What's the Matter with Books?

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Ceci tuera cela.

The question "what's the matter with books?" may be under-stood on multiple registers. Taken colloquially, it asks about print technology and its product; such a query usually denotes a worry or concern over something that has perhaps gone wrong, be-come a problem, or deviated from accepted practices or antici-pated outcomes. At the same time, however, the question may also be understood in a more literal and material sense: in this way, it inquires about printing's matter, questioning both the subject matter of print and the materiality of its product. This question, which is traced in many places and in innumerable ways, is perhaps the query most appropriate at this time, in the era that is commonly called "the late age of print." It especially matters when, for example, the computer is purported to replace the printed book as the depository and definition of human knowledge. The question, then, is palpable at this point in time when we read so much about the end of the book, the death of literature, or its remediation in digital form.[1]

1. On the "end of the book," see Eugene F. Provenzo, *Beyond the Gutenberg Galaxy: Mi-crocomputers and the Emergence of Post-Typographical Culture* (New York: Teachers College Press, 1986); Sven Birkerts, *The Gutenberg Elegies: The Fate of Reading in an Electronic Age* (Boston: Faber and Faber, 1994); Elizabeth L. Eisenstein, "The End of the Book? Some Perspectives on Media Change," *American Scholar* 64:4 (1995): 541–555; Charles T. Meadow, *Ink into Bits: A Web of Converging Media* (Lanham, Md.: Scarecrow Press, 1998); Raymond Kurzweil, "The Future of Libraries," in *CyberReader*, ed. Victor J. Vitanza

The following does not necessarily provide an answer to the question "what's the matter with books?" but endeavors to position this inquiry in such a way that its polysemia resonates and becomes material, as the jurist would say, for the subject matter and material of books. It does so by engaging a quotation derived from Victor Hugo's *Notre-Dame de Paris*, "Ceci tuera cela" (This will destroy that).[2] The statement is voiced by the archdeacon Frollo and constitutes his assessment of the impact of Gutenberg's technological innovation: looking up from a printed book on his table to the stone edifice of the gothic cathedral visible through the window of his cell, Frollo laments, "alas, this will destroy that." The anecdote has been recounted several times in examinations of the history of the technology of moveable type.[3] Recently, however, the episode has been employed to address another form of technological transformation. Jay David Bolter's *Writing Space*, which begins with Hugo's text, provides a good illustration of this practice, if not the precedent: "Today we are living in the late age of print. The evidence of senescence, if not senility, is all around us. And as we look up from our computer keyboards to the books on our shelves, we must ask ourselves whether 'will this destroy that.'"[4] "Destroy" is perhaps too strong a word, and Bolter, following Hugo, is careful to delimit its meaning. Obviously, the book did not raze the gothic cathedral—it merely displaced its function as the principal mode of human expression and the repository of memory. Similarly, the computer will not put an end to writing and the publication of books. "The issue," Bolter writes, "is not whether print technology will com-

(Boston: Allyn and Bacon, 1999), pp. 291–304. On the "death of literature," see Alvin Kernan, *The Death of Literature* (New Haven, Conn.: Yale University Press, 1990). On remediation, see Fritz-Wilhelm Neumann, "Information Society and the Text: The Predicament of Literary Culture in the Age of Electronic Communication," *Erfurt Electronic Studies in English*, strategy statement no. 6 (1999), available online at *http://webdoc .gwdg.de/edoc/ia/eese/strategy/neumann/6_st.html* (accessed December 3, 2002); Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, Mass.: MIT Press, 2000); Jay David Bolter, *Writing Space: Computers, Hypertext, and the Remediation of Print* (Mahwah, N.J.: Erlbaum, 2001).

2. Victor Hugo, *Notre-Dame de Paris*, trans. John Sturrock (New York: Penguin Putnam, 1978), p. 187.

3. Frances A. Yates, *The Art of Memory* (Chicago: University of Chicago Press, 1974); Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe,* 2 vols. (Cambridge: Cambridge University Press, 1982).

4. Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (Hillsdale, N.J.: Erlbaum, 1991), p. 2.

pletely disappear; books may long continue to be printed for certain kinds of texts and for luxury consumption. But the idea and ideal of the book will change: print will no longer define the organization and presentation of knowledge, as it has for the past five centuries."[5]

Questioning whether the computer will destroy or displace the book is not something that is unique to Bolter's *Writing Space*. In fact, Father Frollo's apocalyptic statement has been invoked, in one way or another, in virtually every publication addressing computers and the fate of print technology and culture. As Geoffrey Nunberg characterizes it, "no conference or collection of essays on the future of the book would be complete without someone citing these words."[6] The shelves of libraries and bookstores, in fact, are now crowded with books that investigate whether the computer will destroy or replace print. A brief review of titles makes this immediately evident: Sven Birkerts's *Gutenberg Elegies*, Eugene Provenzo's *Beyond the Gutenberg Galaxy*, Nicholas Negroponte's *Being Digital*, James O'Donnell's *Avatars of the Word*, Alvin Kernan's *Death of Literature*, George Landow's *Hypertext*, Frank Ogden's *Last Book You Will Ever Read*, Charles Meadow's *Ink into Bits*, Roger Chartier's *Forms and Meanings: Texts, Performances, and Audiences from Codex to Computer*, and so on. My examination of this matter will not, at least directly, engage the particulars involved in this transformation of information technology. I will not ask or attempt to address the question, "will the computer destroy the book?" I will not even assess whether this alteration is beneficial or detrimental. These may yet be important and fecund avenues of investigation, but I am, instead, interested in a much more mundane and materialistic question. As we look up from our computer keyboards to the books on our shelves, the question is not "will this destroy that?" but, why do so many of the books ask or address this question? What does it mean to examine this matter in a book? And how do these publications explain, manage, and contend with the problems and incongruities this material necessarily entails? Such an inquiry is not concerned with the equipment and exigencies of technology per se: its object is neither the hardware and software of computers nor the intricacies of print. Instead, it is, following the example of Friedrich Kittler's *Gramophone, Film, Typewriter*, interested in how

5. Ibid.

6. Geoffrey Nunberg, introduction to *The Future of the Book*, ed. idem (Berkeley: University of California Press, 1996), p. 10.

these so-called "post-print" technologies have come to inscribe themselves in the paper of books[7] and, more importantly, what they do to contend with this matter.

The Paradox of a Book

One of the ironies of our culture's fascination with virtual technologies is its fondness for consuming books and articles that proclaim the death of print culture—or its disappearance into the matrix.[8]

Publications addressing computer technology and the fate of print culture, whether celebrating the utopian possibilities of a new technology or bemoaning the passing of a rich tradition, are involved in a curious, if not contradictory, situation: there is a disjunction between what these books state about their subject matter and the material in which these statements appear. This tension is evident in many publications that treat the development of computer technology and the fate of print media. In some cases, it is explicitly identified as such. Nicholas Negroponte's *Being Digital*, for example, argues that we are witnessing a revolutionary change in the way information is created, stored, and distributed. Until recently, information was produced, accumulated, and exchanged solely in the form of atoms—in the material of books, magazines, newspapers, videocassettes, and compact disks. This situation, Negroponte asserts, is being irrevocably altered by the rapid development of digital technology and computer networks: information now takes the form of immaterial bits of digital data that are circulated at the speed of light. Consequently, what the book states about the exciting new culture and economy of bits is abraded by the fact that this information has been delivered in the slow and outdated form of atoms. Negroponte calls this friction "the paradox of a book," and he addresses it directly in the preface: "So why an old-fashioned book, Negroponte, especially one without a single illustration? Why is Vintage shipping *Being Digital* as atoms instead of bits, when these pages . . . can be so easily rendered into digital form, from whence they came?"[9]

7. Friedrich A. Kittler, *Film, Gramophone, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford: Stanford University Press, 1999), p. xl.

