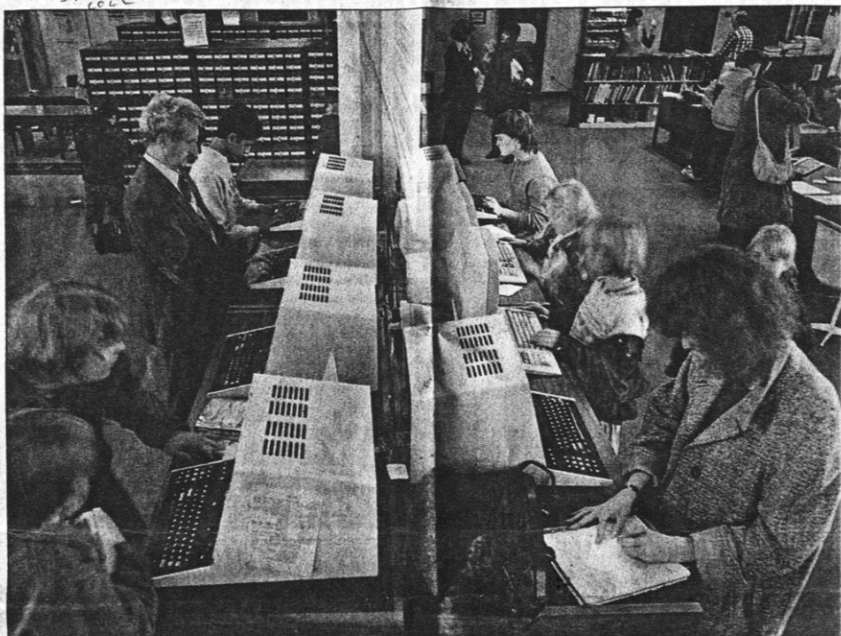


NOV 23 1986

BURRELLE'S

210 SIMMONS COLL



Computers help patrons find titles at the Pikes Peak Library in Colorado Springs, Colo., "probably the most automated library in the world."

Photo for The Tribune by Chuck Rigger/AP

High tech hits the books

Libraries struggle as Computer Age forces a revolution

By Jess Bravin
Special to The Tribune

TO GLIMPSE WHAT the future holds in store for public libraries, visit the one in Colorado Springs—"probably the most automated library in the world," according to its director, Kenneth Dowlin. "We probably have more computer terminals than employees," Dowlin says.

A quick check proves him right. The Pikes Peak District Library employs 120 workers and owns 180 terminals, with 99 more on order. There are 420,000 books on the library's shelves, but it has moved far beyond the realm of the printed word—with an online catalogue accessible to home microcomputers, computerized listings of local service organizations and even a television studio that produces local interest programs.

At the heart of the Pikes Peak system is Maggie III, a computer with four interconnected megabyte processors that is used for sophisticated cataloguing and circulation tasks and the creation of special databases.

"You don't search the catalogue by authors or titles," Dowlin explains. "You search by name or word." And every word on a traditional catalogue card will respond to the search.

"You put in a word like 'history,' and you'll get 12,000 hits," Dowlin continues. "You enter 'black,' and you'll get 200 hits," the approximate number of catalogue references including both the words 'history' and 'black.' Notations include not only the book and its call number, but also its location on the shelves and whether it is available or already on loan.

The Pikes Peak library is at the forefront of a trend that is reshaping one of America's more conservative institutions. Caught on the cusp of what futurists and computer retailers call the information age, librarians across the country are grappling with new demands and new technologies that promise to revolutionize the role of public libraries.

But the transformation has been limited and sporadic. Charles Robinson, director of the Baltimore County, Md., library system, speaks scornfully of the technology now available to libraries. "It falls into the same category as electric light—a useful adjunct to what we do, but not the answer to all our problems," he says.

But the day will come when books will be obsolete and information will be absorbed through portable decoders that read tiny cartridges containing lengthy texts, Robinson predicts. And Dowlin sees a day when the library will be, through electronics, a part of everyone's daily routine.

Schoolchildren will have homework assignments "downloaded" over telephone lines into their home microcomputers, and will complete them and "upload" them back into library computers for correction, he believes. Home computers will be routinely linked to library databases for access to the latest books and magazines—or whatever has replaced them by that time.

