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OCLC
Online Computer Library
Center, Inc.

*Furthering Access to The World's
Information for 30 Years*

DR. K. WAYNE SMITH





"Were American Newcomen to do naught else, our work is well done if we succeed in sharing with America a strengthened inspiration to continue the struggle towards a nobler Civilization—through wider knowledge and understanding of the hopes, ambitions, and deeds of leaders in the past who have upheld Civilization's material progress. As we look backward, let us look forward."

—CHARLES PENROSE

(1886-1958)

Senior Vice-President for North America

The Newcomen Society

for the study of the history of
Engineering and Technology

(1923-1957)

Chairman for North America

(1958)



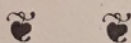
This statement, crystallizing a broad purpose of the Society, was first read at the Newcomen Meeting at New York World's Fair on August 5, 1939, when American Newcomen were guests of The British Government.

"Actorum Memores simul affectamus Agenda"

"OCLC is a remarkable story about age-old library dreams, about a unique visionary, about the amazing power of technology, and about the even more amazing power of working together for the common good."

—K. Wayne Smith

This address, dealing with the history of OCLC Online Computer Library Center, Inc., was delivered at a "1997 Columbus Meeting" of The Newcomen Society of the United States held in Columbus, Ohio, when Dr. K. Wayne Smith was guest of honor and speaker on May 21st, 1997.



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DR. K. WAYNE SMITH

PRESIDENT AND CHIEF EXECUTIVE OFFICER

THE NEWCOMEN SOCIETY OF THE UNITED STATES
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INTRODUCTION OF DR. K. WAYNE SMITH BY MR. ROBERT H. JEFFREY,
PRESIDENT, THE JEFFREY COMPANY, AND VICE CHAIR, OCLC BOARD
OF TRUSTEES, ON MAY 21, 1997, IN COLUMBUS, OHIO.

Good Evening:

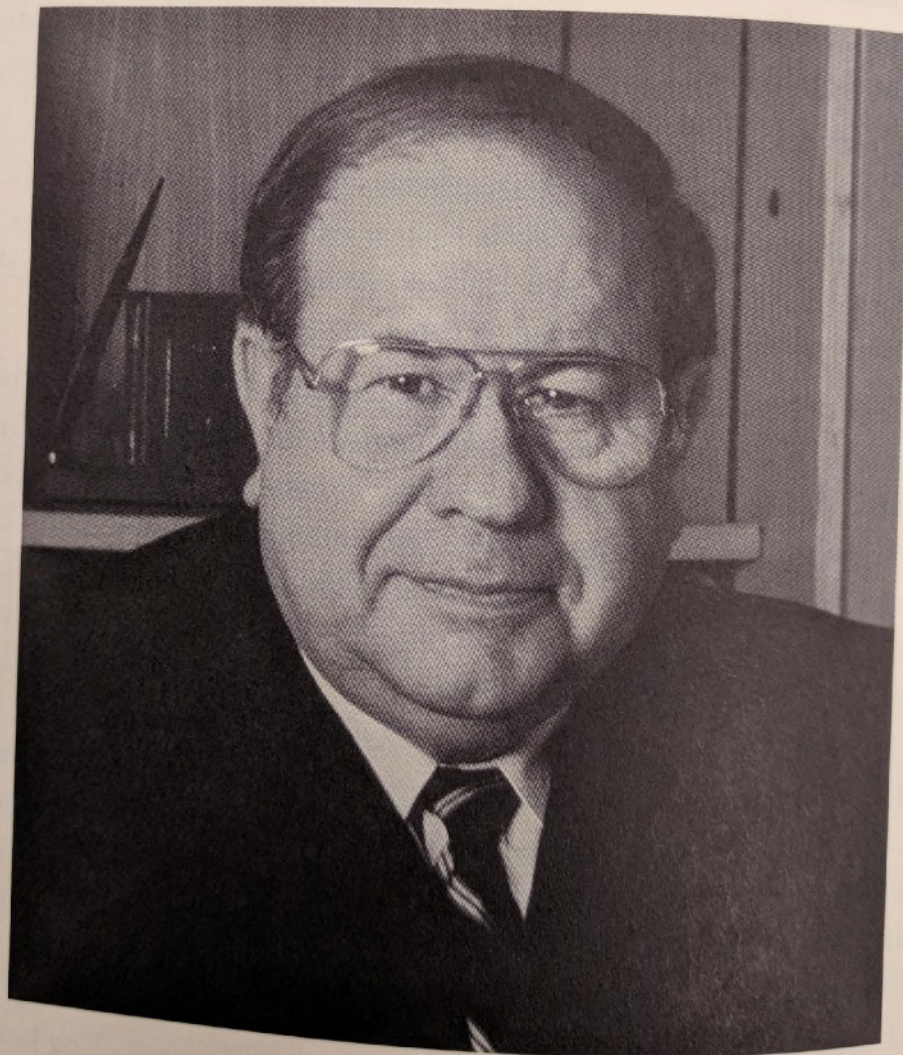
DR. K. WAYNE SMITH has been President and Chief Executive Officer of OCLC Online Computer Library Center since January 23, 1989. OCLC is a nonprofit corporation that links, via a computer network, some 24,000 libraries in 63 countries. OCLC's major public purposes are furthering access to the world's information and reducing the costs of that information, not just for today's students, faculty, and researchers, but for generations to come.

Dr. Smith attended college entirely on academic scholarships. He graduated summa cum laude from Wake Forest University and, as a Danforth and Woodrow Wilson Fellow, received the M.A. and Ph.D. in political science and economics from Princeton University.

