

Valuing Reading, Writing, and Books in a Post-Typographic World

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Efforts to defend the codex book as the bastion of Western culture [are as if] defending the wrapper would protect what is in the box. . . . These efforts to galvanize the codex book in the face of encroaching electronic expression miss the two basic points that should underlie such a campaign. . . . Before we fix on the book as the center of humanistic culture, shouldn't we have a better idea of what books do to us and for us? . . . Having decided what we want to protect, how do we make sure it survives the movement from book to screen?¹

This quotation from Richard Lanham alludes to what is arguably the predominant issue facing the future of the book during the period examined by this volume. Since the early 1980s, when microprocessors moved digital technologies into everyday use, there has been a relentless shift away from writing exclusively in the tangible, intransigent forms of ink and paper and toward the more ephemeral forms of digital texts. The power and pervasiveness of the digital revolution has been evident in how quickly it has transformed reading and writing by introducing new means and modes of written communication while making others obsolete. For example, only a few years after the introduction of word processing, the typewriter virtually disappeared. Likewise, e-mail has marginalized interpersonal and professional correspondence on paper. Yet, during this same period, there has been little basis to argue that the conventional printed book will disappear. In fact, through the turn of the millennium, more people than ever wrote, read, and bought printed books, while the market for digital books continued to be minuscule in comparison.² (See chapter 2.) Nonetheless, there has been a strong intuitive sense that the digital juggernaut is not likely to stop at the cover of the conventional printed book. Scholars from various disciplines have engaged in speculation about its future³ as have commentators on popular culture.⁴ If it is difficult to argue that the book will disappear in the

future, it is just as difficult to argue that new digital forms of writing and reading will have little effect on its future.

A Crisis of Competing Paradigms

Uncertainty about the future of books might be understood historically as competing paradigms, in which crisis results when old assumptions no longer fit new data and developments.⁵ Since the 1980s, there has been increasing evidence that the long-standing premises governing a typographic world do not map easily onto digital forms of reading and writing that define a post-typographic one. For example, traditional conceptions of copyright, intellectual property, and plagiarism are not readily applied to the unprecedented contingencies of disseminating information digitally. A noteworthy example is best-selling author Stephen King's experiment that distributed a novella online, with the somewhat muted support of his publisher. When King subsequently proposed to sell a serialized story online directly to his readers, that experiment became his publisher's worst nightmare. Although King's own commitment to the conventional paradigm's reward structure for writers eventually undermined his plan, others with less to lose — educators, scholars, and librarians — have embraced, sometimes militantly, the new freedoms of access and use made possible by digital media. (See chapter 9.)

The breakdown of well-established concepts or the blurring of fundamental categories is also a mark of a period of paradigmatic crisis. For example, the distinction between reader and writer is less clear in a post-typographic world where digital texts tend to be naturally collaborative and interactive.⁶ As a case in point, the Institute for the Future of the Book has sponsored several projects that invite readers to interact with scholarly authors who post their preliminary drafts of book manuscripts online, essentially engaging readers in the construction of the book. Even what comprises a book has become less clear. Is the commuter who listens to the digitized text of a book read aloud really experiencing a book or simply an oral performance? Is the CD or DVD accompanying a college textbook a parallel book, an extension of it, or something else? What are the boundaries of the book when the textbook refers to, or its accompanying digital materials offer direct links to, various Web sites? Are e-books downloaded from the Internet and displayed on portable electronic devices with backlit screens still books? Can the device displaying the text be legitimately called a book?

A technological innovation initiated during the 1990s extends the question further. Reminiscent of the palimpsest in an earlier era when writing materials were scarce and pages were overwritten with new texts, technicians seeking higher resolution for digital texts developed electronic inks embedded on



