

Redefining the Library Meme

Memory and Imagination



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In January 1984, at the unveiling of the Macintosh computer, Steve Jobs, a cofounder of Apple Computer, noted that the Mac was the third major milestone in the history of personal computing. The two previous landmarks were, as described by Jobs in the 1996 documentary film *Triumph of the Nerds*, the IBM Personal Computer (PC) in 1981 and the Apple computer in 1977.

In choosing these three developments as milestones, Jobs was operating under the assumption that the essential unit of the personal computing industry was a metal and plastic box that millions, even tens of millions, of people would welcome into their homes and offices. In making this assumption, Jobs and his corps of creative geniuses in Silicon Valley and IBM's button-down executives in Armonk, New York, made the same mistake.

Eyeing each other warily across the breadth of the continent, both Apple and IBM missed the rise of their real competitors in the metal and plastic box business: a company in Korea, Leading Edge; the three engineers who formed Compaq Computers; and most unlikely, Michael Dell, a University of Texas freshman who assembled computers in his spare time.

Small firms were able to build computers as good as those of the big companies. Planning to dominate the industry with the "better box"

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turned out to be a bad idea. The importance of personal computing did not lie in the box, the hardware; it was what was in the box, what the box could do, and what made the box work. Software was the key. By defining personal computing through software, Bill Gates, one of the founders of Microsoft, became the wealthiest person in the United States, with a personal fortune of over eighteen billion dollars.

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Just as Jobs narrowly identified personal computing with the box, libraries are in danger of being too narrowly defined—the library as box; more specifically, a box full of “stuff.” Discussions about the future of libraries often devolve to definitions lodged in opposite extremes of the “library as box” concept: the library as a simple physical box, a building that contains books, journals, and magazines; and as a “virtual box” with the zinging, bouncing electrons that make up the much-hyped digital library. As in the case of most questions that seem to generate contradictory answers, the problem is not in the answers, but in the question itself. Perhaps a better question when seeking a new definition for the library is: What is the library? The box and the stuff inside, or the ideas that make the box work? Hardware or software?

Defining the Paradigm

The term “paradigm shift” has become a cliché in a number of professions, including that of librarianship. Though by no means its only incarnation, the most common form of the library is still a defined space containing an organized collection of information in “hard copy”

(print, microform, audio, and visual materials) supplemented with digital information sources, and overseen and serviced by a body of trained workers.

Increasingly, however, digital information resources are becoming more prevalent. To note this fact is not to predict the end of the physical, print-based book (although many people do) or to envision telescreens in every person’s hands before the turn of the millennium. When we extrapolate from the current offerings of digital media for an important portion of the information housed in our libraries, it is clear that many of the information services they offer will be accessible in ways that will necessitate a logical evolution of the current model of the library.

The Iceman and the Knowledge Worker

Craig A. Summerhill of the Coalition for Networked Information, one of the library profession’s most innovative thinkers, commented in a message to the PACS-L (Public-Access Computer Systems List) discussion group on June 6, 1996 “I don’t think the issue is really whether the book itself will become an anachronism. I fully expect it will survive. . . . The real issue is whether the book will become an anachronism within the context of libraries.” In the same posting, Summerhill points out the harsh reality for libraries that “Our nation is building an economy which is increasingly about the management of information. There are going to be people who will try to build a business aimed at cutting the library out of the loop. Some may succeed.” (More information about PACS-L can be found at <http://info.lib.uh.edu/pacsl.html>.)

The library profession must be careful to define itself not by a product, but by a service. To borrow an example quoted by Summerhill, in the middle years of this century the iceman, much to his chagrin, discovered that it was not ice that people wanted, but refrigeration. (Summerhill quoted a message from Thom Gillespie dated June 4, 1996, with the subject “Re: the four librarians of the Apocalypse.”)

In *Future Libraries: Dreams, Madness and Reality* (ALA 1995), Walt Crawford and Michael Gorman have noted a number of “myths” that drive thinking about the information future. Crawford and Gorman are adamant that libraries “are not wholly or even primarily about information. They are about the preservation, dissemination, and use of recorded knowledge.” (p. 5) Some of the myths are “everything is online” and “the industrial age is over.” Any librarian who has been confronted by a patron demanding information now, because “everything’s online” knows the power of the first of these two myths.

The second myth is even more prevalent in the popular mind. Former Labor Secretary Robert Reich's and Speaker of the House Newt Gingrich's advocacy of the "knowledge worker" is one incarnation of this myth. The information age, however, is highly dependent on the industrial world. As Harald Preissler and Burkhard Jaerisch describe in a June 1996 *Wired* magazine sidebar entitled "A Material World," "The production of a single PC requires 33,000 liters of water . . . we need to realize the wired world will always be deeply rooted in the material one." (p. 124)

Without succumbing to the latest trends, or perpetuating myths, how can the library profession define itself in the current and forthcoming information age?

