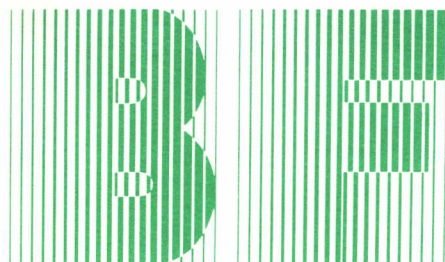


**Winter
1998**

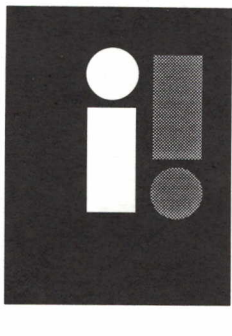


BULLETIN

BUSINESS AND FINANCE DIVISION
SPECIAL LIBRARIES ASSOCIATION
EST. 1958

Nr 107 In this issue...

- *Liu*
GUIDE TO
META-SEARCH ENGINES
- *Noam & Alvarez*
THE FUTURE
OF THE LIBRARY
- *Oxbrow*
ONLINE INDUSTRY TRENDS:
VENDOR & USER
PERSPECTIVES
- ANNUAL DIVISION
BIBLIOGRAPHY
- CALL FOR
AWARD NOMINATIONS
- PROFESSIONAL & STUDENT
STIPENDS AVAILABLE



INNOVATIVE
INSTRUCTION • *Cherrie Noble, column editor*

ELI M. NOAM
*Columbia Institute
for Tele-information*

CATERINA ALVAREZ
*Columbia Institute
for Tele-information*

THE FUTURE OF THE LIBRARY

The authors discuss the challenges that technology creates for the future role of libraries and how libraries may respond.

■ Libraries will face a tremendous crisis. The reasons this time are not penny-pinching politicians or indifferent students, but information technology. This may seem a paradox. Don't we live in the information age, with libraries one of the key information institutions? The ever-expanding capacity of information technology is as much a threat as an opportunity.

It has been more than 5000 years since scholarly activity began to occupy a tenacious niche in civilization. Ancient Egypt produced the first known mediums of institutionalized information storage in the form of temples. Oral tradition did not prove foolproof and writing emerged, which led to formal information storage establishments—libraries. Rapidly, they became extensive. The royal library of Nineveh stocked over 10,000 works; documents were arranged in different

rooms by subject, much as they are today. Scholars congregated in these rooms, surrounded by their disciples—the university system was emerging.

The model of the ancient library—centrally stored information, scholars coming to the information, and a wide range of information subjects under one institutional roof—was logical when information was scarce, reproduction expensive and restricted, and specialization low. It became also the model for the most formidable of knowledge institutions of antiquity, the Great Library of Alexandria. This model supported a haven for community: scholars came to the information storage and produced collaboratively still more information there, and students or any person seeking information came to the scholars.

But progress in information institutions was not steady. The Dark Ages in Europe discouraged learning. St. Augustine advised: "This is the disease of curiosity...It is this which drives us on to try to discover the secrets of nature, those secrets which are beyond our understanding, which can avail us nothing and which men should not wish to learn...". But by the late Middle Ages, with economic prosperity on the rise again, information production expanded, the university was reborn, and with it the modern research library. It has been moving forward and upward ever since, and in time, reached a broad-based community presence in the form of public libraries.

But now, the role of libraries is challenged by the improved ability to store information electronically, and to reach such information from a distance. At the same time, the cost of acquisition has been rising exponentially. In 1940, *Chemical Abstracts* cost \$12 a year; in 1977, \$3500; in 1995, \$17,400. And the production of information grew at such that the store of human information doubles every 10-12 years. There are at least 80,000 scientific and technical journals, and 1,500 scientific abstracting periodicals. *Chemical Abstracts* took 31 years (1907 to 1937) to reach its first one million abstracts. The second million took 18 years. The most recent million took only 1.75 years. Thus, more articles on chemistry have been published in the past two years than in

humankind's entire history before 1900. Therefore, complete collections are not sustainable economically or organizationally. Comprehensive library collections are increasingly unaffordable outside of a handful of national libraries that leverage copyright protection into free acquisition. But at the same time, electronic alternatives became powerful in storage, broad-ranging in content, and efficient in retrieval. Electronics can rescue the storage function of the library. But will they in the process make the library irrelevant?

Today, electronic world wide connectivity, originally a culturally esoteric and technologically unorganized experiment, has become a mainstay to reach information. By 1997, worldwide usage of online services exceeded 35 million people, a 35 times increase in a decade.

At that rate, most of the world's knowledge workers will soon be on-line. As this happens, research libraries are gradually shifting from physical presence of information to the creation of electronic access. The New York Public Library, for example, is engaged in a five year, \$100 million project for a new Science, Industry and Business Library with an Electronic Information Center. This is a logical response, but it also undermines the fundamental need for the library as a physical location for specialized information.

On the offensive, electronics try to imitate the comfortable feel of traditional libraries and books. NEC's net-based virtual "Universal Digital library" uses screens to lead the reader through a "library," guided by a "librarian" who helps in accessing contents and finding network-linked sources.