Some 30 years ago, he was one of the original "Whiz Kids" working for Secretary of Defense Robert McNamara in the Systems Analysis Office in the Pentagon. Over the next three decades, he went on to hold key posts in higher education, business, and government, including serving as Chairman and CEO of World Book Encyclopedia; Group Managing Partner, Coopers & Lybrand; and Director of Program Analysis for the National Security Council. In this latter White House role, he reported directly to Dr. Henry Kissinger for three years, which he says is the functional equivalent of ten years working for anyone else. He has also been a senior consultant to the Departments of State and Defense, and other federal agencies. He has taught at West Point, Princeton, and Wake Forest. He has served on many for-profit and not-for-profit boards including National City Bank, Scott Fetzer, Wake Forest, the Mershon Center, and the Institute for International Education. The recipient of numerous honors and awards, including being the only American ever named a "Consulting Professor" at the prestigious Tsinghua University in Beijing, Dr. Smith has written and lectured extensively on national security affairs, systems analysis, planning, management, and computer networks.

Today, 14 moves and three career changes later, this former "Whiz Kid" now describes himself as a "Wheeze Kid" who is starting to look forward to retiring to his 223-year-old farmhouse in his home town of Newton, North Carolina, but is not quite ready, not just yet.

Ladies and gentlemen, Wayne Smith.



K. WAYNE SMITH, THIRD PRESIDENT OF
OCLC ONLINE COMPUTER LIBRARY CENTER, INC.

Whiz
look
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Thank you, Tad, for that wonderful introduction.

Sister Mary Andrew, Mr. Hayes, Mr. Case, fellow Newcomen members, ladies and gentlemen, it is my great privilege and honor tonight, under the auspices of the Newcomen Society, to tell the OCLC story. It is a remarkable story about age-old library dreams, about a unique visionary, about the amazing power of technology, and about the even more amazing power of working together for the common good.

THIRTY YEARS AGO, ON JULY 5, 1967, three university presidents, three university vice presidents, and four university library directors met on the campus of Ohio State University. They represented the Ohio College Association, which is a group consisting of the presidents of Ohio's public and private colleges and universities. They had come to Columbus on important business.

Today most of us remember the 1960s as a time of the Cold War with Russia, the hot war in Vietnam, the Space Race. (Others remember the 1960s as largely sex, drugs, and rock and roll, but they were members of Congress.) For the colleges and universities in the United States, the sixties were all that and more. To this tumult, add the baby boom, student unrest, and last but not least, the information explosion.

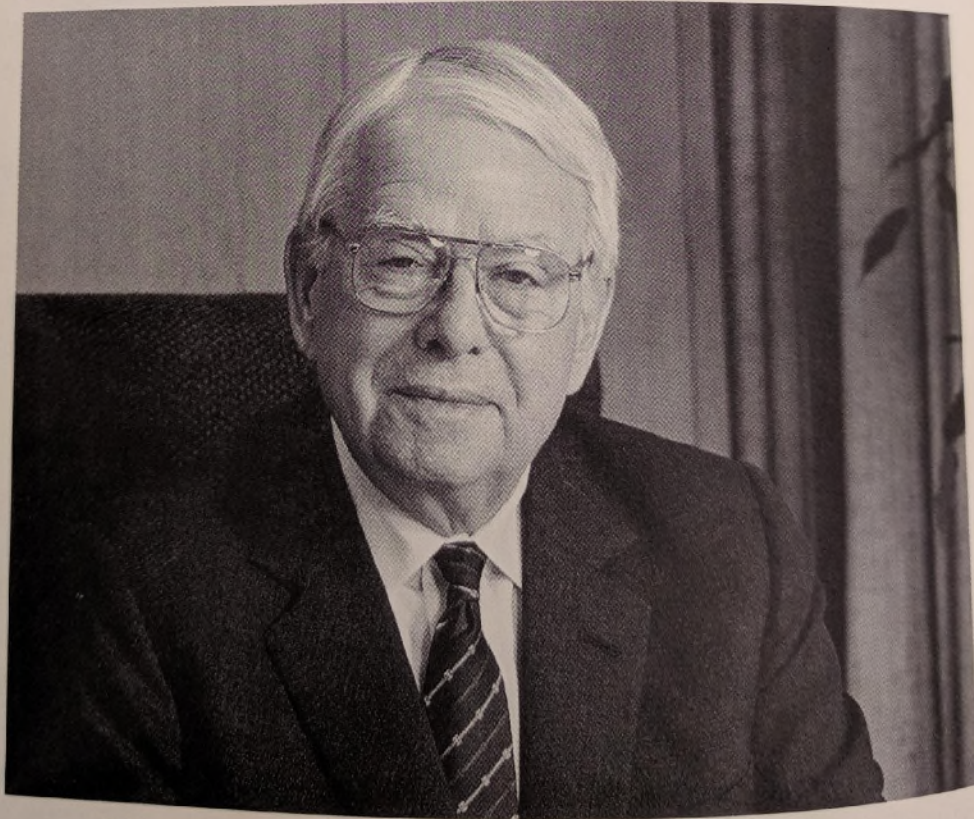
You remember the information explosion, don't you? It was the big bang that created our present cyberspace universe. The litany went something like this. Since the end of World War II, the sum total of knowledge was doubling every seven years. Keeping track of all this information had become an expensive effort in futility. Libraries were running out of shelf space. The card catalogs in major research universities were predicted to grow to the size of football fields. Costs for academic libraries were skyrocketing, and university presidents were beyond even their normal state of panic.

So it was important business indeed that brought these ten leaders of academe to Ohio State on July 5, 1967. They were there to sign the articles of incorporation for a nonprofit organization called the Ohio College Library Center. In short, they had a plan—and they had a man. (No, this is not going to be the first rap address in Newcomen's history.)

