The Future of Books and Libraries

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and likely will continue in the forms of table lamps, step stools and even coffee tables; there is even a well-intentioned lady in the south who earns a handy income sawing up fairly thin leather backs into three, four or even five "miniatures" for use in doll houses, etc. Books as tools: who has not seen the book-as-hammer, the book-to-hold-one-corner-of-a-table, the book-as-balls-in-a-drawn-cats and the book-to-hold-open-the-out-house-door. Destruction of books for their plates and prints seems self-explanatory. That books as revenge can be explained as giving a crippled, dog-eared, scarred, backbone copy of American Dictionary 1890, to someone despised: "This belonged to my mother, and I hope you will cherish it in memory of her." Ignorance reflects itself in cello tape, shellac on leather, drink rings, high-lighting, and more. The concept of college development officers as enemies of books raised some eyebrows when first mentioned by this writer: cases can be documented where these people stifle "friends of the Library" groups because the wrong-headed officer envisions that group as encroaching on his turf, neglecting to see that, properly nourished, the relationship can be a win-win "won" situation.

B. Service to customer will continue to include going the second mile, long memories and customer education. The second mile includes telling a dealer who wants to order a diary by a salmon fisher that the best-known specialized collector had already been alerted about this diary (dealer bought it anyway because he took the time to call the specialized collector who had been out of town). Long memories, frequently enhanced by card files, alert the customer who just missed an item when another copy comes along. Customers have long memories, also: the writer once ran an ad and ten years later a collector called, as a result of that ad, to offer one of the three best libraries the writer ever bought. Customer education can take place on one-to-one (please hold the book with both hands), informally in groups (talks to collector groups), or more formally by alerting customers to experiences such as the rare book school. (Please see list of reading options at end for details.)

C. Pricing vectors that won't change include authorship, association, autograph, content, condition, edition, site (of printing) and sight (appearance). Dealers will still need to factor for inflation from a 1978 auction or catalog price, and instinct will still be vindicated when one receives two orders for a book (dealer's worst dream: 20 orders for an out-of-print book). And, as a challenge, can the reader identify what will likely continue to be the dealer's best friend: hint, it's not the computer. Look for the answer in the last paragraph. Finally, added here because it doesn't fit anywhere else, the most exciting book in the world will continue to be the next one.

D. Professional standards will continue to be the best guarantee for the customer who should be able to buy with a guarantee of "full cash refund" for any "misrepresented material."

The writer used to help uninhibited customers understand that a dealer's membership in the Antiquarian Booksellers Association of America (ABAA) was akin to being a CPA; the writer doesn't use this comparison as freely now. As a former member of the Board of Governors the writer would add that, also as with other organizations, nothing happens as fast as those who introduce an idea would wish. E. Legacy as tragedy sounds foreboding, and indeed it is, all the more so for being an area which the writer sees as a constant, not an area of change. Briefly, most booksellers are sole proprietors. Those with more than one person on staff are considerably fewer, but those that are second or third generation are even fewer. A quick scan of the ABAA directory suggests that less than ten percent of those listed are second generation. What will happen as the other ninety percent retire or die? Flash: where does the reader think that other dealers find some of their books? No generalizations, but certainly a shared sadness—and no major change foreseen.

F. The practice of nomenclatural escalation will continue to kaleidoscope, sometimes for cosmetic purposes ("near very good" and "else fine" are two recent examples) and sometimes for administrative survival (Deans of Library Services become Deans of Information Resources).

G. Finally, a need for appraisals will not go away. People inherit, people donate, people sell and they all need good information. Qualified appraisers are few and far between, with even fewer having participated in the only IRS Workshop (Feb. 1993). And variety of material will remain constant. In the current year the writer has worked with 14 linear feet of family/business records 1780-1930, Romlyn Hough's American Trees (a real joy, that one!) and a copy of the Declaration of Independence (destined to cover care-center expenses for the owner's aged parent, this copy was found to be an 1876 printing).

These, then, are some of the changes and some of the constants the writer envisions in the antiquarian book trade. For further information, reading, or challenge the reader might wish to consider one or more of these options: 

- ABAA directories (with code of ethics) can be obtained from:
  
  ABAA, 20 West 44th St., New York, NY, 10036-6604. Email: <abaa@panix.com>.


  Dealer's best friend? Pencil for marking up the price.