FIGURE 28.1. The Kindle, introduced by Amazon in late 2007, receives and displays electronic books and newspapers on a hand-held screen. Among the claims for the battery-operated wireless device is that, at 10.3 ounces, it is lighter and thinner than a typical paper-book book. Courtesy of Amazon

paperlike pages where a variety of texts could be endlessly reconstituted. In 2007 Amazon.com, the online bookseller, released Kindle, the latest iteration in a string of digital reading devices aimed at moving books from page to screen (fig. 28.1). Using the concept of electronic print, Kindle claimed to have much higher resolution than previous technologies. Further, unlike previous devices, it used wireless cell phone signals to allow readers to download books conveniently in a variety of formats for a fraction of the cost of a printed book. Thus, it has become technologically feasible to imagine that each of us may one day soon own a device that might eventually look much like a conventional printed book but that could become any particular book almost instantaneously. Moreover, such an electronic book, as portable as any printed one, could make use of a variety of digital capabilities, including multimedia displays and links to almost any other texts such as newspapers, journal articles, and reference sources, assuming that these categories remain viable. If such a device becomes widely available and used, what would we call it? A book? Where would the book be? The device itself or some increasingly arbitrary unit of its ever-changing contents?

Lanham's challenge in the introductory quotation is one starting point for addressing such questions and for considering the future of the book in a post-typographic world. Without pretending to offer a comprehensive response, the discussion that follows explores some functions of books (and, more broadly, written communication) in order to consider their future within the paradigmatic shift from a typographic to a post-typographic world. It then examines

what digital texts might do to and for us, emphasizing that the open-ended technologies of digital reading and writing represent an unprecedented opportunity to shape what books will become.

What Does Written Communication Do to Us and for Us?

Technology has always been intimately connected to modes of reading and writing and to their sociocultural effects. That is, the materials and the means available and widely used to create written texts dictate to some degree the nature of writing and reading and what role they play in shaping culture. Specifically, who writes and who reads what in what way for whom under what conditions and for what purpose are all promoted or constrained, if not strictly determined, by particular technologies of writing. The invention (an appropriately technological term) of the first syntactical writing in the fourth millennium BCE seemed to be prompted by a gradual shift in the rudimentary materials used to record the number of items traded. Later, scribes who wrote texts on scrolls frequently reiterated information because of the difficulty in rewinding the scrolls to review earlier portions of the text.⁷ Likewise, available technologies determine the extent to which diverse texts can be created and disseminated, which in turn may influence how readers approach texts. For example, approaches to reading texts may become more *intensive* or *extensive* when technologies make them relatively scarce or more plentiful.⁸

The important role of material technologies must be tempered, however, with the realization that writing is most fundamentally a tool of the human intellect operating in a social world. Literacy itself in one sense is a technology that may effect changes in intellectual functioning and how individuals relate to society, although the extent of those changes has been the subject of much debate and theoretical speculation.⁹ This perspective reminds us that, first and foremost, books, as one particular manifestation of written expression, are intellectual tools that serve the building of communities. In whatever form they might take, books, like any means of written communication, must serve our intellectual and social lives while to some extent nudging us in particular directions as a natural by-product of their constituent technologies. Such a view holds in balance the humanists' instinctive bias against technology and the technophile's tendency to value what can be done instead of what might be done to meet well-articulated communicative and social goals.¹⁰

This view raises an important question about the future of books in a post-typographic world: can the intellectual and community-building functions of the book survive in a digital environment? Apologists for the conventional printed book such as Sven Birkerts have argued that the technological char-

acteristics of digital media essentially undermine the fundamental intellectual and sociocultural benefits of conventional books and that those benefits may be irretrievably lost if books move into the digital realm.¹¹ For example, he argues that the contemplative, personal reflection characteristic of reading books is not readily maintained in digital environments and that a shared cultural foundation is lost. Others such as Jay David Bolter and Allan C. Purves go so far as to suggest that the conventional printed book, while perhaps well suited to creating the monolithic cultural and intellectual traditions of the modern era, is not well suited to the more anarchic and fractionated intellectual and cultural landscape of a postmodern one.¹² In an interesting twist on Orwellian themes, cyberage novelist Neal Stephenson offers a vision of how the multimedia book of the future might be a powerful tool for strategically shaping individual perspective and molding or resisting political movements.¹³ In short, to these writers the issue is not whether the book's traditional role in building intellectual and cultural consensus can be moved to the screen, but whether in making that move the book may acquire characteristics more in tune with conditions of the late twentieth and early twenty-first centuries.