The plan was to create a shared electronic library for Ohio's colleges and universities. The plan was in keeping with Ohio's long tradition of support for libraries and education. And they had just the man to make it happen—Frederick Gridley Kilgour, whom they hired as OCLC's first president.

Several years earlier, Fred had done some consulting for the Ohio College Association. Instead of acting like a normal consultant and using the Association's watch to tell them what time it was, Fred proposed what today we would call a paradigm shift.

Fred's idea was to merge our newest information storage and retrieval system, the computer, with our oldest, the library. His vision was that this new computerized library would be active rather than passive, that people would no longer go to the library, but that the library would go to the people. Back in 1967, this was a rather revolutionary idea.



OCLC FOUNDER AND FIRST PRESIDENT, FREDERICK G. KILGOUR

Indeed, when I did my Ph.D. research at Princeton back in the early sixties, there were no computer catalogs, no computer databases, no computer networks, no Internet, no World Wide Web. Idyllic as that may sound, finding the information I needed was a time-consuming and often frustrating search. It frequently began and ended with that leviathan of the library, the card catalog.

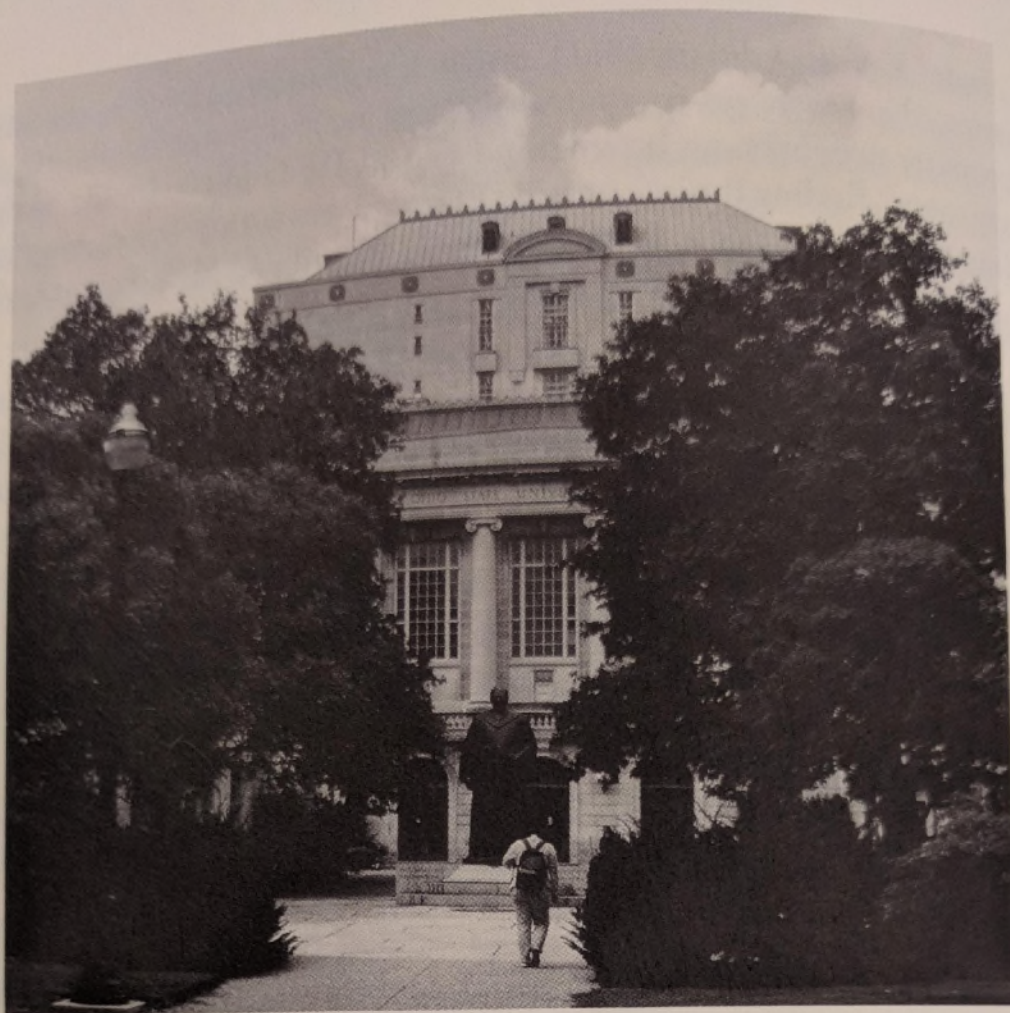
Back then, when any one of the nation's 5,000 largest libraries received a new book, it carefully prepared new cards for the familiar card catalog file's author, title, and subject cards. Without these catalog cards, library patrons would not know the library had the book, what the book was all about, or where it was located in the library. Preparing these cards generally cost somewhere between \$30 and \$60 per title. For a best-selling book, the 4,999 other libraries that received the same book did exactly the same thing. The duplicate costs involved in this cataloging process were obviously staggering.

Fred's idea was to build an online, shared cataloging system. In other words, merge the catalogs of all Ohio academic libraries through a computer network and database. The database would be essentially an electronic card catalog. This shared catalog would not only provide cataloging information about materials in the library you were using, but also about materials in other libraries in the network. For the first time, Ohio State would know if Oberlin had a particular book and vice versa.

Libraries would either use the cataloging information that already existed in the database, or they would put it in themselves for other libraries to use. Libraries could also order custom-printed catalog cards from OCLC, cards that would arrive already sorted and ready for filing. The economies of scale would increase as the database and number of users grew. And the savings to libraries would be enormous.