  Herring, Mark. 10 Reasons Why the Internet Is No Substitute For A Library. Poster, Approx. 30" x 20". Available by writing to Dr. Mark Herring, Director of Library Services, Winthrop College, Rock Hill, SC, 29733 or by emailing <herringm@winthrop.edu>. Cost: $10.00 includes shipping.


  Rare Book School, University of Virginia. 114 Aldeman Library, University of Virginia, Charlottesville, VA, 22903-2498. Phone: 434-924-8831. Fax: 434-924-8824. Website: www.virginia.edu/oldbooks.


  To communicate with the author: Mr. James Pregraves, Bookworm & Silverfish, P.O. Box 639, Wytheville, VA 24382. Phone: 276-686-5813. Fax: 276-686-6636, Email: <bookworm@naxx.com>.

Endnotes

The Future of Books and Libraries
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In a conference on Information, Technology and the Humanities in California, the call for papers said that one of the interests of the conference was "The History of the Book"—with the word "book" in quotation marks, implying that in the future, with Technology what it is and what it is becoming, the book as we know it will have evolved in some way. The further implication is that the evolution will be to some electronic medium (or to several), and the book as we now know it will be a thing of the past.

This has been the prediction of the technocrats who push for state-of-the-art hardware and software in our academic institutions and libraries, assuming that the hardwagon they are on represents the wave of the future and that this wave is good.

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About seven years ago, when Fort Ord military base closed, the California State University system decided not to waste the military continued on page 32
facility, but to turn it into a new campus, C.S.U., Monterey Bay. An official scheduled to be one of the campus's top administrators [Tom West] publicly bragged that the school would be state-of-the-art; and for proof he offered the enthusiastic comment that it would have the finest computer hardware and software in the world. He said there wouldn't even be a library of books; the campus would have only a virtual library, plugged into the world's richest resources on the Internet and containing all the latest databases for research by students and faculty, scholars and researchers could ever ask for.

Imagine that! A library without books! (Incidentally, the root of the word is liber, Latin for "book." ) Some library schools have even taken the word "library" out of their titles. U.C. Berkeley's is now the School of Information Management and Systems, and Michigan now has simply the School of Information. In fact, with the loss of the word "library" from the name of many "library schools," we are faced with a world of technocrats who predict that the book as we know it will someday be a thing of the past.

When many librarians these days hear the words "information technology," their antennae go up. Librarians are information specialists. In fact, the prime responsibility of a librarian is to link the information available in (or from) the library (whether it is housed within the building's walls or elsewhere) with the users who need that information. It is the word "technology" that may give many of us a jolt since in the past, technology was little more than card catalogs and bibliographies; but it has increasingly come to mean a fast-growing number of machines, hardware, software, databases and the like—so vast that it threatens to be impossible for any single person to grasp.

In a way, libraries are repositories of technological advancements. The conversion of animal skins into parchment and vellum; the manufacture of inks out of linseed oil and lampblack and other substances; the conversion of a bird's feather into a quill; the eventual series of inventions that led to the development of printing (printing types, the press, the roller, steam engines, paper, stereotyping and electrotyping, Linotype and Monotype machines and so on)—all of these and many others are examples of technology which offer a way to preserve information in such a way that it is retrievable and usable. Likewise, microfilm readers, like online catalogs, are forms of technology. Librarians are always at the forefront of new technologies. And librarianship also embodies a set of principles and practices that keep current with social and legal movements. Libraries, for instance, are strong supporters of intellectual freedom, banning censorship, and access to information. So in a sense, the word "technology" linked with "information or "library" should not give us pause.

Further, as I have said, the book itself is a tool, a piece of technology. It is portable and compact, and can be used almost anywhere. Its use is easily mastered. It can be indexed. It never crashes. It relies on simple external illumination for its use. It is instantly accessible since it does not need to be plugged in or rebooted; it is not, thus, dependent on electricity for its use. It has a long shelf life, and, if properly made, stored, and handled, it will last practically forever. It will never need hardware updating or migration into another medium to continue to offer its value to future users. You can make personal notes in the margins and on the flyleaves, without damaging the text or interfering with others' future use of the volume. Most books are affordable and easily storable. It seems to be the perfect technology.

