making the benefits of technology readily available to thousands of libraries" (OCLC Home Page). In explaining the success of OCLC, Kilgour acknowledged the major importance of a long tradition of cooperation among Ohio libraries (Kilgour, 1969).

THE EARLY YEARS: 1967 TO 1979

OCLC was to perform public tasks which neither the state nor for-profit organizations were willing to do. No academic institution could do the job alone. The for-profit sector had no apparent interest in operating a library network. Though the Library of Congress was poised to start machine-readable cataloging in 1968, few libraries had the technical means to use the information provided by LC's new MARC Distribution Service.

The Ohio College Association saw OCLC membership as a means to cooperate with other Ohio academic and educational organizations, not as a business enterprise, but rather as a joint undertaking in which libraries participated. The founders and early participants brought with them academic backgrounds—modes of research, teaching, and scholarship. The ideals of the ALA, especially in the democratization of access to information, were very much present. Thus a pro bono publica strain existed in OCLC from its very conception. It has been said with its strong sense of public purpose and public mission, idealism and idealistic expectations, OCLC was more a religion than a corporation (Smith, 1994).

OCLC's first offices were in the Main Library on the campus of the Ohio State University and its first computer was housed in the OSU Research Center. It was from these academic roots that Kilgour oversaw the growth of OCLC from its regional beginnings to an international network. When it began in July 1967, OCLC's staff consisted of Kilgour and a secretary. At the end of its second year, it had a staff of six (two of whom had been on duty less than six months and two for less than two weeks) and expenses of \$67,000.

Within a decade it had a staff of over 200. At the end of its twelfth year, OCLC had a staff of 400 and expenses of \$21-million (Allison & Allan, 1979, p. 13; Kilgour, 1979, p. 363; OCLC Home Page; OCLC, 1996).

Two characteristics defined OCLC from its inception:

1. A public purpose: determination to provide access to information by all. There began and continues a feeling that the organization is a community engaged in good works.
2. Financial independence: financial performance has always been taken seriously. From the outset, the founders were determined that OCLC should pay its own way. It wanted funds for operations, research and development to be generated by revenues for its services. It did not want to rely on government appropriations, foundation funding, or membership assessments.

In its early years, however, the organization did seek outside funding to develop its computer system. From 1968-1971 grants to OCLC totaled \$239,000; ranging from \$1,750 from the National Agricultural Library to \$90,000 from the U.S. Office of Education. Critical support came in a grant from the State of Ohio. In 1971, the Ohio Board of Regents appropriated \$581,000 over a three-year period to implement an OCLC computerized library system, with Ohio member libraries assuming one-third the actual costs in the first year, two-thirds in the next year, and full costs the third year. By 1973, the Ohio membership was paying full costs for its OCLC products and services. Also by 1973 approximately 13% of revenues were coming from libraries outside Ohio.

First-Time Use (FTU) charges were developed as a basic source of revenue to the corporation. A library was charged a FTU fee the first time it used a record in the database for catalog production that it did not input (qualified libraries participate in entry input). There was also a charge for each catalog card printed. In the 1970s, OCLC began providing credits for original input and interlibrary lending. (This would grow in importance. In 1991-92 alone, for example, it issued approximately \$4.9 million credits to members, an increase of \$1.7 million over the previous year [Smith, 1994]).

During its first ten years, OCLC grew rapidly. It reached a point where it badly needed additional hardware, more people, and more physical facilities. In 1975, OCLC management decided it would have to internally generate working capital. The September 1975 OCLC

Newsletter described the financial condition, information on capital needs, and a thorough explanation of the necessity to increase the FTU charge by ten cents. In Smith's (1994) opinion, libraries both large and small have come to think of their institutions as stakeholders in OCLC with voices that require attention:

OCLC members exert substantially greater power in the management, control, and governance of OCLC than do the shareholders of publicly-owned, for-profit organizations. Indeed, OCLC probably comes closer to the ideals of a corporate democracy than does any for-profit company with stockholders. (p. 312)

It is informative to refer to literature references to OCLC in years past. In a report published by ERIC in July 1974, Larry Hardesty looked at OCLC and five other computer-based information networks in general nontechnical terms. He referred to a six-month study done at Dartmouth College in 1972 to evaluate the network. As might be expected, attempts to assign costs or savings to the use of the new network had been elusive. Dartmouth found it was able to reduce its cataloging staff by using OCLC—it could meet OCLC projected costs and still show a budgetary decrease by elimination of library staff!