We are also on the verge of creating electronic books. By using billions of reversible "digital ink" particles made of indium tin oxide that are individually encapsulated, and coated with a grid made up of thousands of lines of flexible, transparent conductive ink, "digital paper" is created. Bound like a book and network-linked, this portable tome enables access of knowledge anytime, anywhere. The feel of a book with the access power of a computer!

Another strategy for libraries is specialization. As the body of knowledge grows, the evolution of fields of expertise continues into ever-narrower slices. Libraries move to specialized collections rather than an all-purpose role. But there is a cost to this specialization.

Nietzsche mocked it a century ago. "A scientist was examining the leeches in a marsh when Zarathustra, the prophet approached him and asked if he was a specialist in ways of a leech... O, Zarathustra,...that would be something immense; how could I presume to do so!... That, however, of which I am master and knower, is the brain of the leech; that is my world!...For the sake of this did I cast everything else aside, for the sake of this did everything else become indifferent to me..."

Also, specialized materials are often unique, and that may make them too valuable for ordinary handling. The solution: electronic storage. Digitized, a third century Roman declaration of war can be accessed electronically while its artifact remains protected. Interconnected, it becomes available to the world. But is this then the future, libraries merely as specialized data-banks linked to each other, with a few terminal cubicles thrown in? The answer is a hopeful no.

FUTURE NEEDS

Libraries are not only about information. They are also about people. Community, to commune, to communicate—the terms are related linguistically as well as functionally to each other, to togetherness, to exchange. This is true for the library of our childhood, our college years, or our professional specialty.

Libraries, as James Billington eloquently states, were "temples of pluralism, places where a great diversity of people gathered. Individuals with conflicting points of view sat peacefully next to each other in the reading rooms just as books with conflicting points of view stood quietly next to each other". Since Andrew Carnegie built the great library system in towns and cities across America they have served as a unifying force, a communal tribute to the culture and

values of the community and to the value of learning. The aspect of community is a main reason why the library will not be swallowed by electronics. The importance of the community aspect can be seen by the success of large book stores which provide a meeting ground for people with interest in books, ideas, and companionship. The more impersonalized the world of information becomes, the more important become institutions that create the human element. Libraries have always catered to this need, but they now must make it still more central.

A second reason for the library is that electronic connectivity is not cheap. Easy technical availability does not translate into easy economic or skills accessibility. Libraries serve the economically disadvantaged, or those without technical literacy. It is true that the hardware is getting cheaper all the time. But the applications are also becoming even more advanced, and require still more complex hardware. It will always be cheaper to share than to own, and that fundamental principle for the economics of libraries will remain valid in the electronic age.

The third role of the library is to function as a filter for information. The real loss in an open electronic system is not due to a decline in the quality of a given communication, but rather due to the decline in information screening. In the past, librarians picked and chose. The very resource constraints forced selectivity. Selection was based on the values and needs of the community and on the trained vision of the librarian. But now, the problem with easy communication is that there is too much information, and that it is unscreened as to quality.

Information is not costless to the receiver. Too much information is almost as bad as not enough of it. Libraries will continue to play a screening function in the form of "information consultants" to users, and as experts in search tools, thus adding a dimension of quality assessment which automated tools sadly lack. Librarians with search skills will make information navigable to the inexperienced user and teach them how to search.

CONCLUSION

In the past, people came to the information, and the information was at the library. In the future, the information will come to the people, wherever they are. What then is the role of the library? We have argued that storage is the lesser of its future functions, in contrast to the past. Instead, it is community; equitable access; and quality screening. None of these functions can be done well by machines, leaving libraries with major responsibilities. None of them are new, but the emphasis is different. The real question then is: can libraries reform themselves, or must things get much worse first?

ELI NOAM
noam@columbia.edu

CATERINA ALVAREZ
calvarez@claven.gsb.columbia.edu

Institute of TeleInformation
Columbia University
809 Uris Hall
New York, NY 10027
212-854-4222

ATTENTION JOB SEEKERS!

SLA offers career & employment services to meet your employment needs.

**202
234 4700 ext 1**

SPECIALLINE

SLA's telephone jobline provides you with a listing of current employment opportunities. Call the number listed above to listen to biweekly recorded messages.

ADVANCED INFORMATION MANAGEMENT

AIM

Use the Advanced Information Management's Résumé Evaluation Service and receive tips to create a winning résumé.

For additional information contact the Professional Development Section at 202-234-4700, extension 649

**IS IT RAINING
INTERNET URLS?**

Are you deluged with information about the Internet, yet still feel you are not on solid ground?

The CyberSkeptic's™ Guide to Internet Research is a monthly newsletter designed for quick reading and easy retrieval of information. Aimed at librarians and researchers who use online services and the Internet, it helps you use the Internet as a serious and cost-effective research tool.

- **Up-to-date (monthly issues)**
- **Critical focus on research sources**
- **Comparisons between Internet and online databases**
- **Page of sites organized by Subject Area**
- **Semiannual index**

Published 10 times/yr. \$149 for one year; \$99 for non-profits and personal subscriptions. Includes shipping to USA.

BiblioData® Dept. B&F
Box 61, Needham Hts, MA 02194
Tel: (781) 444-1154
Fax: (781) 449-4584
ina@bibliodata.com



<http://www.bibliodata.com>