"A Library Is a Growing Organism"

In 1929, S. R. Ranganathan defined the *Five Laws of Library Science*. These five laws are:

1. Books are for use.
2. Every person, his or her book.
3. Every book, its reader.
4. Save the time of the reader.
5. A library is a growing organism.

With only a slight redefinition of "book" (one that will accommodate not only the traditional print codex but also the scroll from antiquity and the digital objects now appearing), Ranganathan's laws still hold true today.

Focusing specifically on the fifth law, "A library is a growing organism," leads to the title of this essay. Though not yet found in *Webster's* or the *Oxford English Dictionary*, the term "meme" has achieved currency in various scientific fields, and in technopop culture in the form of the monthly "Hype List" feature in *Wired*. The term was coined by evolutionary biologist Richard Dawkins. In an interview, "Richard Dawkins: a Survival Machine" (appearing in Richard Brockman's *The Third Culture: Beyond the Scientific Revolution*, Simon and Schuster, 1995), Dawkins noted that a "meme may be roughly defined as a unit of cultural inheritance, analogous to the use of gene as the basic unit of biological inheritance." (p. 81)

Just as genes mutate and evolve in biological organisms, a collection of memes or a "meme complex" can mutate to change a belief sys-

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tem or a cultural construct, a construct such as "the library." The meme is also flexible; it "can be encoded and transmitted in German, English or Chinese; it can be described in words, or in algebraic equations, or in line drawings." (Peter J. Vajk, <http://www.lucifer.com/virus/alt.memetics/what.is.html>) Additionally, "Memes, like genes, vary in their fitness to survive in the environment of human intellect. Some reproduce like bunnies, but are very short-lived (fashions), while others are slow to reproduce, but hang around for eons (religions, perhaps?)." (Lee Borkman, same Web site) The idea of the library, the "library meme," has so far proven quite resilient. In what ways can it be rethought so the library can continue to survive?

"All Progress Depends on the Unreasonable"

Some of librarianship's most basic units of definition are undergoing rapid evolution: what is a book? Whom do libraries serve? What is the essential nature of library service? These and more immediate concerns over such concrete issues as copyright in a digital environment and, more basically, funding for core services (however those may be defined), make a challenging environment for this often fragile, yet still resilient, organism, the library.

How is the next generation of libraries to be defined? What roles, rules, and laws will be used? What will be the building blocks? How will the library meme evolve?

George Bernard Shaw once noted, "The reasonable man adapts himself to the world; the unreasonable man persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man." (*Man and Superman*, "Maxims for Revolutionists," Maxim 23) This presents us with a two-part question: Are librarians reasonable or unreasonable? And what are the consequences of this orientation?

What choices must be made that will lead to an evolution of the library that will bring both complexity and progress? What changes must be made in the library meme that will allow it to thrive, that will prevent the supplanting of this important institution created over the course of thousands of years?

Keeping the Library in the Loop

The transformation of the library meme is a process that should be welcomed by librarians and the supporters of libraries. The key to a successful transformation will be a library that embraces the best and most useful of the new technologies while at the same time preserving the best of past traditions and services. Three key areas the evolving library meme must address are:

- the digitization of existing materials;
- the organization of digital products; and
- access to digital products and print products.

The Digitization of Existing Materials: Libraries as "First-Choice Culture"

The foundation for library service in the digital age will lie in maintaining what George Gilder has called "first-choice culture."¹ Gilder explains that, "You go into a bookstore or a library and you get your first choice, and you expect to get your first choice. Because you have a first-choice culture, you have a bias toward excellence rather than a bias towards trash. The difference between book culture and TV culture is choice." (p. 10)

Digital libraries, or more specifically, the digital collections that libraries are building and will continue to build into the twenty-first century, must adhere to the high standards that are applied to traditional print collections. Currently, a large proportion of the World Wide Web's content is more reminiscent of TV culture than of book culture.

