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The Future of Books and Reading In An Age of Hyperlinks

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The bottom line for libraries is *access*. Their *raison d'être* is to link patrons with the information they need or want. Libraries have kept abreast of these needs and wants, and have satisfied their clientele by adding to their collections materials of all kinds to facilitate access. And to allow for this increase in the breadth and intensity of demand, libraries have kept abreast of technology — perhaps more so than any other public institution.

Despite traditionally inadequate support for libraries, they have provided sophisticated Interlibrary Loan and other book-delivery systems, online databases, Web access and even videoconferencing in many institutions. They have trained a professional staff to be experts in access facilitation, acquisition, cataloging, reference, conservation and preservation, circulation and so forth.

So there is not only no way that libraries will be done away with, there is also the indication that they will continue to evolve. The libraries of the future will contain books and manuscripts and all those other traditional materials they have had, and they will have the most modern technology available — if that technology has to do with acquiring information. There is an increas-

ing number of databases; the Web grows every day; more and more texts are being made available in digital form. Libraries will be there to capture it all.

Each year, the April issue of *American Libraries* is devoted to library buildings. And each year we see rebuilding, refurbishing and renovation all over the world. We also see the construction of massive new libraries, like the Bibliotheca Alexandrina in Alexandria, Egypt, the site of the most splendid library of the ancient world. Just the fact that new libraries — especially ones on this grand scale — are still being built is a testimony to their importance to civilization.

As I have said above, no matter how futuristic the technologies and facilities become, the bottom line will always be there for libraries: they will always have books; they will always have patrons; and they will always be there linking people with information.

* * *

The future of the “book” and of libraries seems quite a secure phenomenon to me. There are so many volumes already in existence that even if not a single new book were produced from today on, it would take generations before any library could have had its fill of titles they need or for any given reader to get through the books she or he planned to read or should al-

ready have read. But technology has sped up to the point that more books are being produced than ever before in history, despite the claims of the technocrats that the book is a dying species and that libraries will evolve into electronic text-delivery centers. Technology itself has made the survival of books and libraries possible — and necessary. We all are deeply enmeshed in the computer world, yet most of us shall continue to read and acquire books.

There is something *human* about a book in its tangibility; there is something almost otherworldly and non-human about the intangible virtual text. In fact, technology, in its allowing us to produce an increasing number of actual books, is actually propagating the book as an artifact and is therefore adding to our humanness. Books will never be obsolete.

I cannot speak for others, but I know that though I am deeply into the computer world, I shall continue to acquire and read books. I suspect that there are others out there who share my passion for the physical book.

Endnotes

1. *Books in Print* 1997-98, vol. 1, vii.
2. Ray Bradbury, letter to Sidney Berger, 3 Nov. 1977.
3. Shirley Baker, personal interview, 16 Mar. 1998.

The Future of Books and Reading In An Age of Hyperlinks

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Books add to our joy in prosperity; they provide refuge and comfort in adversity; they give pleasure at home and advancement abroad; they pass the night hours with us, accompany us on the road, share our holidays in the country. — Cicero

The History of Communication

The history of human communication unfolded in three stages:

The Greek world was transformed in the fifth century B.C. by the appearance of writing in an oral society.

The Western world was transformed again in the fifteenth century by the appearance of **Johann Gutenberg** and his printing press with movable type.

Now, as we move from the twentieth to the twenty-first century, the print culture we have known and loved is giving way to an electronic one.¹

The first of these cultural transformations, the move from oral to written communication, took place over many years, even centuries. The second, the print revolution, was surprisingly swift when we consider that 7.5 million books

were printed within fifty years of the invention of movable type, but it has lasted for five hundred years.² The third revolution, the electronic era, has descended upon us with the speed of electric circuitry. The microcomputer is scarcely two decades old, the public Internet hardly one and the graphical World Wide Web slightly less than ten years.

The Era of the Book

My generation grew up during what may come to be known as the waning days of the **Age of Print**, the **Era of the Book**. For five long centuries the book has been the basis for much of the generation, dissemination and preservation of knowledge. The printing press gave rise to what **Neil Postman** calls the typographic mind, which in turn accounted in great part for the **Age of Reason**. “In a culture dominated by print,” says **Postman**, “public discourse tends to be characterized by a coherent, orderly arrangement of facts and ideas.”³ It has taken its form from the products of the printing press:

For two centuries, America declared its intentions, created its literature, expressed its ideology, designed its laws, sold its products, created its literature and addressed its deities with black squiggles on white paper. It did its talking in ty-

pography, and with that as the main feature of its symbolic environment rose to prominence in world civilization.⁴

The End of the Age of Gutenberg?