It was a simple, elegant idea, and it worked brilliantly. Presently, libraries have to do original cataloging for only six out of every 100 books they acquire. But, alas, I am getting ahead of myself.

It took four years for Fred's idea to go from the drawing board to reality. It also took about \$750,000 in grant funding, \$581,000 of which was provided by the Ohio Legislature. As we shall see, this seed money from the Ohio Legislature turned out to be one of the best investments the State ever made in its educational infrastructure.

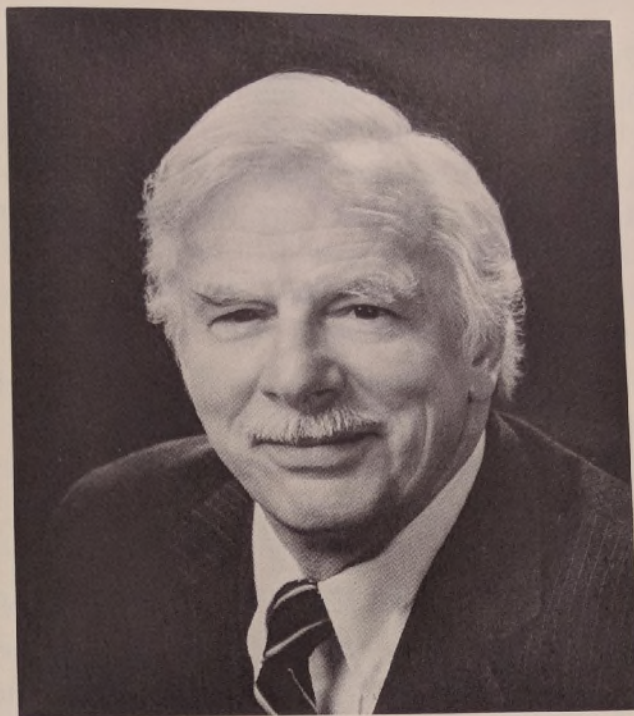


OCLC'S FIRST OFFICES WERE IN THE WILLIAM OXLEY THOMPSON
MEMORIAL LIBRARY OF THE OHIO STATE UNIVERSITY.

On August 26, 1971, the Alden Library at Ohio University became the first library in the world to do online cataloging. That first day, Ohio University was able to catalog 133 books online. That first night, back in Columbus, the OCLC computer system was struck by lightning. It was an auspicious beginning. The first year it used OCLC, Ohio University was able to increase the number of books it cataloged by a third, while reducing its staff by 17 positions through attrition. OCLC was indeed delivering on its promise of increasing access to information while reducing costs.

Word of this new idea spread on campuses across the country. The online revolution in libraries had begun.

If, as Ralph Waldo Emerson said, an institution is the lengthened shadow of an individual, then for OCLC that individual is Fred Kilgour. Before founding OCLC, Fred worked as a librarian and a library director at Harvard and Yale for nearly a quarter of a century.



ROWLAND C.W. BROWN, OCLC'S SECOND PRESIDENT

He had also lectured on the history of science and medicine at Yale. I believe it is fair to say that Fred never really got over that. He could not help but bring his broad historical perspective to bear on the problem of the moment. Old-timers at OCLC will attest to the following: if you were in enough meetings with Fred as he tackled the problems of building a computerized library network, sooner or later you would get to hear a pertinent anecdote about Aristotle, or Newton, or Darwin, or Eli Whitney, or the Wright Brothers.

The OCLC of today is indeed the lengthened shadow of Fred Kilgour. He is that rare combination of a lifelong student and scholar, a historian who looks to the future, an entrepreneur who knows how to manage, and a dreamer who knows how to get things done.

Fred Kilgour ran OCLC from 1967 to 1980. He presided over OCLC's spectacular growth from an intrastate network to a national network. During his tenure, OCLC grew from a staff of two people and revenues of \$67,000 to a staff of 500 and revenues of \$27 million. The number of libraries grew from the 54 original academic libraries in Ohio to 2,300 libraries in all 50 states. And, the number of records in the OCLC bibliographic database grew from zero to five million.

In 1979, OCLC broke ground for a new facility on 40 acres of farm land in Dublin. Hard to believe today, but there was not even a restaurant in Dublin in 1979, so the facility had to include an employee cafeteria. The construction project was financed by \$38.5 million in industrial revenue bonds issued by Franklin County. At that time, it was the largest such bond issue in the county's history. The basic collateral for the bonds was largely Fred Kilgour's self-confidence. But with the great help of the Ohio Company, the bonds were sold.

At the groundbreaking ceremony, Fred boldly stated that the new facility is not a base, but a catapult into the future. The results of OCLC's efforts in 1989, he said, will be as unimaginable as they were in 1967.

In 1980, at age 66, Fred stepped aside from day-to-day management, and Rowland Brown became the second president in OCLC's history. Rowland was a graduate of Harvard and Harvard Law. He had been a Marine Corps fighter pilot in World War II and Korea. He went on to have a distinguished career as a businessman and an attorney. A career that, in 1970, brought him to Columbus as President and CEO of Buckeye International, where he served until its acquisition by Worthington Industries in 1979.

One of Rowland's first tasks was to get OCLC moving, literally, from its offices on Kinnear Road in Columbus up to Fred's new catapult in Dublin. It took an entire year of weekends to move OCLC's computer system, which by then had 17 mainframes, to the new, specially designed, three-story, 44,400 square-foot computer room.

The new facility was absolutely state-of-the-art. Among other things, it was designed to be energy efficient. Heat recovered from the computers could be reused to heat the rest of the building. Ten years later, it would be my task to replace all of these giant mainframes with small, faster machines that were so energy-efficient we had to install a gas-fired boiler to keep from freezing.