Hardesty speculated on whether membership and user costs would continue to climb. Costs, he felt, would have a big influence on the success or failure of OCLC, but even then it was noted that OCLC's technical success made dropouts unlikely. Hardesty cited Kilgour's comments in 1973 when he stated that member commitment is such that most of them now cannot leave. Hardesty (1974) concluded that ". . . OCLC is probably the most important technological development to affect libraries on such a wide scale in recent years" (p. 26).

Writing in the May 1976 *American Libraries*, Art Plotnik said it was time to crack the mystique and take a good look at the emerging phenomenon of OCLC. At that time only one of OCLC's six long-range designs for the online system—the online union catalog and shared cataloging—was fully in operation. Not all the participants in the system had complaints, but of the many who did, the most persistent plea was for OCLC priorities to reflect those of the users—i.e., the cataloging subsystem be perfected before any further subsystems are developed. When Kilgour was interviewed by Plotnik, he asked for understanding from users about response time, length of response time having been a major source of complaints from system users.

Plotnik (1976) wrote:

From such pleas for understanding and from the fury of certain complaints from the field, it sometimes looks as if the OCLC staff has an adversary relationship with the participants. But from a closer perspective, OCLC attitudes appear to be no different than those of any service operation. The staff has mixed reactions to the behavior of clients, but basic respect for and dedication to their interests. (p. 266)

Kilgour himself looked at OCLC from the perspective of its having completed its twelfth year of operation (Kilgour, 1979). He looked back upon its first four years as the years of comprehensive plans and development for Ohio institutions. The computer-telecommunications system was being consciously designed so that national and international operations would be possible. As Kilgour saw it, these were years when new ideas were generated and Ohio colleagues and universities invested over \$300,000. At the end of the fourth year, the first large, multi-participant, computerized, online, shared cataloging and union catalog system went into operation—only to have the computer struck by lightning the very first night!

Kilgour told the story of when early one afternoon a Washington agency telephoned to say that it would award a grant to support development of the computer system—but it would provide funds only for people, and not for the computer, supplies, and materials. Moreover, OCLC would have to accept or reject the award by 5 pm that afternoon. Naturally, they accepted (Kilgour, 1979).

As OCLC improved its processes and products, and extended its operations across the United States, there were problems along with successes. Kilgour (1979) felt that after the first six years of operations, the earliest Ohio “believers” were no longer overflowing with hope and generosity, but perhaps quite properly, expected goods for money expended. He saw the spirit of cooperation continue, but the warmth fade. Problems developed with the chain of command and, indeed, issues dividing governance from daily management had to be settled.

In 1977, the Ohio members of OCLC adopted changes in the governance structure that enabled libraries outside Ohio to become members and participate in the election of the Board of Trustees. Elements of the new governance structure included general members, a Users Council, and the Board of Trustees. There was a name change, and the Ohio College Library Center became OCLC, Inc.

In 1979, finances moved into what was described as a new era in its corporate maturity cycle as OCLC obtained long-term funds for its capital expansion needs through industrial revenue bonds. A \$38.5 million bond issue financed the construction of its present headquarters in Dublin, Ohio, and allowed the refinancing of existing debt and provided funds for acquisition of computer equipment. Kilgour claimed to have metamorphosized from an academic librarian to the chief executive officer of a rapidly growing \$20 million corporation (Kilgour, 1979).

THE 1980s: ROWLAND C. W. BROWN

Rowland C. W. Brown became President and CEO from 1980 to 1989; Kilgour moved to the Board of Trustees. Brown emphasized that to him the keywords in OCLC’s charter were “collaborative”, “cost containment” and “access” (Gordon, 1987).

The 1980/81 annual report noted the emergence of alternatives to OCLC at the national, regional, and local levels. The 1980s saw OCLC move beyond bibliography as it introduced ILL MicroEnhancer (‘84); Search CD450, CD-ROM reference databases (‘87); CJK350 System for cataloging Chinese-Japanese-Korean library materials (‘88); AMIGOS-OCLC collection analysis CD (‘88). In 1988, OCLC acquired Forest Press, the publisher of the Dewey Decimal Classification.

Not every project OCLC began ended in success. In 1983 the Oxford Project was started with the aim of redesigning and reimplementing of OCLC services on a new technological platform. In 1986 OCLC rejected the hardware and software after benchmark tests were failed. Later that year, the Oxford Project was abandoned and the company proceeded with an evolutionary approach to the system implementation that included three parts: a new online reference system, a new telecommunication network, and a new online system (Smith, 1994).