Another dimension of what reading and writing do for and to us is that all written texts interrupt the flow of time in the creation of meaning. Unlike speakers and listeners, writers and readers enjoy a temporal space for pause and reflection. Printed texts, especially books, represent this advantage taken to an extreme. A book, or at least the ideal of the book, invites discursive arguments that evolve slowly in their composition; employs abstract forms of language suitable for reflection without the nuance or distraction of diverse perceptual cues; and assumes an active, reflective reader to make sense of it. As Carla Hesse has written, "The critical distinction between 'the book' and other forms of printed matter is not [its] physical form . . . but rather the *mode of temporality* [emphasis in original] . . . which conceives of public communication not as action, but rather as reflection upon action."¹⁴ That is not to say that the book's physical form is inconsequential. A book is a physical representation of a circumscribed argument and it travels relatively well as a distinct representation of a particular author's ideas and persona, which has had important historical and socio-cultural consequences.¹⁵ The book's physical distinctiveness and its portability have extended and reinforced its temporal claim on a well-defined reflective space for individual authors and readers who likewise have well-defined roles in the communicative process.¹⁶

Digital texts, on the other hand, are naturally inclined to erode this quiet, personal, circumscribed, reflective space, or at least to transform it into a more dynamic form. Digital texts are more naturally spontaneous, "noisy," and ephemeral. They are much easier to produce, disseminate, approach, and re-

wise, and they lack the distinct boundaries that a book entails as a physical and conceptual entity. Further, digital texts naturally invite the use of diverse media and symbol systems, which enriches the diversity of written expression but at the same time complicates and transforms it.¹⁷ All of these characteristics work against the creation of a well-defined conceptual space for reflection with sharp temporal and physical boundaries between authors, readers, and texts. A major issue to consider, then, is whether it is possible, or, more importantly, desirable, to move the book to the screen in a way that preserves its inherent promotion of abstract reflection.

Another relevant dimension of all reading and writing technologies is the degree to which the medium used to display written texts falls on a continuum from fixed to fluid. Fixity and fluidity are defined by three related concepts: malleability, accessibility, and multiplicity, which can be illustrated by comparing prehistoric writing on cave walls in southern France and a Web page on the Internet.¹⁸ The cave writing is high in fixity—it has remained available for millennia—but low in fluidity. It would have required considerable effort for the original writer to revise or update once it was produced (malleability) because the cave is obviously not amenable to the creation of portable (accessibility) copies (multiplicity). Digital texts, on the other hand, have highly tenuous fixity, as anyone who has lost a day’s writing to a computer crash can testify, but they have high fluidity. They can readily be copied and disseminated to intellectually and geographically diverse audiences, and they can easily be modified and updated, even perhaps by “unauthorized” (note the dual meaning here) individuals.

Printed materials, most prominently books, have occupied a comfortable, unchallenged niche between these extremes. It might be argued that conventional books and other printed materials will and should survive on that basis. However, an important caveat complicates that argument. That is, this balance, along with its attendant concepts and unexamined assumptions, has been achieved more by default as a natural consequence of print technologies rather than by systematic analysis and conscious manipulation. Elizabeth Eisenstein has argued, for example, that the fixity of texts that accompanied the emergence of print technology in the fifteenth century created a new emphasis on recognizing the individual as an originator of texts, which gave rise to modern concepts of intellectual property, copyright, and plagiarism.¹⁹ Unlike print technology, digital technologies are open-ended in how we might imagine them being used to write, read, display, and disseminate textual meaning. As Arthur Ellis noted decades ago, the computer, which makes possible digital texts, is not a singular device with a limited set of applications and capabilities; it is a device that can become almost any device we choose to create.²⁰

Thus, digital technologies, when applied to the recording, storage, retrieval, and dissemination of information, provide a means for imagining a broad expansion or restriction of fixity and fluidity and the attendant concepts of malleability, accessibility, and multiplicity. For example, the development of ASCII code was aimed at standardizing digital texts to improve both fixity and fluidity; encryption programs are aimed, among other things, at restricting multiplicity; and programs that act as “fire walls” are aimed at restricting accessibility. All of these examples are currently less than perfect in their implementation, but they illustrate that digital environments provide an unprecedented opportunity to shape, not simply to inherit, the consequences of a writing technology.

What Do Books Do to Us and for Us?