Rowland's era saw libraries move into computerization in a big way. For many libraries, the OCLC terminal was the first computer terminal they had ever seen. That was not to last long. Libraries rapidly embraced computer technology and then started to master it. At the start of the decade, they were using OCLC to order custom-printed catalog cards,

some 135 million cards a year or six tons a week. Over time, many libraries no longer wanted the paper cards, only the electronic version. Nevertheless, this year OCLC will still ship about 25 million cards.

Rowland Brown ran OCLC from 1980 to 1989. During that time, OCLC expanded its product and service line to some 60 different services that helped librarians run their libraries. OCLC opened its first international office in Birmingham, England, and started to look at ways that it could move beyond bibliographic information and provide the information itself, the book, or the article. And, OCLC continued to grow. Revenues went from \$27 million to \$85 million. The number of participating libraries grew from 2,300 to 9,400. The number of employees nearly doubled to over 1,000. And the number of records in the OCLC database grew from five million to 18 million.

In April 1988, at age 65, Rowland announced his plans to retire as President and CEO and on January 23, 1989, yours truly arrived at OCLC. I hold the distinction of being the only president of OCLC thus far who did not graduate from Harvard. As we say at Princeton, you can always tell a Harvard man, but you can't tell him much.

More seriously, I am deeply indebted to my two distinguished predecessors. I inherited from Fred one of the truly innovative ideas for libraries to come along in the 20th century. I inherited from Rowland an exceptionally talented and dedicated staff, many of whom have since become the senior managers of OCLC, and many of whom are here this evening.

I have indeed been fortunate to run an organization like OCLC, an organization blessed with a good idea, with good people, and with a worthy purpose. As Teddy Roosevelt once put it: "Far and away the best prize that life offers is the chance to work hard at work worth doing." Work at OCLC for all three of us has been work worth doing.

The OCLC that I have been privileged to lead for the last eight years is an international institution with a vital public purpose. Our campus has not only grown to 100 acres along the outerbelt, but it has also grown into a global force in scholarship, research, and education. Indeed, because of what OCLC has done, research and scholarship have been fundamentally changed.

Today, OCLC is one of the leading providers of computerized library services in the world. We have three main service areas: cataloging, resource sharing, and reference. Let me tell you just a little bit about them.

University presidents like to say that the library is the heart and soul of the university. Well, I like to say that cataloging is the heart and soul of OCLC. Our computerized cataloging system gives libraries and their users a detailed bibliographic map of the world's knowledge, and it enables them to pinpoint the location of desired information. In other words, we provide the basic navigation tool to sail the growing oceans of information. Cataloging still accounts for one-fourth of our total revenues.

Twenty-six years ago, libraries had only one way to catalog with OCLC, and that was online. Today, they have many ways including computer tape and CD-ROM. They can connect to the database via our own private telecommunications network or other networks like CompuServe or over the Internet. We also provide customized cataloging services for major universities around the world. For example, we have just completed converting all the remaining five million catalog cards at Harvard to machine-readable form. It took five years to complete this multimillion-dollar project.

We are also re-engineering cataloging with new services. We can now automatically deliver cataloging to libraries along with the new books they receive from booksellers. Some libraries have now outsourced all of their cataloging to OCLC. You might be surprised to know that OCLC actually catalogs materials for that cataloging mecca—the Library of Congress. You might also be surprised to know that OCLC owns and publishes the Dewey Decimal System and now has an electronic version of what is the world's most widely used classification system. And you might also be surprised to know that we are a leader in microfilming, in document management software, and in electronic archiving.

It should come as no surprise, however, to learn that OCLC today is the world's leader in cataloging. Our cataloging system handles over a billion transactions a year, with message traffic running as high as 110 messages a second. Annually, libraries catalog some 40 million books and other materials such as maps, musical scores, sound recordings, and audio-visual materials.



THOUSANDS OF CATALOGERS AROUND THE WORLD HAVE, KEYSTROKE BY KEYSTROKE, RECORD BY RECORD, CREATED A UNIQUE LIBRARY REFERENCE GUIDE, OCLC WORLDCAT, WHICH IN 1997 WAS THE MOST-CONSULTED DATABASE IN HIGHER EDUCATION.

And the OCLC database, which started with one library in 1971, now links more than 24,000 libraries in 63 countries. This shared, electronic card catalog, which we call WorldCat, is not only the world's foremost bibliographic database, it is also the single most-consulted database in higher education.

WorldCat now contains nearly 38 million records and over 660 million location listings. It spans over 4,000 years of recorded knowledge in 377 languages. It grows by two million original records a year. WorldCat is the most valuable asset that OCLC has, and one of the most valuable such assets in the world. Its value is priceless, but we carry it on our balance sheet

