The FUTURE of the BOOK

Edited by GEOFFREY NUNBERG

With an Afterword by UMBERTO ECO

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Patrizia Violi

PREFACE

The present volume grew out of a conference held at the Center for
Semiotic and Cognitive Studies at the University of San Marino on
July 28-30, 1994. Created in 1988 by the then newly established
University of San Marino, the Center, under the direction of Umberto
Eco and Patrizia Violi, organizes conferences, workshops and meet-
ings, as well as short courses and summer schools, and promotes
research and discussion on a wide range of topics related to semiotic
theory and practices within a framework of the study of semiotic and
cognitive processes.

Against such a background, the development of technology and its
impact on the evolution and organization of social and cultural practices
are a central concern, which affects many different areas of culture,
society and the media. So it seemed singularly appropriate to organize
a conference on the changes in, and transformation of, what is undoubt-
edly the oldest technologically mediated form of communication: the
book and the act of reading.

What is the future of the book in this new era, as the end of the mil-
lennium approaches? The question raises issues that range from the
transformation of the cultural institutions devoted to the storage and
conservation of books to changes in the cognitive processes of reading
and writing arising directly or indirectly from the introduction and use
of the emergent technologies for reading and writing. Beyond this, we
want to know how the structure of texts themselves will change, along
with the socio-culturally mediated systems of textual genres and
norms. How will text-based interactive systems for writing and inter-
action like the World Wide Web and MOO's affect the development
and evolution of textual norms? Will the book as a material object still
maintain some of its symbolic value, or it will disappear into the realm
of merely virtual entities? Will new technologies enable us to look at
ancient texts in a new way, discovering hidden structures?

Questions like these are important to researchers in a wide range of
fields: philosophers, linguists, semioticians, historians, psychologists,
experts in new technologies – not to mention authors, librarians, pub-

lishers, and others with a professional interest in the production and dis-
semination of the conventional book. This variety of perspectives and
approaches was well represented by the participants at the conference.

During the conference, moreover, a special section was organized
for the demonstration of electronic tools and products created for the
support of genres like fiction, essays, and pedagogy.

The chapters of this book reproduce the papers that were presented
at the conference, as revised in the light of discussions and comments.
The proceedings of the San Marino Center have usually been pub-
lished by Brepols; in this case, however, the widespread interest in the
topic in the North American market suggested that we embark on a
joint publishing venture with the University of California Press, who
will copublish and distribute this volume outside of Europe.

Special thanks are due to Geoffrey Nunberg, who originally sug-
gested the idea for the conference and whose many constructive sug-
gestions and invaluable scientific assistance helped to make it a suc-
cess, and also to the Rank Xerox Research Centre in Grenoble, which
generously contributed to the organization of the conference, thus
showing how a highly profitable collaboration between very different
kinds of cultural institutions may be realized.

Geoffrey Nunberg

INTRODUCTION

One could be forgiven for assuming that anyone who talks about
the future of the book nowadays will be chiefly interested in saying
whether it has one. The public discussion has been dominated by pro-
phesies of the people the press likes to describe as "computer vision-
aries." They give us a future where printed books, brick-and-mortar
libraries and bookstores, and traditional publishers have been super-
seded by electronic genres and institutions; where linear narrative has
yielded in all of its important functions to hypertext or multimedia;
where the boundaries between traditional media and disciplines have
been effaced; and where like as not print society has been replaced by
a more harmonious and equitable discursive order. It is a vision calcu-
lated to provoke the indignant reactions of bibliophiles, like the declar-
ation by the novelist E. Annie Proulx (cited by James O'Donnell in his
essay here): "Nobody is going to sit down and read a novel on a
twitchy little screen. Ever."

Still, the parties have more in common than either of them sup-
poses. The bibliophiles' reactions are undeniably colored by fetishism,
as witness their disproportionate concern about the difficulty of curl-
ing up in bed with a computer. (What's more, as George Landow
astutely points out here, the fetishism is a little delusional, inasmuch as
the morocco-bound ideal that bibliophiles tend to invoke has little to
do with the form in which most students encounter the classical texts,
in cheap paperback editions that will not survive even a single reading
intact, and even less to do with the cobbled-together collections of pho-
tocopies in which they most often encounter the secondary literature.)
But the enthusiasts of the new technology are not exactly innocent of
fetishism either, both for their sleek new toys and for the obsessive,
idle manipulations that they encourage. And it is probably these con-
flicting fetishisms that lead both sides to adopt a particularly concrete
and implacable variety of technological determinism. They assume not
just that the future of discourse hinges entirely on the artifacts that
mediate it, but that artifacts and hence cultural epochs can only super-
sede one other – the doctrine most famously proclaimed by the arch-

deacon in Hugo's *Hunchback of Notre Dame* as "Ceci tuera cela." (As Umberto Eco observes in his afterword, no conference or collection of essays on the future of the book would be complete without someone citing these words, so I may as well get them out of the way at the outset.) In the story the visionaries tell, that is, the computer has to kill the book, rather than merely maim it or nudge it aside a bit. And because the partisans of the old order implicitly accept this point, they feel obliged not just to passionately defend the book, but also to disparage the technology that is supposed to replace it, "twitchy little screens" and all.