8. Robert Markley, "Introduction: History, Theory, and Virtual Reality," in *Virtual Realities and Their Discontents*, ed. idem (Baltimore, Md.: Johns Hopkins University Press, 1996), p. 1.

9. Nicholas Negroponte, *Being Digital* (New York: Vintage, 1995), p. 7.

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   By extending our project from the
global classroom to the book, we
encounter paradox after paradox.  How
can we write a printed work that
reflects and embodies the criticism
of print culture our enterprise
presupposes?  If an electronic text
can be published in printed form, is
it really electronic?  The
alternative would be to give up print
and publish an electronic text.  But
the technology necessary for
accessing electronic texts is still
rather limited.  Furthermore, most of
the people we want to reach remain
committed to print.  There is no
sense preaching to the converted.
Our dilemma is that we are living at
the moment of transition from print
to electronic culture.  It is too
late for printed books and too early
for electronic texts.  Along this
boundary we must write our work.
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Figure 1. Taylor and Saarinen's reflection on the paradoxes encountered in the material of their project. From Mark C. Taylor and Esa Saarinen, *Imagologies: Media Philosophy* (New York: Routledge, 1994), "Telewriting," p. 5.

Vilém Flusser describes a similar paradox operative in his examination of the future of writing. Flusser's book, called simply *Die Schrift*, begins with the stunning proclamation that "writing, in the sense of the lining-up of letters and other writing signs, seems to have no future or almost none." The investigation of this matter, Flusser admits, would require a "voluminous book." "The only catch," he adds, "is that such a book would be a book."[10] Likewise Mark Taylor and Esa Saarinen, in the Telewriting section of *Imagologies*, identify and question a cascade of paradoxes that befall the subject matter of their undertaking and the material in which it necessarily appears (Fig. 1). This passage, although recorded in a book, clearly attempts to simulate the form of an email message sent from Taylor to Saarinen. This is indicated not only by the personal address with which the text begins but also by the monospaced font that is emblematic of the ASCII character set used in computer-mediated communication. In this printed rendition of an email message, Taylor deliberately

10. Vilém Flusser, *Die Schrift: Hat Schreiben Zukunft?* (Göttingen: Immatrix, 1989), p. 1.

calls attention to the paradoxical problems that immediately confront *Imagologies*. In writing a book about electronic text that is critical of print technology, the subject matter seems to be opposed to the material in which it appears. The alternative, Taylor suggests, would be to abandon print altogether and publish an electronic text. This option, however, is not currently feasible. Taylor recognizes, on the one hand, that the presently available technology for accessing electronic text remains limited and cumbersome and, on the other hand, that there is still a sizable audience committed to print. The dilemma facing any project addressing computer technology and the fate of print culture is that one currently finds oneself in the middle of a technological transformation: the printed book is already on the way out but not quite gone, and the new forms of electronic text are not yet conveniently available. Writing during this *Zwischenzeit* requires that one engage in seemingly contradictory activities, employing print to address a technology that surpasses it and renders it effectively obsolete. Similar forms of critical self-reflection are situated at the beginning of Michael Heim's *Electric Language*, David Bell's *Introduction to Cyberculture*, and Peter Lunenfeld's *Digital Dialectic*.[11]

Books that consider the paradox of a book or question the irony of publishing books about technologies that challenge the dominance of print are, in the words of Frank Hartmann, "conscious of their own form of presentation."[12] In other cases, publications are not "conscious" of this matter and the tension between the book's subject matter and its material is never iden-