Walt Crawford and Michael Gorman have vigorously proclaimed that "Print is not dead. Print is not dying. Print is not even vaguely ill." (p. 14) As all but the most diehard of print-oriented advocates will admit, much information can and should be digitized. Libraries must take an active role in selecting print collections for digitization and validate this role through the careful articulation of digitizing plans. This articulation is being carried out in many libraries now, and some of the cri-

teria being applied to the selection of collections for digitization include intellectual coherence of the collection, the strength of the library's holdings in this area, and usage.²

Early on, the problem of selection for a "digital library" was outlined by the Internet pioneer J. C. R. Licklider in his important study, *Libraries of the Future*, published by MIT Press in 1965. The digital collection outlined by Licklider would not include fiction or most narrative nonfiction. Instead, it would be composed of "transformable information." Licklider went on to note, "We delimited the scope of the study . . . to functions, classes of information, and domains of knowledge in which the items of basic interest are not the print or paper, and not the words and sentences themselves—but the facts, concepts, principles, and ideas that lie behind the visible and tangible aspects of documents." (p. 2)

Today, a more expansive view of digital collections should include those "print or paper" items not readily available. Manuscripts, interview transcripts, photographic collections, special collections, and other similar material can all be enhanced by digital collections. Using digital surrogates for these collections will provide access to items inaccessible (or difficult to access) due to fragility or distance.

Work, Don't Surf: The Organization of Digital Products

Digital products, such as those described above, as well as a small portion of the information found on today's Internet, need to be easily locatable. Looking at just the content of the World Wide Web, many tens of millions of Web "pages" are available. Searching for content that would meet the selection criteria of a collection development librarian in this sea of data is a formidable task. The promise of Web search engines has proven empty as searchers retrieve result sets with tens of thousands of "hits."

Commenting in 1990 (well before the explosion of Web content), New York University professor A. Richard Turner noted, "Let's not lose sight of what it's all about, knowledge and its structures, not mindless safaris into galaxies of informational garbage."³

What, if anything, can librarians do to ameliorate the difficulties of locating information on the Web? Without entering into the debate about "cataloging the Internet," it is clear that there is significant room for librarians to apply their knowledge of organization and skills in structuring data to the chaos of the Internet.

Taking advantage of the flexibility of the MARC (Machine-Readable Cataloging) format, librarians are able to catalog useful (and stable)

Internet resources. Using the enhanced capabilities of the new graphical online public catalogs (OPACs), researchers are able to move directly from an OPAC record to the digital resource. In combination with such programs as OCLC's Persistent Uniform Resource Locator (PURL) project, libraries are able to share data on the intellectual control of digital resources.⁴

For the more ephemeral resources on the Net, or those that might not warrant "full cataloging," librarians can exercise their discriminating selection skills through the use of "meta-lists." Creation of meta-lists may be seen as putting an apt and librarian-friendly spin on the concept of "expert systems." Librarians can act as "human agents" to locate subject-specific Internet resources and mount these lists (perhaps with brief, evaluative annotations) on library Web servers to provide researchers with access to relevant information.

Many libraries are already performing this service. Examples include Maryland's Department of Library Development Service's SAILOR project. In a presentation given at the American Library Association's annual conference in 1996, Rivka Sass, then of Maryland's Department of Library Development Services, has described how SAILOR uses "human spiders" to explore the Web to locate resources, select them in a manner analogous to traditional library collections development, and categorize the resources appropriately. Sass accentuated the point that the essential nature of SAILOR and search engines (in a library environment) in general, is to "enhance library use."⁵

Similar Internet resource collection projects are taking place at many libraries, including the Smithsonian Institution Libraries. Through the Smithsonian Branch Library Home Pages, subject-specific Internet resources are selected, categorized, and annotated by subject specialists in areas ranging from aeronautics, to museum studies, to zoology, and many others.⁶

By teasing out of the tangled World Wide Web such valuable Internet resources as weather reports, currency converters, measurement calculators, census data, and other such time-sensitive or frequently updated information, librarians can provide access to the type of up-to-date information that could never be obtained from print resources.

"A Wise Cicerone": Access to Digital Products and Print Products

In addition to the roles described above, libraries and librarians must continue to build upon the legacy the profession has made to the world's store of knowledge through digital means. When discussing

tomorrow's libraries, futurists—and too often librarians—forget the tens of millions of digital bibliographic records accessible worldwide through OCLC's Online Union Catalog, the Research Libraries Information Network (RLIN) bibliographic database, other bibliographic utilities, and hundreds of OPACs made available via the Internet.

The ease with which a researcher can now locate materials anywhere in the world through the use of these services is too often taken for granted. Similarly, when the migration of digital data or the obsolescence of storage media is discussed, that MARC bibliographic data created during 1966–68 is still available today—a longevity unmatched by MARC data's digital coevals—is a fact that is rarely noted.

Digital indexes, whether provided via CD-ROM (Compact Disc-Read Only Memory), through the Internet or by other means, have been part of library services since the introduction of the first online systems in the 1960s. Increasingly, these indexes are being directed to the end user. Such services as OCLC's FirstSearch, the Research Libraries Group's (RLG) CitaDel, and various CD-ROM products are quickly eliminating the librarian's task of mediated online searching. But who, if not the librarian, can best direct researchers to the most useful database or provide instruction for these "user-friendly" services?