In its broad outlines, of course, the dialectic is not new. As Paul Duguid points out in his essay here, the doctrine of supersession has close affinities with the theoretical program of postmodernism, with its insistence that history moves by abrupt and sweeping discontinuities. It's clear, too, that most of the visionaries have been directly influenced by some version of Daniel Bell's notion that we are standing at the threshold of a postindustrial age, as the social order built around the production and distribution of goods yields to one determined by theoretical knowledge. And even closer to home, the program obviously owes an enormous debt to the paleo-post-Gutenbergianism of McLuhan. Indeed, if we take a longer view of things, as several of the contributors do here, the past can come to seem an unbroken stream of proclamations that man is living an epochal moment. As Proudhon once said, "La révolution est en permanence dans l'histoire."

Still, the current prophesies of the end of the book have some features that set them apart from the claims of a lot of the other millenarians. There is first the matter of periodization. Here the visionaries line up with McLuhan rather than with the postmodernists or postindustrialists, locating the beginning of the passing age in the fifteenth century rather than the eighteenth or early nineteenth, and explaining the crucial features of these later eras, like industrialism or the Enlightenment, as simply the delayed consequences of the introduction of print. (Or as people often put it, these things followed from the "logic" of the technology, a trope that implicitly reduces the needs and desires of human agents to a set of universal axioms.) The facile determinism of this picture is taken on here by Carla Hesse, who examines the parallels between the effects of the current digital revolution and the changes in publishing that were brought about in the wake of its rather more sanguinary predecessor of 1789. It was a period not unlike our own, she notes, which witnessed a pullulation of new forms,

media, and institutions that underlay the "modern literary system," with its new conception of intellectual property. But what brought about these changes, she argues, was not technology but events like the Terror: "... there is no evidence of any clear link between the advent of printing and the emergence of the notion of the individual author as the source of knowledge or truths."

But unlike the postmodernists and postindustrialists – and indeed, unlike McLuhan – most of the enthusiasts of the new technologies have no real interest in advancing a historical thesis. The invocations of Gutenberg serve chiefly to demonstrate that the present situation is at least epochal, if not wholly unprecedented.[1] And the point of their historical determinism, you sense, is chiefly to establish their right to control the cultural moment and the material resources that it commands. This is how the future will be, they say, and the only choice we have in the matter is to get on board or to stand in the station as the train pulls away. People who say that tomorrow belongs to them are usually angling for a piece of today. (Thus are the words "vision" and "visionary" made banal, to the point where employees at some Silicon Valley companies are made to file "vision statements" as part of their annual review.)

It's important not to lose sight of this point when we evaluate the visionaries' prospective claims for the techology, which are anchored in immediacies far more than they are let on to be. No one doubts that digital technologies will have profound effects on the way our discourse is conducted and promise to lead to the emergence of a new "mediasphere," to use Régis Debray's term, a new regime of discourse. But the technology itself is changing so rapidly and unpredictably that even those who tend to think of it deterministically should have severe qualms about trying to predict what form it will wind up taking or what its cultural consequences are likely to be. When you hear someone making confident predictions about the state of the technology fifty or seventy-five years from now, you might think of some Eocene racetrack tout trying to call the winners of future Kentucky Derbies on the basis of observations about the herd of eohippi grazing about his knees.

Over the short run, to be sure, there are some technological predictions we can make with confidence. It is certain, for example, that the "twitchy little screens" will soon be replaced, perhaps by the amorphous silicon displays, which already exist in the laboratory, that rival offset in their contrast and resolution. And it's reasonable to assume

that we will have displays before the turn of the century that are almost
the equivalent of paper in their weight and flexibility, as well. Still, as
Duguid and Debray both point out here, the utility and significance of
the form of the book doesn't begin and end with the printed page. And
we should bear in mind that the applications of digital technologies are
not limited to the presentation of texts on screens, but promise to work
fundamental changes in print publishing as well (the point tends to be
neglected in these discussions, perhaps because ordinary consumers
don't often see these technologies at work.) Digital printing, for exam-
ple, eliminates a lot of the costs of production, storage, and distribution
associated with previous methods of short-run printing, all to the
immediate benefit of small presses, university presses, reviews, schol-
arly journals, and reprint houses (which now perforce include the
proprietors of all the backlist titles and digitized library collections
available for digital reprinting.) Initial printings can be smaller with
additional copies made available on an on-demand basis, so that a
small press, say, can publish more titles than would be feasible with
traditional offset printing, and keep them "in print" indefinitely. (Small
presses are also likely to profit from the advertising advantages of the
web, where they can post catalogs that allow readers to sample a chap-
ter or two of a prospective purchase.) Even with these new efficiencies,
of course, these sectors will remain relatively marginal in the larger
scheme of things, but so long as they remain healthy it would be hard
to claim that "the book" is in its death throes.