But in the last, say, twenty-five years the word "technology" has made librarians and other researchers start. How can anyone grasp all that technology has to offer? I should emphasize that librarians are the first to appreciate and embrace whatever technology there is that makes their lives easier, that makes information more immediately accessible, that preserves the knowledge of the world for future users. But when we hear such notions that there will be a library that is no state-of-the-art that it will contain no books, we either shudder in fright or laugh in derision; maybe both. And the words "technology" and "information" have been used recently by technocrats who think that a library with no books is possible.

A library without books? A world in which books are no longer being produced? Some of you may be saying, "No, no; say it ain't so!" For my part, I am not worried. You must surely know what all the technocrats and computer wizards do not want to admit: that the book is going strong. To begin with, we are talking of two different things. The first is the object itself: words and/or images printed with ink on paper, bound into some kind of covers; a portable, tangible artifact with its own essence, its scent and feel, its sound and look—and just as important, its own intrinsic worth as a collectible, an aesthetic object, an article worthy of our reverence, an artifact we would purchase and use.

The other thing we are talking about is the text itself—the words and pictures, the product of the mind of the author and artist. The first thing—the book itself—is the container for the second thing, the text. And if this is what the technocrats are talking about, then they may be right that more and more texts in the future will exist in cyberspace and not in tangible form. But that doesn't take into account the fact that, because of the new technologies, more and more texts are being produced than ever before in history, and that more and more books are too. The latest edition of Books in Print is enormous. It lists more books—the physical objects—than any other Books in Print in history. In the United States alone, more than 100,000 titles a year are produced. That's new titles. In 1987, 56,027 new titles were issued. And the number has been rising every year since—51,862 in 1994, over 52,000 in 1995; and on up each year, with an increasing number of authors, readers and bookselling outlets. As I have just mentioned, in 1999, for the first time in history, there were over 100,000 new books—new titles—produced in the U.S. alone. The 1997-98 Books in Print listed over 187,000 new titles and over 1,250,190 active titles. There are currently over 57,600 U.S. publishers. Bookselling is booming. In 1998, the German media giant Bertelsmann spent $1.2 billion to acquire Random House, USA's biggest consumer book publisher. Bertelsmann plans to become the biggest online bookselling business, far outstripping Amazon. Forrester Research Company says that in 1998 online book retailing was a $290 million-a-year industry; they predicted it would grow to $1.1 billion by the end of 2001, a prediction that has come true. Amazon now markets about 2,000,000 titles. Further, more paper and ink are being used than ever before. And there is a rising number of booksellers trying to satisfy a growing number of collectors, readers, and expanding library collections.

Part of the reason for the proliferation of books is that there is money in all of this for the publishers, merchants, auction houses, and collectors. Any profession generating profits has a staying power built into it. And the new technology simply makes book production easier.

For example, this new technology has produced the notion of "desktop publishing" (a term that has always amused me—could there be publishing from one's desk bottom?): everyman his own author and publisher. The point is, the new technology—rather than drive out the books—has made it possible for millions of people not only to write and revise and re-revise with ease, but also to produce what is known as "camera-ready copy." We can, that is, produce handsomely printed drafts ready to be taken to your local Kinoko's, ready to be turned into as many copies as a bound volume as your pocketbook can afford and your ego can justify. Commercial publishers love this ability too, for now they can have a perfunctory clause in their contracts with authors saying: "the author shall supply cameraready copy," thus saving themselves millions on typesetting and design costs.

For books already in existence, the new technology has made it easy for us to advertise or search for items. There are several bookselling companies listing millions upon millions of volumes for sale: BiblioCity, ExLibris, Nan, half.com, Barnes and Noble, and Advanced Book Exchange, for example, in this country and equivalent services in European countries. There is even a new service of "searching" those databases, allowing us to search on all of them at once. And Amazon Books threatens to swamp them all, offering a search for all books, new and used, modern and out-of-print, all online. Technology gets more and more power continued on page 34
ful, with a broadening span of influence and control, but all aimed at moving books through the world, not at removing books from the world.

The technocrats raise all kinds of arguments. For example, some day all books will be available in digital form. Bank! There are millions and millions of books already in existence. Who is going to pay for the digitizing? Who will play God and select those to be digitized and those to be passed over? Who will store it all? Who will make sure that the texts thus stored will remain fresh, that is, in usable form on current equipment? Who will pay for the equipment? Who will migrate these texts onto the new machines that will make the computers we now have obsolete? Who will pay for that? How will anyone read the text during a power failure?