Beyond public discourse, we can also assert that the printed word created literature as we have come to know it in the Western world. “So central has print been to literature,” says **Alvin Kernan**, “that it is no exaggeration to say that literature has historically been the literary system of print culture.”⁵ **Kernan** also foresees the end of the **Age of Gutenberg**, and with it the death of literature as it has been defined in the Western world:

Economics as well as chemistry seems to be favoring the electronic future over the printed past. The cost of books, as well as the expense of cataloging and handling them in libraries, has been rising for years at inflationary rates. Cheap books and well-kept public libraries were . . . products of a low-wage, modest-expectation society. They will inevitably disappear in the modern democratic social-welfare state with its constant high inflation rates, union work rules, minimum wages and costly benefits.⁶

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Linton Weeks, writing in the *Washington Post*, asserts that we are now facing "the most earth-shaking, tradition-breaking revolution in publishing in more than 500 years, a tectonic shift in the way books are made, bought, sold and ultimately, perhaps, rendered obsolete."⁷ This tectonic shift into the electronic age has been in the making for decades now. Nearly forty years ago Marshall McLuhan con-founded a disbelieving world by insisting that the *medium* is the message, that societies have always been molded of the communication itself—a position that seems all too self-evident these days more by the media by which they communicate than by the content. But he also insisted (by the means of the *books* he wrote, by the way) that the book was dead, a prediction that failed to materialize—at least so far.⁸

By the 1980s Postman was warning us that we were *Amusing Ourselves to Death* by abandoning our print orientation in favor of a passive, one-way love affair with television. (He wrote immediately before the days of general use of the personal computer and several years in advance of the Internet and the World Wide Web—and cable television, for that matter.) He concluded that "the result of all this is that Americans are the best entertained but quite likely the least well-informed people in the Western world."⁹

Ho hum, we are tempted to say, we've heard these prophets of doom before. From all appearances, the printed book continues to thrive, as well as the highly diversified magazine industry. More books are being published than ever and book sales remain brisk. Libraries and bookstores continue to purchase books to lend and sell to the public.

However, a second look tells us that even our most traditional publishers—such as the *Encyclopaedia Britannica*—have been busy digitizing their titles, and, say what you will, the world is moving pell-mell toward a rendezvous with its electronic destiny. Microsoft officials contend that within twenty years, 90 percent of what we read will be in electronic form.¹⁰ To future generations, we are told, the eBook will be as natural as the printed book is to our generation.

Perhaps it is more appropriate to recognize that the coming of the electronic age does not, ipso facto, spell the end of the book as we know it, but the end of the primacy of the book. This is what Kernan calls the "gradual waning of the privileged position in the world of knowledge—'what is printed is true'—that the book has held for five hundred years."¹¹

Reading in an Electronic Age

If it is true that the printed book will be replaced, in large part, by the electronic book, does it really matter so long as future generations are reading in a new medium? As a bibliophile who has succumbed to many of the wiles of the personal computer, I have often pointed out that reading is reading, and much of what appears on the computer screen requires the ability to read as surely as the printed page. But I am

slowly becoming convinced that the two media are so antithetical as to render the reading processes quite different.

Sven Birkerts, author of *The Gutenberg Elegies*, maintains that reading on computer screens is very different from reading the printed page—in many ways and for many different reasons: "Words read from a screen or written onto a screen—words which appear and disappear, even if they can be retrieved and fixed into place with a keystroke—have a different status and affect us differently from words held immobile on the accessible space of a page."¹² "The electronic order," says Birkerts, "is in most ways opposite" to the printed work.¹³

Let's take a concrete example of the differences we encounter in "reading" print media and electronic media, i.e., a book and a computer screen. The typical book will have been written by one or more authors and will have gone through an editing process before being published and distributed through bookstores or libraries. The reader will leaf through the book, which itself is static, page by page, front to back, line by line, returning at times to a previous text but rarely straying far from what we may call the text home page, the page being read at a given time. The reader may, at times, avert the eye to check out a footnote, but rarely will take the time to consult an endnote that appears at the end of a chapter or the book itself. It is not unusual for this process of book reading to continue for hours at a time—same author, same book, same reader—until the book comes to an end.

Now think for just a minute: what is the most text that you have read on a computer screen, and how long did you spend reading it? Chances are, if you were seriously involved in what you were viewing on the computer, you simply printed it out and set the printout aside for later reading, *real* reading, not just viewing. I have yet to meet a person who has read a novel on a computer, although I know that someone must have done so.

Yet if you were seeking information on the history of Argentina, you could do worse than look up an article in an online encyclopedia which, unlike its print counterpart, is not bound by any of the conventional limits of the book. It may or may not have a beginning and an end, but it certainly will have no inner boundaries. The computer page gives us options we have never had with the printed book, options that allow us to move backward and forward with a mere keystroke or two, but more importantly to move completely off the page to another source—an illustration, a photograph, a bibliography (or webography if you prefer), a brief explanation, an extensive treatment of the subject, another document altogether. The options are unlimited.

Enter Hyperlinks

These options are made possible by something we call the hyperlink, or hypertext, which forms the basis not only for linking from one document to another but from one computer site to another, sites that comprise what we now call the nodes of the World Wide Web (WWW or Web). Yes, when it comes to "reading" on the

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computer, the options are unlimited because of hyperlinks, but they can also be distracting. They also make reading different from what we have known with the book. The World Wide Web is an infinite web of hyperlinks that can take you almost anywhere you want to go in the universe of computerized information.