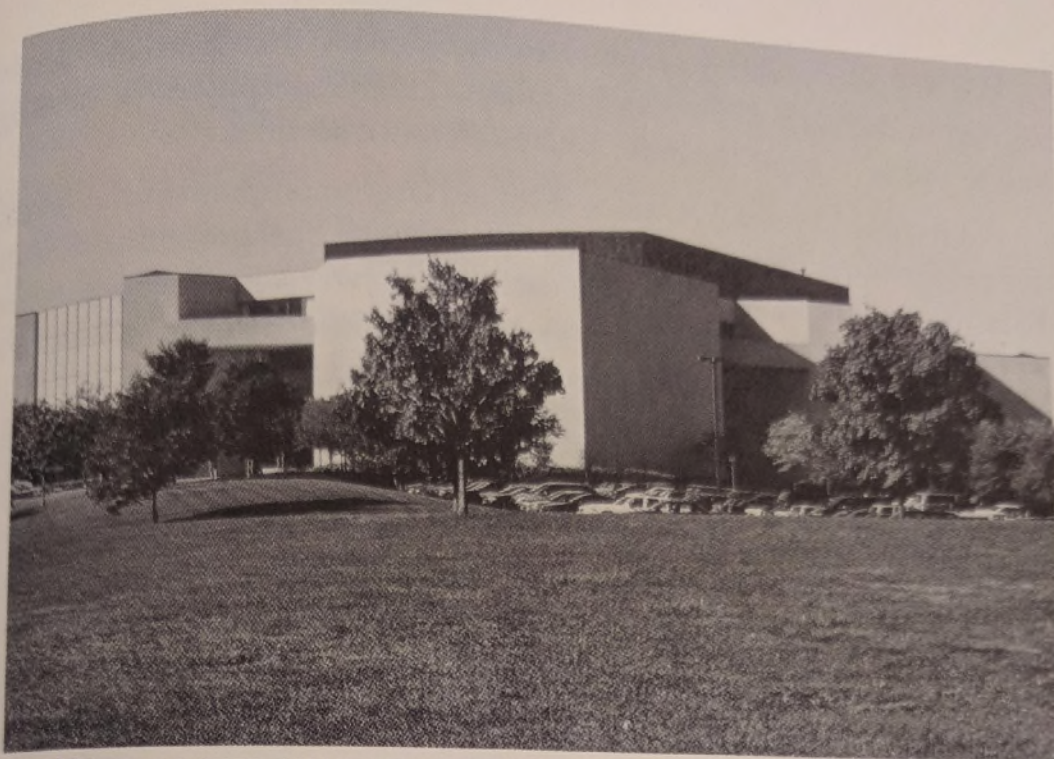
at zero. It saves libraries money. It gets materials out on the shelves faster. It is a treasure for the world's scholars and researchers. It is an engine of discovery and commerce. And it is a cooperative venture in the best sense of the word, built voluntarily, keystroke by keystroke, by thousands of anonymous librarians in thousands of library basements around the world.

Thanks to WorldCat and other innovative systems and software, OCLC is also a leader in providing resource sharing services to libraries. No single library, not even the Library of Congress or the British Library or Bill Gates' library can today provide all the information needs of its users. OCLC helps libraries share resources cost-effectively.

This year, libraries will use our online interlibrary loan system to borrow almost eight million items from each other and to keep track of their borrowing and lending accounts. Indeed, thanks to OCLC's new interlibrary loan accounting system, the Library of Congress was recently able to resume its interlibrary lending to libraries outside the U.S. Through OCLC, big libraries borrow from small libraries, and vice versa. Thanks to OCLC, it doesn't matter whether you are sitting in the New York Public Library or a small, rural library in southern Ohio—you now have access to the world's library resources at your fingertips.

We also provide software that enables groups of libraries to share resources in exciting new ways. For example, the University System of Georgia uses OCLC software to deliver bibliographic, abstract, and full-text information to 34 academic libraries in Georgia through its GALILEO system. Faculty and students can use GALILEO to access library holdings, including journal articles, over the Word Wide Web whether they are in the library, their office, or their home. Zell Miller, the Governor of Georgia, said that, "GALILEO serves every one of our university system units with more resources than any of them could afford alone."

We are building a similar system for the Committee on Institutional Cooperation, probably better known to you as the Big Ten universities. And, in Washington, D.C., a consortium of university libraries uses OCLC software to keep rare book rooms and collections open 24 hours a day, accessible to all. Clearly, OCLC is realizing Fred Kilgour's dream of having the library go to people.



IN 1981, OCLC USED HEAT RECOVERED FROM ITS MASSIVE MAINFRAME COMPUTER SYSTEM TO HEAT THE KILGOUR BUILDING. A DECADE LATER, A NEW COMPUTER SYSTEM OF MUCH SMALLER MACHINES WAS SO ENERGY-EFFICIENT THAT OCLC HAD TO INSTALL A GAS-FIRED BOILER TO HEAT THE BUILDING.



THE SMITH BUILDING IS HOME TO THE OCLC INSTITUTE, ESTABLISHED IN 1997 TO PROVIDE HIGH-LEVEL EDUCATION TO HELP LIBRARIANS AND OTHERS PARTICIPATE FULLY IN THE EMERGING GLOBAL, DIGITAL COMMUNITY.

We are also making progress in the journey that Rowland Brown started in the early 1980s to move beyond bibliography. Which brings me to our last major business area—reference services.

For its first 20 years, OCLC was by and large a computer library service for professional librarians. We operated in the background and in the back rooms of libraries. In the 1990s, however, we have developed a series of new services designed for the end-users of information, and we have moved to the front room, particularly the reference desk.

In 1991, we introduced FirstSearch, which is designed specifically for the library patron. It is a new concept that provides the general public with online reference information that heretofore could only be obtained through a professional reference librarian. FirstSearch gives you the whole information ball of wax—bibliographic, abstract, and full-text.

When you use FirstSearch through your library, you can consult over 65 databases, including WorldCat, and you can look at catalog entries, abstracts of articles, and even order the full text of an article and get it either on your screen immediately or in paper form through the mail. These databases include such well-known names as the *New York Times* and *World Book Encyclopedia* and a new student edition from Chemical Abstracts. FirstSearch requires no training. You just start using it, and then you can't stop using it. And the material you want is never checked out, lost, stolen, or mutilated.

When you combine FirstSearch with our SiteSearch software that is used in GALILEO, you start to get a glimpse of what we believe the electronic library of the 21st century will look like. It will provide seamless access to both print and electronic information for library users when and where they need it, in a form they want, at a price they can afford.