Though digital access does offer what many users like, how many readers want texts in digital form, anyway? There are too many millions who want to hold in their hands the texts they are reading and looking at. The book is, as I have said, not just a text, it is an aesthetic artifact (albeit that some are less aesthetic than others). How many people want to read a Shakespeare play, a tale from Chaucer’s Canterbury Tales, a Steven King novel, or even a mathematics textbook from a computer screen? Where do you take your notes? How do you lie comfortably in bed with a “laptop”? (Do you even have a lap when you are reading in bed?) Can you read from your computer while soaking in your tub? (There are some people who won’t even have anything to do with computers. Ray Bradbury recently wrote me a letter in which he mentions having a conversation with Bill Gates. He told Gates, “I don’t do windows!”)

And doing away with books would destroy a whole industry and put thousands out of work: what would all those people do who manufacture those B. Dalton bookmarks?

The technocrats then sling out their next argument: Okay, there are lots of books around, but that does not count for the digital books of the future. Good point; there will be many of them. But I believe the so-called digital library of the future will not contain the kinds of books that we are now reading and collecting. As I have said, digital books are great as reference tools. Their texts can be scanned more efficiently and thoroughly than using an index in a paper-based book. And they can contain massive texts in a relatively small space. But the technology to use them poses the problems I have already raised: portability and renewability (when the technologies they were produced with become obsolete). I can still turn to my American Dictionary of the English Language, compiled by Noah Webster in 1828, still some 175 years from now be able to pull out a text produced on a computer today? Maybe. But who will want to read it from a monitor (if that is what they are using them)?

A crucial distinction to be made here has to do with the different functions that books offer. Two primary functions are information retrieval and sustained reading. If we are simply looking for a fact or two, information about something that we wish to extract to support our research, statistics or other numbers, we are seeking to locate specific information. Information retrieval can be done brilliantly online, for key-word searches are the great, exciting byproduct of this wonderful technology. We embrace the computer and acknowledge that what we see on the screen before us is miraculously and gratefully received. But if we are interested in sustained reading, immersing ourselves in long texts with meat and plot, characters and setting, philosophies and theories, narrative, history, argument, and rhythm, then no computer screen can compete with the printed page.

For almost all readers, much of the discussion about the wonders of online texts is moot. For the technocrats seem to forget that human beings define themselves partly through their senses. It is a fact that babies left in their cribs and not touched will die from that lack of physical contact. Books are sensuous objects. We hold them, caress them, and gaze at them. Many books we behold as things of great beauty, containers of important, even earthshaking, texts. There is a pleasure in books that no hardware and software package can impart. Books are beautiful in ways that no image on a screen can be.

Furthermore, books are renewable, portable commodities in ways that no computer product has become. While the computer has expanded our notion of “text” to encompass such features as interactivity and augmentability, these are not physical features that users of books enjoy about the items they handle. The many features of the physical object that can enhance its value are simply not present in any text offered by a computer: a book’s illustrations or illuminations, text papers or endsheets, size, condition, binding or binder, edition, dust jacket, age, print run, publisher, gilt edges, signed colophon or title page, or former owner. Even a forged book has more intrinsic value than does a forged online document. You can make, buy, sell, or barter for a book, all activities for which there is a profit, spiritual, intellectual, or fiscal.

Another feature of the printed word is worth mentioning to indicate the reverence that societies have placed on the physical objects: many books are seen as totems, venerated emblems of power. You will never hear the barbar in court say, “Place your right hand on the personal computer,” or someone claim, “I’d swear on a stack of floppy disks.” To the best of my knowledge, no computer-generated text viewed in cyberspace has yet taken the place of the codex or the scroll in any form of ritual.

Yet another important point to consider is that there is a solidarity and replicability to paper-based research which research on the Internet lacks. You can always look up someone’s cited source in a book, which is a fixed, codified form; but is information gleaned from electronic sources retrievable? Will it remain so? And books generally go through a peer-review process before they are approved of and get into print, while information pulled off the Internet lacks that level of authority and, often, authoritativeness.