Nor was every project OCLC promoted greeted by acclaim from its users. In 1983, OCLC’s move to copyright its database, plus its inability to come to a mutually agreeable contract with regional networks, added governance “downtime” to technical problems caused by heavy user demand (Martin, 1984). When twenty representatives of federal libraries signed a letter protesting OCLC’s abandonment of an earlier version of Acquisitions System and Serial Control systems, it was reported in *Library Journal* (“Librarians attack OCLC for abandoning systems”).

In 1983, Martell touched on OCLC. He noted that the Library of Congress offers services, and it consults and cooperates. Its impact can be tremendous. By the very scope of its actions, LC can limit the alternatives available to libraries. The same can be said about OCLC. OCLC and OCLC-like organizations have necessitated a restructuring of technical services, and have made much of original cataloging unnecessary. In the 1970s and early 1980s the computer introduced turbulence, even chaos, into the organizational environment of academic research libraries. The rigid logic required by this technology serves to obscure the confusion that often surrounds its application. While Kilgour saw library computerization as the first step toward making the library productive and economically viable, the radical changes brought about by the new technologies have presented bewildering options to librarians (Martell, 1983).

K. WAYNE SMITH: DIRECTIONS IN THE 1990s

Dr. Kermit Wayne Smith has been President and CEO since January 1989, at a time when the rate of technological change has become an almost continuous blur. Advances in telecommunications—the ability to link networks and move information at higher and higher speeds—impact OCLC's plans and products. Since 1989, OCLC's focus has been on the implementation of new telecommunications network, implementing a new online system for cataloging and resource sharing, and building a new reference system.

Analysis completed by OCLC in the 1980s concluded that if the organization had continued to focus on its core services, and not ventured into non-core areas such as local systems, CD-ROMs, etc., it would have been smaller but better able to meet its chartered goal of reducing the rate of rise of library costs by keeping down its prices to members. The focus since 1989 for research and development has been:

1. online products and services over off-line
2. core services over non-core
3. enhancements to core, online products over noncore, off-line ones. (OCLC, 1991)

One of Smith's strategies for building OCLC's future is to construct alliances and collaborate with other societies and information producers (Berry, 1993). Exciting OCLC projects in the 1990s include the project by Harvard University Library and OCLC (began in

1992) to convert to machine readable form approximately 5 million records from card and book catalogs, some dating from the Civil War. This is the first major project for the new OCLC RETROCON Keeping Service. In 1992 CURL (Consortium of University Research Libraries) in the United Kingdom entered an agreement whereby OCLC will load into the OCLC online union catalog their more than 2.5 million bibliographic records. This includes the libraries of Cambridge, Edinburgh, Glasgow, Leeds, London, Manchester, and Oxford universities.

CONCLUSION: LOOKING TO THE FUTURE

OCLC is the world's largest library information network, offering a multitude of products and services. OCLC's network and services link more than 22,000 libraries in the United States and sixty-three countries and territories. Its OCLC Online Union Catalog provides librarians with over 35 million records in 8 bibliographic formats and in 370 languages. It is growing by approximately 2 million bibliographic records each year (OCLC 1995). Called the WorldCat database on their FirstSearch service, the Online Union Catalog offers libraries and their users resources that no single library could provide. The record format for WorldCat is adjusted to be most useful and convenient for library patrons.

OCLC dominates its traditional market niche—the sale of library cataloging online. As the mature OCLC develops new businesses, it continuously struggles to redefine itself. In two decades, OCLC has spent millions on research targeted to the strategic development of the organization. Alley (1994) speculates that by the year 2000, OCLC could easily be at the forefront of electronic journal publication. While its successes are inspiring, OCLC has had its failures. The results when it tried to copyright its database and when it attempted to enter the library turnkey system business were disastrous (Berry, 1993). In times of budget cuts, their customers often look critically at cost versus benefits of OCLC's services (OCLC, 1991).

Predictions of future directions to be taken by OCLC Online Computer Library Center, Inc. must be made with reference to its past and a realization that our world will continue to be drastically transformed by technology. The increasing array of resources and the variety of access methods available to librarians, to scholars, and to the public is mind-boggling. OCLC will ultimately depend upon its people for its future—

as they strategically plan, innovatively apply technological solutions to problems, work to fulfill its basic mission of increasing the availability of library resources, and creatively adapt to a constantly changing technological, political, and social environment.

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