Among the many possible effects and functions of books, three warrant special attention because they have all entered into the debate about the future of the book. In addition, each leans toward the *ideal* of the book as “the bastion of western culture,” in Lanham’s words, not as just any collection of information and content that can be placed on pages and bound between two covers. Put another way, what is mainly at issue in considering the future of the book is not whether a phone book, a car repair manual, a hobbyist’s guide to planting a garden, or even a set of encyclopedias will survive in book form. Reference works (perhaps soon, even edited volumes such as this one) have already moved significantly into the post-typographic world and will probably continue to do so with relatively little fuss once the economic consequences for authors and publishers are resolved and once devices for gaining access to and reading such texts become more readable and portable. Access to this everyday, practical information has been largely usurped by the Internet. What most matters instead is the ideal of the book as a sociocultural artifact in the sense of Aldous Huxley’s observation that “the proper study of mankind is books.”²¹

First, books provide authoritative and reliable information. That characteristic is reflected in popular parlance by expressions such as “he wrote the book on it” or “this is a textbook case.” Books are, perhaps along with the academic journal, at least among academics, at the top of the informational food chain. Because, traditionally, books have required considerable time, energy, and resources to produce and disseminate, only the most worthy information is assumed to merit publication as a book. Of course, as has been pointed out by many writers of a postmodern bent, who has decided what is worthy has resulted in a literary canon dominated by dead, white males. One person’s appeal to quality is to another a form of censorship. Nonetheless, however imperfect the system may be in deciding who merits inclusion in the grand conversation

of highly regarded texts, book publication has traditionally served as society's arbiter of what is considered worth preserving.

In considering how that value might be affirmed in digital texts, however, it is important to note that this role of the book has eroded beginning in the late twentieth century for reasons that are only indirectly related to the digital revolution. For example, using book publication as a mechanism to establish informational value relies on the relatively slow production of few books written by relatively few authors, which is in turn well suited to a system where publishing houses are relatively small operations run by bookish, intellectual connoisseurs. Today, on the other hand, a few major publishers, controlled by large multinational corporations, select books for publication as much for economic reasons as for their informational or aesthetic value. This emphasis on profit fuels the demand for and the production of a continual supply of new books and authors, which undermines the exclusivity that helped ensure the quality of information.²² (See chapters 2 and 12.)

The shelf life of trade books, as Calvin Trillin put it, "is somewhere between milk and yogurt." In the past thirty years, books have increasingly become a commodity and image-making device (e.g., to launch speaking tours, consulting services, or political campaigns), thus depreciating their capital as an authoritative source. That is not to say that particular books can no longer become influential. Given the surfeit of widely available books, however, influence comes primarily through celebrity status, often achieved, interestingly, through other media. As a result, it might be argued that books, beginning in the late twentieth century, were more likely to reinforce rather than shape the sociocultural landscape. For example, as John Maxwell Hamilton has pointed out, Oprah exerts as much influence on the success of a book as literary critics today, who themselves tend to approach reviewing books approvingly like "a counselor at a self-esteem camp."²³ Nonetheless, selling books in a digital environment has offset these trends somewhat. As chapters 5 and 23 note, online book sellers often make available to customers a grass-roots and democratic review process that invites all readers, regardless of status or expertise, to rate and review all books.

Not only do books compete with each other in the marketplace; they also must compete with an increasing array of media and activities available for entertainment, recreation, and information. (See tables 12–14.) To television and film, the latter part of the twentieth century saw the addition of various new media such as video game players and a host of computer-based games and activities along with the expansion of other print media such as magazines often aimed at highly specific markets. To compete, publishers have sometimes redesigned books in the image of such media (e.g., textbooks that present informa-

tion in formats that resemble magazines), further undermining the ambience of authority the book has traditionally possessed.

Further, at the beginning of the twenty-first century, the slow, deliberate filtering of information that traditionally contributed to the book's authority has also been at odds with the rapid increase in the amount of information generated in all areas of inquiry. In that regard, the digital revolution has been both a cause, by enabling the collection and analysis of prodigious data, and a solution to this increase, by providing a means for rapid and widespread dissemination and ease of access. Gaining access to the most recent information today has been compared to trying to take a sip of water from a fire hose. The academic journal created in the seventeenth century was the first attempt to address the gap between information quality and timeliness.²⁴ During the most recent period of the book's history, however, even the academic journal has been considered too slow for keeping abreast of developments, especially in the hard sciences where teams of scientists working in laboratories around the world are making discoveries one day that influence their colleagues' work the next. Thus, they use the Internet for information exchange, avoiding the conventional publication process entirely. (See chapters 19 and 20.) If the Internet is the Concorde of information exchange, the conventional academic journal has been a prop plane, and the book has traditionally been an ocean liner. And, just as these modes of travel have their advantages and charms, preserving the conventional book form or thinking about how it might be moved to the screen may depend upon our purposes for reading, writing, and obtaining information.