There are millions upon millions of books. And there are readers for just about every one of them. The profession of bookselling aims to link the items with the readers and collectors; and the profession of librarianship aims to link the items with the users. Even if the technocrats are right in saying that some day all books will be produced and available in cyberspace (and I believe they are wrong), libraries academic, public, private, corporate, and others will always be there, as will new collectors to begin new collections and new readers who prefer the physical object to the monitor. We all know how books move through the world, from author to publisher to bookseller to bookbuyer. Bookbuyers could be libraries, collectors, readers, booksellers or home decorators. Some books find “permanent” homes in libraries, but even that permanence is not secure. Books are deaccessioned, weeded, stolen, sold, borrowed and not returned, simply lost in some place that only future generations will unearth. Books get loaned, damaged and then discarded (we must have more — the booksellers don’t want to do it anymore) — is part of the mystique of the physical object. I cannot see this mystique diminishing, nor can I see any such mystique developing in the world of cyberpublishing, virtual libraries or computer webs. For some people there is the mystery of the new and of the cutting edge of technology. But this mystique will never displace that of the world of the book.

* * *

I am not a Luddite. I love computers and the world of online research. I embrace the notion of virtual texts. The electronic revolution — with an impact equal to (and possibly greater and more far-reaching than) that other earth-shaking movement in the history of communication — the emergence of printing from movable type — this electronic revolution will allow more people greater access to more information than ever before in the history of humanity. It will offer searching capabilities of...
proportions unheard of and unanticipated only two decades ago. This revolution will continue to challenge the whole world of information production, gathering and dissemination, creating a potential for world-wide literacy.

I have been helped immeasurably by the Internet, my university's computers, online databases and the awe-inspiring amount of visual and verbal information available to me on the World Wide Web. But the notion of web is what makes me cautious: an insect is destroyed in a spider's web; we are trapped in webs, which have a connotation of inextricability and evil. We must not be deceived into believing that the virtual book is the only book in the future, and we must not let our admirators with their fingers on our institutional purse-strings be deceived into believing that virtual libraries are desirable or even possible, let alone that they are the libraries of the future. If such technocrats call the shots, our libraries shall suffer; booksellers will suffer; and so will scholars, collectors and students. The damage that can be done by an administrator who looks only forward and not sideways or backwards as well can be irreparable. We can embrace the technology and use it to its greatest potential, but we must not lose sight of what has made it possible and what continues to flourish and increase in number with no cessation: the book. Shirley Baker, Director of Libraries at Washington University, says, "Nothing in libraries goes away. It just gets added on to." (phone conversation, 3/16/98).

My own sense of the world is that no administrator is really so short sighted as to believe the future contains bookless libraries. They must all recognize the fact that the future holds the production of still increasing numbers of books. After all, libraries are still growing. Booksellers are opening up businesses all over the country. New collectors are emerging in new areas of collecting (women's studies, ethnic and minority approaches to history, environmental history and sociological analyses of books, reading and literacy, to name just a few). An increasing number of fine presses are offering us wonderful new texts in beautiful containers. The number of publishers in the United States alone has doubled over 100,000 for years. There are more and more readers everyday, and an increasing number of physical books to satisfy them.

Yet there are ominous signs. At the University of California, over the last twelve years there has been no new money for books. Surely, the book budgets have held fairly steady, dipping frighteningly in times of recession, but holding their own, without much advancement — despite the advancement in the prices of serials and monographs. But there is new money for the California Digital Library, to the tune of millions of dollars. This is money spent not on books, but on research about and purchase of digital information, some of which will be essentially rented, some which will be "purchased" from vendors who cannot guarantee that they will be able to supply these texts to us 20 or 50 years from now, even if we pay premium prices for them today.

Collection development librarians — all librarians — are nervous. If there is so much money available for the digital texts that we are buying, why can we not afford any more cash for our traditional collections? How can we afford to keep up with skyrocketing serials prices? Serials cancellations are common throughout the world of libraries. There is more and more magazines and journals, following the trend I have spoken of in the publication of increasing numbers of monographs; but there is no new money to buy the journals or books, only the old budgets which are clearly becoming woefully inadequate to allow us to keep up our holdings. Yet there is new money for digital libraries. Should some of this money be shifted back to the purchase of books? I hope the administrators who are funding the waves of the electronic future know what they are doing and understand the implications of their actions. For by pumping money into virtual texts and away from books, they are sending their libraries further and further behind in their efforts to keep up with the great numbers of real flesh-and-blood books that are appearing.

