



Tomorrow's Library Today

Cyber-age form and function combined with public Internet access, electrically operated movable stacks, and vast electronic data resources update the old paper-based library model.

Robert Fox

Polished terrazzo. Perforated stainless steel panels. Raised carpeted decking hiding miles of fiber-optic cable and serial jacks in every conceivable place—walls, floors, desktops. Rows of computer terminals with color monitors containing numerous Web sites left idling on Netscape's software. This is what one experiences once inside New York's \$100 million, state-of-the-art Science, Industry, and Business Library (SIBL), the nation's premier public information center catering to science and business researchers. But SIBL is more than a modern-day, interactive research institution giving unsurpassed access to information. It is a prototype for the library of the future, where hundreds of databases are at users' fingertips and the public can troll the Internet for whatever information it needs, even the day's headlines.

As technology blazes a path to the new century, library and research institutions worldwide are in the process of rethinking their roles and functions. For example, San Francisco opened its new main public library (SFPL) at a cost of \$140 million, touting 1,100 terminals and computers with Internet access for the Bay-area public. Great athenaeums in France, Britain, Germany, and Japan are being built or renovated to make room for mass increases in book stacks and to accommodate information technology. Paul LeClerc, president of the New York Public Library, sees the current level of investment in libraries as unparalleled since the time of Andrew Carnegie.

Raising the money proved uncharacteristically easy despite a climate of dwindling government funds, federal

and state office closings, and reduced library hours. In New York and San Francisco, the projects were made possible by commitments from both the public and private sectors. San Francisco voters overwhelmingly approved financing for the new library with 78% in favor; more recently voters approved a 60% increase in the library budget and guaranteed it remain at that level for the next 15 years.

New York's SIBL's initial goal of \$24.5 million in government funds was easily reached; the remainder came from private sources including corporate donations, foundations, and endowments. The electronic kiosks throughout the library were developed and donated by IBM, as were most of the workstations and software.

While SFPL boasts workstations with oversize visuals and voice-output devices to accommodate the visually and hearing impaired, workstations to help the staff scan and catalog multimedia productions, and a children's Electronic Discovery Center containing a plethora of multimedia selections, SIBL differs slightly in the sense of a general-interest public library, instead catering to the business and science communities. Material from a noncirculating research collection of 1.2 million volumes—31 miles of shelving—housed on five floors of electronic shelving in closed stacks above the public floors, is retrieved via packets in pneumatic tubes sent to the appropriate stack and then delivered by special elevators just large enough to hold book carts. The time it takes an elevator to descend five floors to the delivery desk is 35 seconds.

In SIBL's Electronic Resource Center (ERC), 70 workstations offer access to more than 100 standalone CD-ROM-operated databases, networked files, online full-text journals,

LIBRARY AND RESEARCH WEB SITES An increasing number of libraries—public and private—are putting up Web pages and making text and research materials available online. The following are various research sites of interest.

THE MILTON PUBLIC LIBRARY, MILTON MA

<http://www.tiac.net/users/mpl/>

This site contains a plethora of links to research sites and keeps an annotated list of over 100 U.S. public library Web sites, providing a critique of each site's best features. Check out the linked list of Yahoo-compiled Library/research sites.

THE SAN FRANCISCO LIBRARY

<http://sflp.lib.ca.us>

This award-winning Web site has all of SFPL's resource information as well as a link to a listing of over 300 public library WWW and gopher servers.

THE SCIENCE, INDUSTRY AND BUSINESS LIBRARY

<http://www.nypl.org/research/sibl>

Highlights include links to worldwide business directories, International trade and small business home pages, and selected Internet sites in Science, Business, and government.

THE DIGITAL LIBRARY MAGAZINE (D-Lib)

<http://www.dlib.org>

D-Lib is a forum for research and developers of advanced digital libraries. The site contains monthly links to various digital library projects, and other points of interest.