At the same time, digital sources of information, particularly the Internet, have been much maligned for their unreliability. Simply because one can find much unreliable information in the vast relatively undifferentiated environment of the Internet does not necessarily mean that the authority of a book must inevitably be lost in a digital environment. Some trends indicate otherwise. For example, the burgeoning number of independent online academic journals during the 1990s suggests increasing use of and regard for online information.²⁵ In fact, a more pragmatic and democratic definition of what is considered authoritative is easier to contemplate online. Online information might be validated more explicitly and neutrally than the printed book by revealing its source, who is using it, and how successfully it is being used.

Ultimately, as historians of scribal publication have established in a different context, it may be counterproductive, even dangerous, to link the concepts of authority and reliability of information too closely to the technology used to disseminate it. The cues printed forms provide about their validity can be misleading and sometimes require high levels of literacy to decipher.²⁶ For example, a book issued by a certain publisher may carry a clear set of assumptions about

its content and the perspectives of its author and its targeted audience. Those who are unaware of the implied biases risk ascribing more authority to the information than it merits. This example is a subtle one compared to the more insidious efforts of some political and religious groups to elevate the stature of their ideas by publishing books that purposefully hide the author's or sponsoring group's identity. Mature readers seeking information on the Internet today may, of necessity, be wary and careful to evaluate and confirm the information they find. In that sense, books in the typographic world have been akin to the eminent lecturer to whom authority has been ascribed, but the dominant metaphor of the post-typographic world may be the seminar in which the authority and reliability of ideas are forged in the crucible of an inclusive debate. Such debates, however, are also occurring on the Internet about conventional printed books.

Second, books are a valued form of aesthetic expression and pleasure. Throughout history, books have represented highly valued aesthetic qualities in both appearance and content, which are intertwined with their ability to evoke pleasurable emotional responses. The book is perhaps the quintessential objet d'art that has descended through the centuries as a unique blend of form, content, function, and evocativeness. We are simultaneously the offspring and the progenitors of the impulses exercised in the exquisitely illuminated manuscripts of the medieval scriptorium. The religious zeal that glorified the content of the book by devoting much attention to its appearance remained evident in the period examined by this volume, although in muted form. The leather-bound classics or the aesthetic values exercised in the careful selection of fonts and layout by publishers such as Alfred Knopf are not as evident as they once were, but most readers continue to feel a strong affinity to the sensuous experience of a physically well-crafted and visually appealing book, the latter being especially evident in books for children. Likewise, what psychologists refer to as "paired associate learning" accounts for the fact that many readers associate the material form of the book with a lifetime of pleasurable experience, although that association may be giving way to a generation of readers absorbed in electronic media.²⁷ The often-cited pleasure of reading an absorbing and aesthetically pleasing book in bed, on the beach, or on a long flight may be secondary to the book's role as an intellectual tool and a cultural artifact, but it is real and must figure into speculation about if and how those qualities might be transferred to the screen, at least in the short term.

Thus, the computer or other electronic devices for reading may need to be radically transformed. Computers during the 1980s and 1990s, with their Rube Goldberg configuration of plastic boxes, wires, and connectors, had virtually no aesthetic appeal, let alone portability. The desktop computer, as a device for

reading books at least, has been compared to polyester, the miracle fabric of the 1960s. Functionally, polyester was everything a fabric should be, but few wore it. Early in the new millennium, however, there have been signs that computer manufacturers are moving beyond beefing up the internal power of their machines and discovering what automobile companies had discovered much earlier: style sells. For example, Apple Computer's history of developing attractive minimalist styles for its computers and visually engaging user interfaces has received accolades for aesthetics as much as for technological prowess. Likewise, as Alberto Manguel has argued, there has always been a strong melding of ergonomic and aesthetic influences in determining the shape and form of devices for reading.²⁸ Consistent with that tradition, since late in the twentieth century various digital devices referred to as e-books have been designed and marketed with the aim of capturing the ergonomic convenience and readability of conventional printed books while capitalizing on the capabilities of the computer, including downloading the text of conventional books through existing electronic networks. It is not difficult to imagine that eventually an aesthetic dimension may be associated with such devices.