Indeed, says library technologist Michael McGill, vice president of the Online Computer Library Center in Dublin, Ohio, "the definition of library has to change."

How—and how fast—the definition changes could have significant impact on the Chicago Public Library, which has been struggling for years to finalize

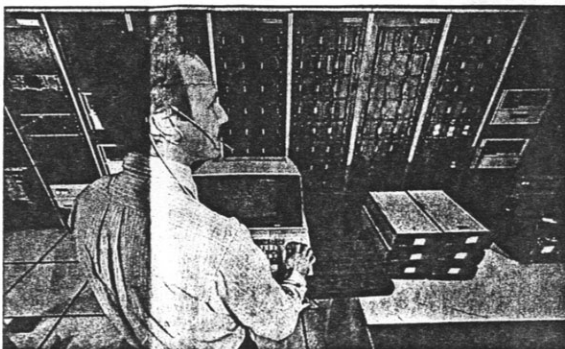


Photo for The Tribune by Greg Sabin/AP

The Online Computer Library Center (above) rivals the Library of Congress as a major source of cataloguing information for public libraries. The center prepares catalogue information in its mainframe computers, and its 6,000 member libraries can gain access to that information through terminals and telephone lines. A compact disc (right) similar to those used in audio systems, is another high-tech tool for librarians. Each disc can hold up to 1.5-million pages of information containing millions of bibliographic entries.



Tribune photo by Val Mazzanga

plans for a new central library downtown. Library officials have stressed the need for a "world class" facility appropriate for the city's cultural and economic vitality.

But given the likelihood of technological innovations, the term "world class" may mean something vastly different even before the long delayed new library is completed. Even such basic aspects as size and configuration could undergo radical rethinking.

The cost of electronic devices is forcing librarians to make decisions that will affect the character of library services for years to come. Often, they must choose between developing detailed research facilities in a central library or expanding a narrower level of service throughout branch library systems.

"Technology will affect libraries differently, according to their missions," says Diana Thomas, associate professor of library and information science at the University of California, Los Angeles. "These are the parts of the puzzle people are trying to figure out."

and microfiches. Broadly, these technologies fall into two categories: those that operate solely within a library and those that tie large numbers of libraries together.

It is not primary sources of information that have undergone change; books and journals are still printed on paper, and are expected to remain so for years to come. Rather, it is the means by which patrons gain access to documents that is being transformed.

Among the most common technological services are "online databases," giant computerized bibliographies that can list millions of documents in specialized fields. Professor Ching-chih Chen of the Simmons College Graduate School of Library and Information Science in Boston estimates that more than 3,000 such commercial databases exist, up from about 400 in 1979.

The databases can contain anything from newspaper articles to abstracts of social science treatises to stock market analyses to listings of new U.S. patents, and are usually known by quizzical ab-

Continued on page 4

Libraries

Continued from page 1

abbreviations such as LEXIS or CAS-SIS.

Many big city central libraries, including Chicago's, allow patrons to consult these databases for a fee. The high cost of obtaining access to the databases has led to divisions in the public library profession, which has traditionally believed that services should be free of charge.

Such highly specialized databases are used only by a small number of library patrons, often businessmen, and thus librarians must decide whether the principle of free access even for costly and little-used services should be borne by the general library budget or solely by those who make use of the services.

"It's a matter of passionate debate over whether to charge for online searching," says Joey Rodger, executive director of the Public Library Association in Chicago.

"The question is what to do with the variety of commercial databases," says Paul Fasana, acting Andrew W. Mellon Director of the Research Libraries at the New York Public Library. "We have a long tradition of free services, but these services are expensive."

The computer age began for libraries in 1967, with the introduction of the Online Computer Library Center in Dublin, Ohio. The center, or OCLC, in the acronym-happy world of information specialists, has replaced the Library of Congress as a major source of cataloguing information for public libraries, Thomas says.

To one past, the Library of Congress would catalogue a book by author, title and subject and print index cards describing it. Thousands of libraries across the country bought the cards and then inserted them by hand into their card catalogues.