One sign of this continued expansion of the book world is the growing number of mega-bookstores, offering coffee, espresso, baguettes, pastries, bistro, specialty drinks and an awesome array of books, magazines, disks and tapes, calendars, bookmarks, massage oils and implements in the self-help section, reading lights, bookshelves, ties and scarves and mugs, wrapping papers, book wrappers and other book-related objects. These stores are staying in business (indeed, profiting handsomely) not on the basis of their sales of double decof espressos with a twist. The publishing industry is a multi-billion dollar business, and despite its embracing of the new technologies, it is based on the single commodity that has sustained it for centuries: the humble book.

An issue of deep concern has arisen recently in California, as I am sure it has elsewhere: Vendors like Elsevier, who own and distribute large numbers of serials, are moving in what seems to be a dangerous direction. They want to offer large numbers of serials online as a package, with no paper copy as a backup. They offer, say, three-year contracts, guaranteeing full access to these publications for the duration of the contract. One of their arguments is that the package will contain a great number of titles that many libraries cannot afford individually. Another argument is that if you have a paper-based copy, only one reader at a time can use it; an online version is available to multiple users at once.

They do not answer the key questions, pertinent to my talk here. First, what if the library does not want all the serials in the package? Can it get fewer at a reduced rate? Usually not. They must buy the package. Also, what happens in three years? Whether the institution decided to renew the contract or not, will the journal, during the electronic years, be available into the future? For how long? On what equipment may it be accessed? Will there be new technologies requiring new hardware? Who will pay for it? Who will continue to make the texts available into the future (as paper-based texts on the shelves will be available)? Will there be additional archiving costs? Will journal prices continue to rise? Will the online versions no longer be affordable in the future, as they are threatening to be (or have already become) now? If an institution cancels its contract or does not renew, what will happen in the future to the texts they have bought online? How many readers will want the texts on paper as opposed to on a screen? For all of the arguments I have presented here, I doubt that most readers will prefer virtual texts to hard copy.

Further, while the technology of online texts does have many virtues, preservation is not generally considered one of them. Digitization is an actual and not a potential medium. With the swift changes we are seeing in technology these days, no hardware has much of a shelf life. Someone will need to migrate the data — the texts — onto the latest hardware. Who will do it? At what cost? At whose cost? And the final question — a rhetorical one — for me: What's wrong with the paper-based versions of the serials that we now have? It is one of our mandates — not just to librarians and archivists, but to all of us, especially academic librarians — to preserve our culture for future generations. To date no digital means has been invented which promises reliable preservation. And even if one came along — as I have said — there are already in existence too many millions of paper-based books and documents to make it possible to do away with them or to copy them all. We will always need to retain the paper-based materials we now have and are continuing to produce in vast numbers. Until all of my questions are satisfactorily answered, I believe it foolish for us to leap with our eyes only half open into a world which contains only virtual texts — a world which, I contend, will never be.

And what about libraries? If my contention is correct that there will always be books in our future, then we will always need places to store them and make them available. No matter what we call these places — repositories, information centers, research collections, biblioteconic storehouses, or book storage facilities — they will survive, with their new text-bearing materials, for as long as they will look like? Pretty much what they look like now but perhaps with more electric outlets and data ports.

One of the remarkable things about libraries is their adaptability. From earliest times when they held manuscript texts in scrolls or clay, to the invention of the codex, to the invention of photography in 1839, to the understanding that maps and many kinds of ephemera are worth saving for their intellectual content, to the recognition that many kinds of archives have research value, libraries have widened the scope of their holdings. Indeed, in the twentieth century, with its new text-bearing materials, libraries have kept pace with collections of microfilm, microfiche, microcards, film and movie posters, records, tapes, CDs, DVDs, artworks for loan to the public and many more kinds of materials.

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The Future of Books and Reading In An Age of Hyperlinks

by Edwin S. Gleaves, Ph.D. (State Librarian and Archivist of Tennessee; Phone: 615-741-7996; Fax: 615-532-9293) <Edwin.Gleaves@state.tn.us>

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 thirteenth 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.

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. The third revolution, the electronic era, has descended upon us with the speed of electronic circuitry. The microcomputer is scary but only a decade old, the 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 for the 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." 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 typography, and with that as the main feature of its symbolic environment rose to prominence in world civilization.

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." 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.

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