Indeed, as Eco suggests, the very pervasiveness and generality of
the technology make it difficult to identify any single digital *ceci*. You
can see the problem in the way enthusiasts of the new technology have
tried to locate its essence in each of its successive manifestations – the
searchable digitized text, the bitmapped display, hypertext, multime-
dia, virtual reality, MOOs and MUDs, the Web – usually with a one-
dimensionality that recalls those science-fiction worlds (the jungle
planet, the desert planet) that are given over to a single ecology. And it
is no less difficult to identify the predigital *cela* that the technology
threatens to kill. After all, as Raffaele Simone observes here, the book
is a heterogeneous form that can lodge a number of diverse textual
guests. If we take the book in its broad sense to refer simply to bound,
printed volumes, then most books will likely disappear soon, but the
majority of these are the sorts of records whose existence in codex
form has no particular cultural significance – parts catalogs, technical

manuals, directories, regulations and legal records, and so forth. (And so much the better; as Eco notes, there are already too many books.) Among the books that people tend to care about as books, by contrast, the process of conversion is likely to be slower and much more selective. Scientific journals are almost certain to move to digital distribution, but for popular newspapers and magazines, the economic case for conversion is less compelling. CD-ROMs have already cut heavily into the sale of print encyclopedias, to the point where there are unlikely to be any left a generation from now, but the sales of print dictionaries seem largely unaffected by digitization (a recent edition of the *American Heritage Dictionary* wound up a bestseller in both print and digital versions). As for poetry reviews, novels, self-help books, political memoirs, critical editions, art books, travel guides... well it is simply too early to say. Some will probably continue to rest chiefly on printed supports, some will divide their lives between print and digital media, some will emigrate definitively, taking their place along a variety of utterly new digital genres.

Prediction, as James O'Donnell observes, is a mug's game. Still, I am willing to venture at least one more prediction here: by the end of the decade all our current talk of the "end of the book" will sound as dated and quaint as most of the other forecasts of this type that Duguid and Eco cite as historical precedents – photography will kill painting, movies will kill the theater, television will kill movies, and so on. ("Le cinéma va-t-il disparaître?" read the cover of a 1953 number of *Paris Match* that I saw at a bookstall not long ago, alongside a photograph of Marilyn Monroe of such evident glamour that a modern reader is left to wonder how the survival of the medium could have ever have been in doubt.) For one thing, the complexity and heterogeneity of the new mediasphere should by then be as evident as the heterogeneity of the world of film and television had become by 1960 or so. For another, these proclamations inevitably lose their value as positioning moves once the technology is no longer the property, material or intellectual, of a privileged faction. Indeed, access to the Internet has already become so widespread that many of the academics and technologists who pioneered its development have begun to complain about its vulgarization and to avoid its discussion groups; the Net has become like the fashionable restaurant about which Sam Goldwyn is reported to have said: "It's so crowded these days, nobody goes there anymore." Within a few years, there will be no predigital bourgeoisie left to *épater*.[2]

This will be all to the good, I think, since it will clear the air for other discourses about the future of the book that are likely to be much more fruitful. The shift is already evident in the technical and professional worlds. At the ubiquitous "digital libraries" conferences, for example, the Borgesian note has become almost inaudible against the buzz of discussions of client-server architectures, markup languages, middleware standards, and the like – all the questions that arise when we think of "the future" as a time we can actually plan for. (Or try to plan for, like the designers of new library buildings who find themselves in the position of having to accommodate the requirements of technology as much as 100 years in the future. You think of the challenge facing the city planners of the last *fin de siècle*, when the streets were just beginning to swarm with mass-produced bicycles.)