Although the Library of Congress still prints catalogue cards, many public libraries have turned to OCLC. The center prepares catalogue information in its mainframe computers, and its 6,000 member libraries can gain access to that information through terminals and telephone lines.

They can electronically modify that information, and have cards printed or the entry added to their own electronic catalogue with a few keystrokes, says Sharon Gifford, the center's exhibit and information coordinator.

"Can you imagine how many libraries have 'Megatrends' by John Naisbit?" Gifford asks. Instead of each library independently cataloguing the book, "when it's on our system, all they have to do is modify the information to meet their needs. And with one key, they can have catalogue cards printed up."

OCLC's three floors of computers hold records of some 13 million documents, Gifford says. Member libraries can gain listings of which libraries hold different materials, allowing a patron at one library to consult the holdings of thousands of libraries across the country. Such services cost at least \$1.20 a transaction, not including the cost of telecommunications links between a library and the Ohio center.

Many libraries, however, are finding that still-newer technologies are making giant bibliographic services like OCLC obsolete.

"The wave of the early '70s was to have a large mainframe computer somewhere, and have a lot of libraries hook into it," Fasana says. But telecommunications costs have risen in recent years and the costs of microcomputers have fallen, allowing libraries to do their own cataloguing less expensively.

The result of the New York Public Library's approach to electronic cataloguing is the recently unveiled CATNYP system, a computerized catalogue of the library's acquisitions since 1972. Several CATNYP [for "catalogue of the New York Public Library"] terminals are available for patron use in the city's central library, and are designed to be "user-friendly, as the jargon has it, because many users are new to the electronic catalogues," Fasana says. "Libraries have always been formal and offputting to the general public, and we don't want to increase that," he says.

Containing 1.25 million entries, CATNYP is the outcome of a decision made 14 years ago to close New York's card catalogue. In 1972 the catalogue's drawers contained 11 million cards, making access cumbersome.

From that point on, Fasana says, all new materials were catalogued in machine-readable form—that is, encoded so computers could record and print or display the information electronically.

Technology did not then exist that would allow patrons online computer access to the catalogue.

Fasana says, so the library published its holdings in large catalogue books photocopied from the machine-readable records.

In 1980, according to Fasana, it was decided that "online was the way to go—the future catalogue would be in machine-readable form, manipulated by computer."

Online means, in this case, that a patron would call up information on a computer terminal, and could conduct a bibliographic search by questioning the computer.

The alternative to an online system is one that places machine-readable information onto software or microforms that are read by special monitors. Librarians speak hopefully of laser discs (also known as video or optical discs, or CD-ROM, for "compact disc-read only memory"), which are similar to audio compact discs and can each hold up to 1.5 million pages of information containing millions of bibliographic entries.

"Each little disc can store 600 to 800 megabytes of information," says Chen of Simmons College.

"By comparison, an IBM XT personal computer holds 10 megabytes," she says.

No uniform technology for laser disc devices presently exists, however, so most large libraries are awaiting further developments before investing heavily.

The Chicago Public Library uses a compromise between the two systems. Each branch library has, instead of a card catalogue, a set of microfilm readers that contain listings of the library's complete collection. Along the side of each reader is an alphabetic scale with a pointer, which indicates what section of the catalogue is being displayed.

Unlike online systems that can be updated instantly, microform devices can be revised only by replacing the microfilmed catalogues they contain. By 1990, all of Chicago's

catalogues will be online, says assistant library commissioner Emelia Shroder, head of the city's central libraries.

Many librarians disagree with these trends, arguing that an emphasis upon technologically rich central libraries has shortchanged the majority of urban and suburban patrons who never go near their city's central facility.

"I wonder whether a huge central library is even appropriate for a large metropolis like Chicago," says Don Swanson, dean of the Graduate Library School at the University of Chicago. "That question deserves a thoughtful answer."

Swanson suggests that alternatives to high-tech central libraries are stronger branches, with more duplicate copies of the books people are reading.

"Some libraries are slogging toward the future, others are running toward it, others are ignoring it altogether," says Rodger, of the Public Library Association.

"The debate needs to focus on whether a city needs a large central research facility," Rodger says. "Certainly a city the size of Chicago should be paying attention to what people are using in their library and how to serve them, not only what building it's in."