I can sum up our success with FirstSearch as follows: it now ranks number one in the online reference services business in terms of connect time or usage, having just passed Dialog, Westlaw, and LEXIS-NEXIS. In five years, we have gone from no place to first place.

OCLC has also been a pioneer in electronic publishing. We have partnered with the American Association for the Advancement of Science, with the American Institute of Physics, and others to develop innovative ways to create, distribute, and archive scientific information

in electronic form. With AAAS, we developed the world's first peer-reviewed, electronic, scholarly journal called the *Online Journal of Current Clinical Trials*. This new journal can make life-saving, new information available to the public six months faster than print journals.

Next month, we will launch the latest generation in this endeavor—FirstSearch Electronic Collections Online. It will enable libraries to subscribe to large collections of academic journals from many different publishers in a single discipline, and to access and cross reference them remotely through a single World Wide Web interface.

Clearly, at a time when it really counts, OCLC's products and services are helping libraries do more with less, and provide better service to their patrons. OCLC is more, however, than just another vendor of computerized services to libraries. One of the things I learned from my old boss, Henry Kissinger, is that the best way to control rumors is to start them. Let me conclude by starting a few rumors about OCLC.

OCLC is unique in its mission, its governance, its business orientation, its research, and its global reach.

OCLC is a nonprofit, library membership organization. Its founders and pioneers were men and women of academe. From the start, they viewed OCLC as an institution dedicated to furthering the ideals of research, scholarship, and education. From the start, OCLC was infused with a strong sense of public purpose, particularly American librarianship's holy grail—the democratization of access to information.

Indeed, OCLC's idealism and the idealistic expectations of its library members often led Rowland Brown to say that OCLC was not a business, but a religion.

Some days I do feel more like a missionary or evangelist than the CEO of an international information company, and I am then reminded of a favorite story about Billy Graham.

Scheduled to speak in Philadelphia at the Town Hall, Mr. Graham decided to walk from his hotel even though he was unfamiliar with the city. Sure enough, he became lost and was forced to ask some boys to direct him to his destination. One of them asked Mr. Graham, "What are you going to do there?" "I'm going to give a lecture," he replied. "About what?" "On how to get to heaven. Would you care to come along?" "Are

you kidding?" said the boy, "You don't even know how to get to Town Hall!" Among the 400,000 maps in WorldCat are 633 maps of Philadelphia.

OCLC is also unique in its governance structure. We have a 60-delegate Users Council elected by our 24,000 participating libraries that meets three times a year for three days each time. We have a 15-member Board of Trustees that has a majority of librarians and meets six times a year for two days each time. We have 17 advisory groups on products and services and programs that meet with me at least half a day once a year. You can imagine my great sympathy when I hear fellow CEOs complain about the rigors of their annual, one-day shareholders' meeting.

OCLC is both a nonprofit library, membership organization and a business. It must be good at being both. Each of its presidents has worked hard to maintain a strong financial base. OCLC is totally self-supporting. In 30 years of operations, OCLC has never charged its members an assessment or had a deficit year. In 30 years of operations, OCLC has had only \$50,000 in bad debt. Our revenues, which will be some \$160 million this year, come entirely from user fees. Our financial track record has enabled us, when necessary, to borrow money in the form of industrial revenue bonds. Over the years, we have borrowed nearly \$110 million in industrial revenue bonds issued by Franklin County. This is the best evidence I can offer of the confidence the financial community has in the way OCLC has been managed.

By always operating in a businesslike manner, we have been able to accommodate growth, replace and modernize facilities, conduct research and development, and still subsidize worthwhile projects for the benefit of libraries and their users—projects that would not be undertaken without OCLC. For example, we have returned over \$45 million in credits, price cuts, and subsidies to our member libraries during my tenure alone. We are currently subsidizing the purchase of some 5,000 new, state-of-the-art workstations for our members so they can participate more fully in the World Wide Web.

Over the past 30 years, OCLC's prices have been one of the best bargains in the library community. In the last eight years, for example, we have had only one price increase in our core products.

As I noted earlier, the \$531,000 in seed money from the Ohio Legislature has been a very good investment. Since its start, OCLC has provided its member libraries with over a billion dollars in products and services. It has saved them billions more in duplicate costs and efficiencies. It has also created over 1,200 high-tech jobs in Columbus, attracted thousands of foreign visitors annually, pumped hundreds of millions of dollars into the local economy, given away hundreds of used computers to local schools, and helped—along with some other fine organizations like Chemical Abstracts, Battelle, and CompuServe, to put Columbus, Ohio, online to the world.

OCLC is also an international organization. Our goal is to make our services available around the clock, around the world. International activities now account for some 17 percent of OCLC's total revenues. We now serve over 1,500 libraries in 62 countries outside the U.S.

We have major, new projects under way in Russia, South Africa, Israel, Poland, Malaysia, Mexico, and New Zealand. This past summer, we opened an office in Beijing at Tsinghua University. We have just loaded the Czech National Bibliography into WorldCat and are starting to load the Slovenian National Bibliography.

And next month, 25 library directors from Brazil's leading universities are coming to the new OCLC Institute for a week-long education program. By popular demand, this Institute was created to make our internal education programs available to national and international leaders of the educational and library communities.

OCLC is also a major research organization. The Office of Research, which was established in 1978, is one of the world's leading centers devoted to the problems and challenges for libraries in the Information Age. For example, OCLC researchers, along with other information industry leaders, are working on something that is best described as a V-chip for the Internet. This software would help libraries identify and, where desirable and necessary, limit access to certain kinds of materials on the Internet. OCLC is also a leader in metadata or using data to classify data and thus help to actually find all the wonderful things that exist only electronically out there in cyberspace.