But the end of millenarianism makes place for another discourse as well, where we take the question of "the future of the book" as an occasion for critical reflection on the relation between technology and communication. For all their individual particularities, it's safe to say that all the contributors to this collection write with this object in mind. Certainly they are all enthusiastic about the possibilities opened up by digital technologies, and the majority of them have been actively involved in developing new technologies or applications (and while some have reservations about the technology, you will find no complaints here about "twitchy little screens"). But none of them takes "the book" for granted, in either the narrow or broad sense of the term. They may disagree about how central its future role will be, but none assumes that the digitization of discourse can be effected without some wrenching dislocations, and it's fair to say that none accepts the simplistic determinism of the visionaries. Ultimately, that is, the technologies cannot themselves determine how or where they will be deployed. This is left to us to decide, in the light of a far more nuanced understanding of the features of print culture that we invoke when we talk about "the book." Indeed, one reason why these technologies have attracted the interest of many writers, even those who have no immediate stake in their implementation, is that they provide such an excellent occasion for reflecting on the forms of discourse. (There is an obvious parallel here with the debates provoked by the ability of the computer to simulate other human activities, like perception or reasoning, which has naturally led to reflections on the nature of these capacities.)

In this sense most of the essays in this book fall in a long tradition

of critical meditations on the cultural effects of new forms and new media, a line we can trace back through Raymond Williams, Carlyle, and Coleridge or through Benjamin and Baudelaire. Or, as James O'Donnell shows, well before that. Modern antitechnologists, he suggests, seem to take their model from "pragmatists of the old" like the fifteenth-century abbot Trithemius, whose *de laude scriptorium* was an extended criticism of the new technology of print, and who, though admiring print in the abstract, couldn't bring himself to accommodate it in a picture of monastic life. The visionaries can find an antecedent, less remotely, in a "theorist of the new" like McLuhan, whose extravagant prophesying and intolerance to any criticism of the new media ensured his media success and his intellectual failure. A better model than either, O'Donnell suggests, is in the "pragmatists of the new," like Cassiodorus, who undertook the practical enterprise (in the end, unsuccessful) of trying to adapt the new monastic culture to the preservation of the Christian Latin tradition. We might do the same, he says, by trying to adapt the new technologies to the preservation of cultural memory – which is, in the end, what we care for, rather than the books that have been its bearers.

I suppose it isn't surprising that classicists like O'Donnell (and Jay Bolter, as well) should be more readily disposed than most humanists to find the book ultimately dispensable, since the cultural tradition that most concerns them has already survived several fundamental shifts in its material support. For others, though, the prospect of the disappearance of the printed book raises considerable difficulties. As Paul Duguid points out, all the familiar talk of replacement and supersession presupposes that content is a kind of neutral substance that can be dislodged without change from its material base. This assumption underlies what he calls the "liberation theology" of technology, with its implication that, as he puts it, "a new Prospero will finally free the textual Ariel from the cleft pine – or at least from the wood products in which it is now trapped." But as he notes, echoing writers like McGann, McKenzie, Genette, and others, "all text relies to some degree on the very material embedding from which the technological liberation aims to give it independence." Social practice has turned the physical properties of the book – its bulk, its palpable inscription in space, its materially discrete pagination, its covers – into both interpretive and social resources. In fact, he suggests, the book may have a long life left in it.

Régis Debray makes a similar case, but in connection with the spir-

itual rather than the instrumental implications of the codex. He begins with a reading of the passage in Sartre's autobiography that recounts the writer's experience of his grandfather's library, and the importance of its essential physicality: "Even before I knew how to read I revered these raised stones, straight or slanted, ranged like bricks on the shelves of the library or lined in noble avenues like menhirs." In this "minuscule sanctuary," Sartre transformed himself through what Debray describes as a reverse eucharist into the "man-book," an inert object become a kind of gendered being. It is, Debray suggests, a microscopic cross-section of the history of this technology of memory: the codex as the symbolic matrix with which we link up with the world of meaning. In its permanence and fixity we, like Sartre, find an emotional stability, a shelter against the rush of time and death. "No culture without closure," he says, and suggests that the very capacities of digital media to overcome the material and temporal limits of print must lead to a kind of fundamentalist reaction to them. "The old man has not yet said his last word."

But what of the new electronic media that continue to emerge? Here, the challenge is to find modes of being that allow them to be true to their natures while preserving their cultural connectedness. As Carla Hesse observes, for example, the modern literary system was predicated on certain intrinsic properties of the mode of literary production, most notably its spatiality and objectification. In nineteenth-century France, only the book was exempted from prepublication censorship, because it took longer to produce and distribute and so was held to be more considered and less effective than newspapers or handbills, say, as an incitement to unreflecting action. But digital technologies, she notes, introduce a new mode of cultural production, in which the spatiality of print is replaced by a predominantly temporal mode of organization. In such a world, the categories of print discourse are inevitably reformulated. We may continue to talk about "books," for example, but they will no longer impose the physical and temporal distance between composer and reader that was an uneliminable property of their print antecedents. The challenge that faces us, she suggests, is how to reinvent the literary system and its mediators, books, libraries, and the rest, in the continuing service of "the cultural mission of civic humanism."

The librarian Patrick Bazin comes to much the same conclusion, if by a different route. He is concerned with one aspect of this new system, the development of the tools that will mediate our access to