As James Billington, the Librarian of Congress, has said, "The very flood of unsorted information makes the librarians' role of sorting, dispensing, and serving as objective, informed navigators even more important." (p. 39) In more colorful language, Karl Weintraub (in 1980 during the Webless adolescence of the Internet) described the future librarian as "a knowledgeable sluicemaker, a most sensitive filter, a wise cicerone who knows where what knowledge is available, how to get its essential parts, someone who does not block access but also someone who does not drown us in an unsorted morass of information."⁸ (p. 38) This role, important in all eras of librarianship, will become even more important in the future.

The Continuity of Infoculture

In *InfoCulture: The Smithsonian Book of Information Age Inventions* (1993), historian Steven Lubar has named the rise of what he calls our "information culture" by the catchy neologism "infoculture." As Lubar clearly points out, infoculture is not the product of the postwar years or even the twentieth century. Today's "information appliance" can be traced back to the telephone, telegraph, and other information transmission and processing tools. In the library, the OPAC of today is a logical outgrowth

of the card catalog. But it must be remembered that the card catalog was itself a transformation of the earlier information technology of the book catalog.

Appropriate Technology versus Techno-lust

Librarians are no more—and perhaps, less—subject to techno-lust (the desire to have the latest, fastest, most bleeding edge technology) than members of other professions. Still, much of the incautiously enthusiastic literature on library technology ignores commentary such as that by Norman Balabanian, a professor of electrical engineering, who notes, “Technology is not a neutral, passive tool devoid of values; it takes the shape of and, in turn, helps to shape, its embedding social system.”⁹ (p. 37)

Blind faith in the benefits of technology will only harm the evolution of the library meme. The use of appropriate technology, whether it be the card catalog or the World Wide Web, will create the strongest future for libraries.

At a conference held at Harvard University in 1949, Donald Coney of the University of California at Berkeley noted that for libraries, “our futures are shaped by two magnitudes, those classic ingredients of librarianship: people and books.”¹⁰ (p. 53) Nearly half a century and many technology cycles later, these basic principles of people and books remain unchanged. “Books” (or more precisely, much of the information contained in some books) will become increasingly digital. The definition of “people” may change (patrons, users, clients, students, the public), but their essential needs will not.

In their long history, libraries have accumulated a reserve of goodwill and support from their constituents, as noted in the recent Benton Foundation publication, *Buildings, Books, and Bytes: Libraries and Communities in the Digital Age* (1996). This capital must not be squandered in pursuing an unattainable digital nirvana.

Imagination for the Future and Memory of the Past

The outline of the library of the future is with us today. The redefinition of the library meme is occurring daily in public, academic, special, and research libraries.

Vladimir Nabokov listed imagination and memory among the necessary qualities of the good reader. To shape and not to be merely carried along with the tide of natural and inevitable change, librarians will

need these same qualities: imagination, to see the potential of emerging technologies; and memory, to recognize the value of librarianship’s past history and its current relevance.

Acknowledgments

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Notes

1. George Gilder, “The Telecosmic Library,” in *Tomorrow’s Access—Today’s Decisions: Ensuring Access to Today’s Electronic Resources Tomorrow* (Dublin, Ohio: OCLC, Inc., 1996), 6–12. Also available from <http://www.oclc.org/oclc/man/9680rldc/9680.htm>.
2. Natalia Smith and Helen R. Tibbo, “Libraries and the Creation of Electronic Texts for the Humanities,” *College & Research Libraries* 57 (November 1996): 535–53.
3. A. Richard Turner, “Lights Are On, Will Anybody Be Home?” in *Scholars and Research Libraries in the 21st Century* (New York: American Council of Learned Societies, 1990), 27–30.
4. See <http://purl.oclc.org/> for a further discussion of OCLC’s PURL project.
5. SAILOR can be accessed at <http://www.sailor.lib.md.us>.
6. Smithsonian Institution Libraries Branch Library Home Pages can be accessed through <http://www.sil.si.edu>.
7. James Billington, “Libraries, the Library of Congress and the Information Age,” *Daedalus* 125 (Fall 1996): 35–54.
8. Karl A. Weintraub, “The Humanistic Scholar and the Library,” *Library Quarterly* 50 (January 1980): 22–39.
9. Norman Balabanian, “The Neutrality of Technology: A Critique of Assumptions,” in *Critical Approaches to Information Technology in Librarianship: Foundations and Applications*, ed. John Buschman (Westport, Conn.: Greenwood Press, 1993), 15–40.
10. Donald Coney, Newton F. McKeon, Jr., and Harvie Branscomb, “The Future of Libraries in Academic Institutions,” in *The Place of the Library in a University* (Cambridge, Mass.: The Harvard University Library, 1950), 53–72.