Finally, OCLC researchers are also looking at ways to determine who is actually using a library. It used to be easy to answer that. But now, for example, most of the use of the electronic files of the New York Public

Library occurs in Virginia. Why? Because that's where America Online is located. The electronic age has tremendous new implications for tax-supported, public libraries.

Well, I have gone on too long about OCLC. It reminds me of the eighth-grader who wrote in his essay on religion that: "Christians are only allowed one wife. This is called monotony." But, as you can see, the OCLC story is fundamentally one of successful cooperation among our nation's libraries to further the age-old dream of increasing access to information.

OCLC and its member libraries have worked together for the public good for almost 30 years. We have seen the computer world change many times over, from the mainframes of the 1960s to the microprocessor in 1971 to the personal computer in 1981 to the World Wide Web of today. And yet, through all of this technological change, the old-fashioned, non-technical values of cooperation, sharing, and working together for the public good have endured.

Indeed, the more I think about OCLC's database, the more it seems to me to be one of what, along with VCRs and fax machines and computer networks, the late Professor Ithiel de Sola Pool called "the technologies of freedom." Think of it! WorldCat came up in 1971, in Ohio, at the height of the Cold War. And today, that same WorldCat is in 63 countries, including Russia and China.

Put another way, in my obviously totally unbiased opinion, OCLC is a unique and extraordinary enterprise. Equally important, OCLC is still a work in process. Each day at OCLC, we and our member libraries open the door to the world's storehouse of knowledge and information a little bit wider. Each day we help library users find more needles in the growing information haystacks. Each day we make access a little easier and more affordable.

Why is this so important? Because, at long last, technology holds the promise of putting the power of information and education fully to work. And, if, as Mortimer Adler has argued, information can lead to knowledge and knowledge to understanding and understanding to wisdom, then this is a goal worth pursuing. Education is not a panacea, but it remains the best alternative we currently have available for this small, global village.

OCLC has come a long way in 30 years, but, like the Information Age we are a part of, we are still at the beginning. As that old visionary, Fred Kilgour, once put it: "Like the Wright Brothers at Kitty Hawk, we are only twelve seconds off the ground."

I was vividly reminded of this recently when I stumbled onto the following Internet message, titled the "100 Person Village." It apparently comes from a professor at San Diego State University. His message follows:

"If we could shrink the Earth's population to a village of precisely 100 people with all existing human ratios remaining the same, it would look like this:

There would be 57 Asians, 21 Europeans, 14 from the Western Hemisphere (North and South) and 8 Africans.

Fifty-one would be female; 49 would be male.

Seventy would be non-white; 30 would be white.

Seventy would be non-Christian; 30 Christian.

Fifty percent of the entire world's wealth would be in the hands of only six people, and all six would be citizens of the United States.

Eighty would live in substandard housing; 70 would be unable to read.

Fifty would suffer from malnutrition.

One would be near death; one would be near birth.

Only one would have a college education. No one would own a computer."

When one considers the Information Age from this perspective, we obviously still have a long way to go. And the need for more education and understanding is glaringly apparent. That is why each day we at OCLC rededicate ourselves to our public purposes of furthering access to the world's information and reducing information costs.



OCLC MISSION

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.



THE NEWCOMEN SOCIETY OF THE UNITED STATES

IN APRIL 1923, the late L. F. Loree (1858-1940) of New York, then dean of American railroad presidents, established a group now known as "American Newcomen" and interested in Business History, as distinguished from political history. Its objectives center in the beginnings, growth, development, contributions, and influence of Industry, Transportation, Communication, the Utilities, Mining, Agriculture, Banking, Finance, Economics, Insurance, Education, Invention, and the Law—these and correlated historical fields. In short, the background of those factors which have contributed or are contributing to the progress of Mankind.

The Newcomen Society of the United States is a nonprofit membership corporation chartered in 1961 under the Charitable Law of the State of Maine, with headquarters at 412 Newcomen Road, Exton, Pennsylvania 19341, some five miles east of Downingtown, Pennsylvania, and 32 miles west of the City of Philadelphia. Here also is located The Thomas Newcomen Memorial Library and Museum in Steam Technology and Industrial History, a reference collection, including microfilm, open to the public for research and dealing with the subjects to which the Society devotes attention.

Meetings are held throughout the United States of America and across Canada at which Newcomen Addresses are presented by leaders in their respective fields.

The approach in most cases has been a life-story of corporate organizations, interpreted through the ambitions, the successes and failures, and the ultimate achievements of those pioneers whose efforts laid the foundations of the particular enterprise.

The Society's name perpetuates the life and work of Thomas Newcomen (1663-1729), the British pioneer, whose valuable contributions in improvements to the newly invented Steam Engine brought him lasting fame in the field of the Mechanic Arts. The Newcomen Engines, whose period of use was from 1712 to 1775, paved a way for the Industrial Revolution, Newcomen's inventive genius preceded by more than 50 years the brilliant work in Steam by the world-famous James Watt.

The Newcomen Society of the United States is affiliated with The Newcomen Society for the Study of the History of Engineering and Technology, with offices at The Science Museum, South Kensington, London, S.W. 7, England. The Society is also associated in union with the Royal Society for the Encouragement of Arts, Manufactures and Commerce, whose offices are at 6 John Adam Street, London, W.C. 2, England.

Members of American Newcomen, when in Europe, are invited to visit the home of Thomas Newcomen at Dartmouth in South Devonshire, England, and to see the Dartmouth Newcomen Engine working.



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—Dr. K. Wayne Smith