To the reader of electronic text, hyperlinks invite digression. If we assume that the main body of the text comprises what we used to call an article, or maybe even a book, then the hyperlinks are indeed digressions. It is all too easy to be distracted by these digressions, to lose one's way, and in the process miss the central point, or points, of the main body of the document in question.

In so doing, we are losing sight of something very important, the integrity of the printed word. By "integrity" I mean the wholeness, the unity, of a well-wrought article or book, be it expository, fictional, dramatic or poetic. Even Aristotle wrote of the classical unities of time, place and action. Works of art remain sacrosanct even today in the sense that wholesale re-writing by someone other than the author is unthinkable. As any student of literature can attest, academic footnotes (an early form of hypertext, I would submit), however useful in understanding a work of art, can also be distracting if they interfere with the creative process of reading.

Multidisciplinarianism and the Death of Wisdom

A statement by Birkerts has haunted me as I consider the role of the librarian in today's electronic world:

Here our technology may well assume a new role. Once it dawns upon us, as it must, that our software will hold all the information we need at ready access, we may very well let it. That is, we may choose to become the technicians of our auxiliary brains, mastering not the information but the retrieval and referencing functions. At a certain point, then, we could become the evolutionary opposites of our forebears, who, lacking technology, committed everything to memory. If this were to happen, what would be the status of knowing, of being educated? The leader of the electronic tribe would not be the person who knew most, but the one who could execute the broadest range of technical functions. What, I hesitate to ask, would become of the already antiquated notion of wisdom?¹⁴

Do we as librarians aspire to become the leaders of the electronic tribe, given our considerable skills in executing a broad range of technical functions, especially as they relate to information retrieval? If so, can we operate in this technical realm without losing our notion of wisdom?

Just when I think I can balance these two worlds, Birkerts will not quite leave me alone:

My core fear is that we are, as a culture, as a species, becoming shallower; that

we have turned from depth—from the Judeo-Christian premise of unfathomable mystery—and are adapting ourselves to the ersatz security of a vast lateral connectedness. That we are giving up on wisdom, the struggle for which has for millennia been central to the very idea of culture, and that we are pledging instead to a faith in the web. What is our idea, our ideal, of wisdom these days?¹⁵

What does all this mean for libraries and librarians? What is *our* idea, our ideal, of wisdom these days? We know that wisdom does not result from piling facts one upon the other. An old Spanish *dicho* tells us that knowledge without wisdom is a load of bricks on an ass's back. But we do know that we live in the information age, the age of information overload, where the careful and judicious selection of information can make all the difference in the world between a wise decision and an uninformed one.

The reference librarian—or whatever name you want to use for today's information professional who mediates between information and the information seeker—clearly has a special role to play in this age of information surfeit. The reference librarian, I believe, is the human equivalent of the hyperlink. It is the nature of the reference librarian to be able to search out and identify facts wherever they may be filed, to wander freely throughout the information universe, crossing media terrains to locate a nugget of information. This search-and-kill operation is one of the thrills of being a reference librarian, and with the coming of the WWW, we live in a thrill-a-minute world.

Birkerts says that "the multimedia approach tends ineluctably to multidisciplinarianism."¹⁶ I believe that many librarians, myself included, are by temperament and vocation multidisciplinary. We librarians were born, I believe, hard-wired with hyperlinks that predispose us to seek information and, I hope, knowledge in their many forms and formats, wherever and however we may find them. As much as we may love books, our multidisciplinary tendency makes us highly susceptible to multimedia, and particularly to the notion of hyperlinks that move us all too effortlessly from one set of facts to another, from one discipline to another.

But there are books and then there are books. There are books that we read from front to back with as little interruption as possible, following closely the story or the reasoning in a way that only a book can provide. And then there are reference books, which can be thought of as the print equivalent of hypertext—ready-made for computerization. Periodical literature, especially scientific and technical journals, is also especially suitable for digitization. Indexes, abstracts, journals, reference works—these have been the target of computerization almost from the beginning of online databases. We have seen less computerization of works of fiction and

for that matter, monographic works in the sciences and social sciences.

Questions remain: can we be multidisciplinary, can we follow our genetic tendency through oceans of hyperlinks, can we live and succeed in the electronic tribe without just becoming fact factories, without losing our Judeo-Christian notions of wisdom? Can we, as librarians, gather facts without losing our ability to see *through* facts to the underlying laws and patterns?

How we answer these questions will have a great deal to say about what libraries and librarians will look like in the future. I do

"... the coming of the electronic age does not, ipso facto, spell the end of the book as we know it, but the end of the primacy of the book."

believe that there is a future for libraries and librarians because I am confident that neither print nor reading is facing extinction but will co-exist with electronic media in a wired world. Going back to those three major developments in the history of human communication—the advent of the written word, the invention of the printing press, and the electronic revolution—please note that rarely if ever has the new technology completely replaced the old. We still write in an age of print, and we still read print in the age of the computer. Communication media, old and new, overlap and feed upon one another.

The book is dead. Long live the book!

Endnotes

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5. Kernan, 133.
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7. Linton Weeks, "The Last Book, Part 1, The End," *Washington Post*, 24 Apr. 2001: C01.
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14. Birkerts, 139.
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