A more complex issue for the future of the book is whether written narrative, most prominently the modern novel, can move from the page to the screen. Will aesthetically pleasing and engaging narratives emerge in digital environments, and if so, will they supersede the conventional narrative forms of the book? Written narratives in books are implicitly linear with no overt participation of the reader in the story, which is a natural consequence of the book's physical form and the assumption that independent readers will read pages sequentially. There are many examples of writers who have created nonlinear and more participatory narratives in books, ranging from James Joyce to writers of choose-your-own-adventure books for children. However, such writers are writing against the grain of a book's form, and there are limits to how far such attempts can go given the technology of the book.²⁹ Digital environments, on the other hand, more naturally invite nonlinear narratives in which a reader may participate more actively in determining where the story might lead. Several writers have experimented with hypertextual narratives, and some, such as Janet Murray, have begun to reflect on what the poetics of digital narrative might entail.³⁰ None of these experiments has achieved widespread critical acclaim or popular appeal, but that may mean only that these efforts are incunabular.

In the final analysis, those who have experimented with digital forms of narrative may be like sculptors who have been given a new stone, or type of clay, or metal in which to work, or, more accurately, like sculptors who have been given all three in a way that invites using them to integrate each one into multimedia constructions. Inevitably, aesthetic expression will emerge regardless of

the particular technologies of writing and reading that come to be widely accepted, and it is unreasonable to argue that the book in printed form holds the deed on the aesthetics of narrative, especially if, as some have argued, narrative is hard-wired into the human psyche.³¹ Nonetheless, the psychological and social dimensions of experiencing narrative may naturally vary between the conventional book form and evolving digital forms. For example, the printed novel described as a page-turner can reduce the space for reflection during reading to nil, much as does an action movie, which led Bolter to characterize its readers as engaged in “anti-reading.”³² Likewise, the capabilities of digital media invite writers to create sensually rich narratives that unfold at the whims of readers (or viewers) who are engaged in a participatory, as opposed to a reflective, space. The extreme of this form of narrative has been imagined in science fiction as virtual realities where participants occupy the personas of avatars within imaginary worlds. Recent attempts to create such virtual realities on the Internet such as *Second Life* may be only crude precursors to that vision, although, for now, these virtual worlds do not seem compatible with the so-called serious novel that inspires rereading and reflection.

Finally, the book is a genre of writing that encourages authoritative, linear, serious, and abstract arguments. Sitting down to write a book has meant invoking a different perspective from writing a letter, an editorial, a short story, or a journal article. One obvious difference is that the author of a book sits longer. A defining characteristic of the book is that it is the longest form of a single textual document. Not coincidentally, because in a typographic world length correlates with importance, it has also been the most prestigious genre for those who believe they have something worthwhile to contribute to the necessarily limited collection of published discourse. Consequently, writing a book encourages a single-mindedness of purpose and confers on authors a sense of authority that readers in turn accord them.

For example, the academic thesis might be thought of as the model for the ideal of a book in a cultural sense. Advancing a thesis, perspective, or interpretation has been, in fact, the justification for writing a nonfiction book that aspires to be important and influential. That typically means making an argument sustained by as much supportive ammunition as can be mustered, with the assumption, of course, that others can write their own books if they wish to challenge one’s thesis. Tentativeness, self-doubt, and inhibition are seen as signs of weakness that may undermine an author’s case for publication and for the legitimacy of his or her ideas. Likewise, identifying the limitations or counterarguments to one’s thesis is usually grudging if it occurs at all. Instead, readers of books are left primarily to their own resources to test the veracity of an author’s message, typically by seeking out and reading other books addressing the same

topic. The authoritative single-mindedness of the author who has been judged worthy of book publication also breeds a seriousness of purpose in writing and reading such books. Levity has not been prototypical to the cultural ideal of a book, and even when it is, it tends to take more culturally honored (i.e., serious) forms such as satire. The seriousness, even reverence, that accompanies the book as a physical object was poignantly illustrated in a scene from the 1989 movie *Dead Poets Society* when John Keating, a teacher at an exclusive prep school, directs his nonplussed students to rip out the scholarly preface from their poetry books and to toss the pages into a waste can. The scene works because the audience shares the students' hesitation in carrying out such an irreverent act. A reverence toward books and a seriousness that it evokes are clearly socially constructed stances, but these stances are reinforced by the technological constraints associated with writing, producing, disseminating, accessing, and reading books.