11. For Michael Heim, in *Electric Language* (New Haven, Conn.: Yale University Press, 1999), a philosophical study of word processing, "there is an irony in reflecting on digital writing in a publishing medium that is still committed . . . to the preservation and maintenance of writing in printed books in a culture where books are still a major source for the exchange of information and ideas" (pp. 13–14). David Bell begins *An Introduction to Cybercultures* (New York: Routledge, 2001) by identifying the same conflict: "Sitting here, at my computer, pondering how to start this book, how to introduce my own 'walkabout' in cyberspace, I find myself struggling. Maybe it's because I've just been reading and writing about hyperlinks and the web as text—as text, moreover, that is open and infinite, that has no beginning or end. But a book is still a linear thing, decidedly non-hypertexty. . . . So I have to abide by the logic of the book, even if it seems increasingly contradictory in the digital age to do so" (p. 1). And Peter Lunenfeld finds the introduction to his anthology *The Digital Dialectic* (Cambridge, Mass.: MIT Press, 2000) to be "as appropriate a place as any to deal with the inevitable question: 'Why publish a book dealing with the culture of an era that has supposedly transcended the printed page?'" (p. xx).

12. Frank Hartmann, *Cyber.Philosophy: Medientheoretische Auslotungen* (Vienna: Passagen, 1999), p. 31.

tified as such. In these situations, the disjunction becomes evident only in the course of a reading that exposes and demonstrates the discrepancy. A segment of Michael Benedikt's introduction to *Cyberspace: First Steps* provides adequate material: "Cyberspace," he writes, is

> the realm of pure information, filling like a lake, siphoning the jangle of messages transfiguring the physical world, decontaminating the natural and urban landscapes, redeeming them, saving them from the chain-dragging bulldozers of the paper industry, from the diesel smoke of courier and post office trucks, from the jet fumes and clogged airports . . . from all the inefficiencies, pollutions (chemical and informational), and corruptions attendant to the process of moving information attached to *things*—from paper to brains— across, over, and under the vast and bumpy surface of the earth rather than letting it fly free in the soft hail of electrons in cyberspace.[13]

According to Benedikt, cyberspace comprises a mode of pure information exchange that is uncorrupted by the various inefficiencies, pollutants, and contaminants of ink and paper. This statement, however, is nevertheless communicated through the mediation of the very corruption it criticizes. Nowhere does Benedikt confront or even identify this tension whereby the information that is presented is already at variance with and opposed to the means of its presentation. Because the publication is not "conscious of its own mode of presentation," this difficulty becomes evident only through a reading that attends to the tension between what the text explicitly states and the material it employs to make this statement.[14]

Books addressing new forms of information technology and the future of print are involved in what appear to be contradictory matters. What is stated in these books about the limitations, obsolescence, or even termination of print is opposed by the material in which these statements have been created and distrib-

13. Michael Benedikt, introduction to *Cyberspace: First Steps*, ed. idem (Cambridge, Mass.: MIT Press, 1993), p. 3.

14. This mode of "reading" is indebted to the practice of deconstruction. As characterized by Christopher Norris in *Deconstruction: Theory and Practice* (New York: Methuen, 1982), "deconstruction is the vigilant seeking-out of those 'aporias,' blind spots or moments of self-contradiction where a text involuntarily betrays the tension between rhetoric and logic, between what it manifestly *means to say* and what it is nonetheless *constrained to mean*" (p. 1). For more on deconstruction, see Jacques Derrida, *Of Grammatology,* trans. Gayatri Chakravorty Spivak (Baltimore: Johns Hopkins University Press, 1976); Briankle Chang, *Deconstructing Communication* (Minneapolis: University of Minnesota Press, 1996); David J. Gunkel, "Deconstruction for Dummies," in idem, *Hacking Cyberspace* (Boulder, Colo.: Westview Press, 2001), pp. 201–205.

uted. In some instances, the conflict is explicitly identified as such and termed a paradox, an irony, or a contradiction; in others, it is not identified. In either case, what is the matter with books is that the proclaimed "death of the book," which is the subject matter of so many publications in the so-called late age of print, appears to be contrary to the very material in which these claims have been made. Whether the computer will, following the pronouncement of Hugo's archdeacon, destroy the book is a question that is literally put in question by the seemingly incessant appearance of this material in books. Consequently, it would, on the one hand, be impetuous to decide that these publications simply condemn or denounce print: to do so would, indeed, be contradictory. On the other hand, it would be just as careless to discount these books as contradictory: to do so would, in fact, be impetuous. Whereas the former does not make enough of the tension between subject matter and material, the latter makes too much of it. In either case, the disjunction is written off as immaterial.