On Site

the Internet, and World-Wide Web. Additionally, 110,000 periodical titles, a comprehensive collection of patents, and approximately 1 million items on microform constitute the bulk of the institution's science and business materials. Daily and weekly classes introduce newbies to the Web, give overviews on searching the library's electronic databases, and describe how to use a portable computer to connect to the SIBL resources.

When visiting SIBL, one is impressed with its information-age order and its free accessibility. This is the Library of the Future—a labyrinth with the perfect balance of snazzy high tech, traditional book stacks, and open-shelved printed reference material. However, the age-old question remains: Now that it's built, will they come?

We initially anticipated about 2,000 people a day. We're currently seeing about 2,500," says Ellen Poisson, SIBL's assistant director of electronic resources. "Every morning there's a stampede of people to sign up for certain databases that can be accessed only on one computer. Registration for the 'Introduction to the Internet' class fills up in 10 minutes every day."

At SFPL, the response is similar. "The new library was designed to comfortably hold about 5,000 people, now our daily average is at about 6,000, down from 9,000 when we first opened," says Eleanor Shapiro, SFPL's public information officer.

When walking around SIBL's 500-seat reading room wired with plenty of electrical outlets and jacks for laptop use, hardly anyone was found pecking a keyboard; the same dearth of laptop users permeated the wired sitting rooms on all six floors of SFPL. And while most workstations in SIBL's ERC could connect to certain Web sites, a few displayed an error window, "server not responding."

Most people using the crowded ERC seemed to be taking their first trial runs, getting a feel for Web browsing. Groups of two and three stood around workstations watch-

ing for the graphics of the next home page to appear on their screen. Bill, a student, scrolled a multicolored Web site promoting the latest Hollywood action thriller. "I come here to use the Web since I can't afford a modem or Internet service." Not exactly science or business research, but a practical motivation for most patrons.

There were, of course, screens of database numbers and lists—U.S. Census reports, Standard & Poor's stock reports—and a part-time chemistry professor searching the applied science and technology abstracts.

"A lot of university libraries don't have these kinds of databases," he said. "And if you're not a student or faculty, you can't even use a university library."

In SFPL, Nina Brandes, a Berkeley resident and writer, used a Web search engine to help research an historical novel set in the late 18th century. "The World-Wide Web has cut my research in half," she said.

Netscape access is easier at SFPL, simply because there are more terminals spread out on each of its six floors, compared with the concentration of Web browsers in SIBL's ERC. Shapiro says the lure of free Web access has drawn more people into the SFPL New Main's doors, thereby increasing Bay-area book borrowing. "More books have been checked out than in the old library—about 75% more. People who usually wouldn't come into a public library are curious to see the computer technology aspect of it."

As money is allotted, projects green-lighted, and public spaces renovated or built to accommodate today's information-based climate, local folk will get used to the idea of sitting at color monitors to find answers to their research questions. It's just a matter of their knowing they can go to their local libraries with their library cards or laptop computers and jack in. That once-dreaded trip to the library to search through tomes of reference books is easier, faster, and more accessible. ■

ROBERT FOX is the associate editor for Communications.

LIBRARY OF CONGRESS (LIC)

<http://www.loc.gov>

This ultimate database is a treasure trove for researchers.

Some links include the government's and Congress's home pages, links to the THOMAS server, and Law page. The LIC is also a good place to find copy-right information.

THE U.S. NATIONAL LIBRARY OF MEDICINE (NLM)

<http://www.nlm.nih.gov>

The NLM is the largest library in the world dedicated to a single scientific subject. Its most known project is the Visible Human project, which displays 3D anatomical images of male and female humans online.

COLUMBIA UNIVERSITY'S PROJECT BARTELBAY

<http://www.columbia.edu/acts/bartelby/>

The full text of classic books and poems by Shelley, Whitman, Yeats, and various others can be found here.

THE PUBLIC LIBRARIES OF SPAIN

<http://www.mcu.es/bpe.html>

This site consists of all the main public libraries in Spain, owned and coordinated by the Ministry of Education and culture.

PROJECT EARL

<http://www.earl.org.uk/>

A consortium of over 18 U.K. public libraries.