In addition, authors of books typically employ a linear logic and organization presented as a hierarchy of main topics and subtopics. The book as a genre of writing conforms to its physical form by having a beginning, middle, and end. Such writing takes much discipline to rein in the natural tendency to think by association, and the book is the highest and most discursive expression of that discipline. Readers are not necessarily expected to read only linearly, the index being a concession to nonlinear reading. Even so, nonlinear reading is in one sense an affront to the author's efforts to develop a logical thesis.

The book genre also naturally privileges the abstract over the concrete, because linguistic information in the form of the printed alphanumeric code takes center stage. Although there are books that foreground more concrete graphical information, the writer of a book does not typically start by searching through a file of pictures, maps, or diagrams. The ideal of the book is distinctly nonvisual in the sense that readers are expected to look *through* the text on the page, not *at* it, in search of deeper meanings. Or, as one writer has put it, the text is "the crystal goblet that contains the wine of meaning."³³ Thus, the ideal of the book gravitates toward the abstract and the discursive and tends to encourage a philosophical stance rather than a rhetorical one.

These characteristics of the book genre have come to be culturally valued and might be cited as responses to the question of what books do to us and for us. But deciding which, if any, of these characteristics we wish to preserve if the book moves from page to screen is a more complex issue. Most fundamentally at issue is whether these characteristics are valued because they have become familiar and comfortable ways of conceptualizing writing and reading books or because they provide some inherent advantages over an alternative set of characteristics that might be imagined. What would be gained or lost if the book genre

were transformed online to become less authoritative, less serious, less linear and hierarchical, and less abstract? Are the cogent arguments of a strongly argued, linearly constructed, and seriously presented thesis inherently better than an equivocal, divergent, exploration that does not take itself too seriously?

These are more than rhetorical questions, because digital texts offer many technological capabilities that have potential to undermine the traditionally valued characteristics of the book as a genre. Digital texts are more naturally multivocal dialogues that resist the authoritative stance that is more natural when writers know that they are necessarily isolated from readers. For example, one wonders what the subtle effects on writing might be of the now common practice of authors adding their e-mail addresses to their publications. Similarly, the greater malleability of digital texts encourages an enlightened tentativeness that in turn encourages the testing of ideas in an interactive forum where revisions are always occurring. Thus, a writer in a digital environment is more likely to take the stance of writing to understand rather than writing to be understood. Digital texts also blur the physical and consequently the conceptual boundaries between texts, thus merging the lone author as idea maker into a vast network of competing ideas and perspectives. These qualities, when coupled with the ease of making associational links with diverse texts, create an environment that is more conducive to nonlinear writing and thinking. They also encourage authors to engage in a creative playfulness uncharacteristic of books. The digression, the caveat, and the epigram may be the mortar for building digital genres.³⁴

In addition, the screen is a much more visually oriented environment for writing.³⁵ Indeed, it is possible to imagine an author of a digital text starting with and foregrounding graphical information that might include animation, sound effects, speech, and video. Digital texts naturally inspire a visual rhetoric that moves alphanumeric text more to the margins. That it does is evidenced by the movement in the late twentieth century to include visual literacy in the educational curriculum.³⁶ The post-typographic emphasis on the visual has already reflected back upon printed forms. A clear example is *Wired* magazine, which emerged as an intentional hybrid bridging the typographic and post-typographic world in the 1990s. In a visual sense, it is the textual equivalent of a heavy metal band, replete with graphical representations that overtly compete with the alphanumeric textual content.

All this is to say that there is a major disjuncture between the natural tendencies created by the technologies of the conventional printed book and the emerging forms of writing that are most natural to digital environments. Trying to maintain some of the valued qualities of the book genre in a digital environment may mean that books in a post-typographic world will be sojourners in an increasingly alien land. It remains to be seen what qualities will endure, what

qualities will fade, and what will become of the conventional book in a post-typographic world.

Valuing Backward and Forward

Lanham's challenge is framed to look backward at what the printed book has offered culturally and then to invite us to consider what we value and what we might endeavor to preserve in the future. However, there is a complementary perspective that might help to shape the future of the book. We could take stock of the unique capabilities of digital texts as they are gradually being unveiled and then consider how those capabilities might be applied to compensate for the printed book's limitations—limitations that are perhaps revealed only now that the status of the book has been challenged by other possibilities.

That is, instead of beginning in the past, we could begin in the present or foreseeable future. We could ask, What do digital texts do, or what are they likely to do, to us and for us? Once we discover what we value or might value from the writing technologies of the post-typographic world, we might contemplate how to improve upon the forms of the passing typographic one. That exercise might lead us to imagine creating many kinds of books or multiple forms of the same book that are written or read differently by individuals in particular circumstances. To cite a current example, a conventional printed book read aloud to a child who sits on a parent's lap creates one type of positive experience; however, the same book, when the parent is unavailable, provides different, but nonetheless important benefits, when read by a child independently on the computer screen where a click results in an audio pronunciation of any unfamiliar word.

The reason it is possible to consider these and other types of writing and reading experiences is that for the first time in history the technologies available for writing and reading allow us to consider quite broadly what characteristics and capabilities of written communication we value under particular circumstances and, accordingly, to implement them. Texts made possible by digital technologies make available options of unprecedented range and power, thus enabling us to engineer the reading and writing experience for multiple purposes.

But, in this new freedom there is ambiguity and perhaps a sense of loss. The concept of "bookness" may need to become more broadly conceptual and less associated with a physical manifestation of print technology. This shift may be difficult. Not only do digital technologies provide many new options for thinking about books, but there are few models for using those options purposefully. Likewise, in this period of uncertainty between a latent typographic and emerg-

ing post-typographic world, we have only a vague sense of what we might value beyond those qualities traditionally associated with books. Like any new technology, however, the ultimate effects and forms of a new writing technology take time to develop. Anxious novelists were not waiting in the wings for the printing press to appear. They emerged only after the technology of print was established and better understood and after audiences for creative fiction were available.

One way to confront that ambiguity is to seek a middle ground between the old and the new. As the capabilities and potentialities of the digital texts emerge, we can apply them to furthering what we have always valued with familiar tasks and contexts. For example, the digital, multimedia encyclopedias, which at the end of the twentieth century became commonly available in schools, quickly replaced printed encyclopedias. These digital encyclopedias were readily accepted, in part, because they represented something familiar (i.e., an authoritative collection of diverse information that might be used for a school report) and something new that clearly enhanced previous capabilities (e.g., rapidly automatic Boolean searches for keywords within articles). At the same time they naturally evoked new possibilities (e.g., How might a video clip enhance a report and how might reports be constructed differently?). Likewise, the conventional printed volumes of the encyclopedia morphed in the twenty-first century into Wikipedia, a relatively new post-typographic source of textual information that valued immediacy and a democratic vetting of accuracy and reliability at the expense of fixity and privileged interpretation. That application would not have evolved into a popular, if not definitive, source of information if it did not serve real, valuable informational needs.

As this example illustrates, seeing positive possibilities and potential futures is more difficult when the focus is exclusively on what we have valued and what we want to preserve of the past. It is also more difficult if we reject the possibility that the future might in some sense be better. It is especially difficult when digital texts are seen mainly as a threat to the long-standing values instantiated by printed books. Such views are especially shortsighted given that the traditional cultural and intellectual values embodied by printed books have been eroding steadily, independent of the digital revolution. In that sense, it might even be argued that moving the book into a post-typographic digital environment could be its salvation. That is, the possibility of preserving the concept of a printed book at least as a viable category of literate expression in a post-typographic world may lead to a more explicit understanding of its advantages and limitations as a genre and as a technology of writing and reading. Doing so will require addressing a complex array of social, cultural, economic, political, and legal issues and challenges that are likely to be resolved only through innovation and ad hoc attempts to experiment with new possibilities. In the final

analysis, the issue of what should be valued in reading, writing, and books in a post-typographic world is not strictly a question of preserving and honoring the textual forms that we have known and that have served us for so long. Instead, it involves relishing the opportunity to enhance literate experience with the new technological options now at hand.

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