What is needed, therefore, is another mode of inquiry, one that does not dismiss but is attentive to the intricacies of this curious situation. Jacques Derrida's examination of this matter in Plato's *Phaedrus* provides useful direction. In a procedure that is structurally similar to the ones we are concerned with here, Plato indicts writing in writing. Derrida not only rejects the simple interpretation—namely, that Plato condemns writing—as insensitive, but also resists the tendency to judge Plato's writing as merely contradictory. Instead, he asks what institutes and legislates this tension that is commonly identified as "contradictory": "What law governs this 'contradiction,' this opposition to itself of what is said against writing, of a dictum that pronounces itself against itself as soon as it finds its way into writing, as soon as it writes down its self-identity and carries away what is proper to it against this ground of writing?"[15] The critical issue, then, is not whether there is a contradiction between the subject matter and the material of books addressing computer technology and the fate of print. The question is how have theses books understood, explained, and/or managed this tension that cannot help but appear to be contradictory? What regulates and justifies these explanations and maneuvers? And what does this indicate about computer technology, the book, and the terms of their relationship?

15. Jacques Derrida, *Disseminations*, trans. Barbara Johnson (Chicago: University of Chicago Press, 1981), p. 158.

Signs of Print

It is not surprising that this is a book and not a computer program.[16]

Books addressing computer technology and/or the future of the book are involved in what Negroponte terms "the paradox of a book." What these publications state about their subject matter is all too often inconsistent with the material in which these statements have been made. This apparent "contradiction" is not an accidental or contingent matter: it is programmed and regulated by the classically determined structure of the sign. First, whether it is determined in the course of a metaphysics, the science of linguistics or semiotics, or in what is commonly called, perhaps incorrectly, "everyday language," a sign is always the sign of *something.* "The signification 'sign,'" Derrida writes in "Structure, Sign, and Play," "has always been understood and determined, in its meaning, as sign-of, a signifier referring to a signified, a signifier different from its signified."[17] A sign, in order to be a sign, indicates something else. Accordingly, one distinguishes the signifier from the signified. The signifier indicates or points to the signified, but it remains differentiated from the signified. In explaining this, Derrida's sentence is already involved in performing what is described. The word "sign" (in quotation marks) is employed to indicate and explain this form of indication. "Sign" is utilized as a signifier of the structure of signification. This structure, although marked with different names in different contexts, remains remarkably consistent from Aristotle to, at least, Charles Sanders Peirce. In *De interpretatione*, Aristotle distinguishes spoken and written signs from the things to which they refer: "Spoken words are the signs [σημεια] of mental experience and written words are the signs of spoken words. Just as all men have not the same writing, so all men have not the same speech sounds, but the mental experiences, of which these are the primary signs [σημεια πρωτος] are the same for all, as also are those things of which our experiences are the images."[18] For Peirce, the founder of the American tradition of semiotics, the sign is differentiated from the object it designates: "A sign is

16. Rob Wittig, *Invisible Rendezvous: Connection and Collaboration in the New Landscape of Electronic Writing* (Hanover, N.H.: Wesleyan University Press, 1994), p. 9.

17. Jacques Derrida, *Writing and Difference*, trans. Alan Bass (Chicago: University of Chicago Press, 1978), p. 281.

18. Aristotle, *De interpretatione*, in *The Basic Works of Aristotle*, ed. and trans. Richard McKeon (New York: Random House, 1941), 1.16a3.

something which stands to somebody for something in some respect or capacity . . . the sign stands for something, *its object*."[19] Consequently, despite variations in terminology—what one might call, according to the logic described here, different "signifiers"—the structure of signification that is indicated remains remarkably consistent.

Second, in referring to something else, the sign takes place by taking the place of another. "The sign," Derrida explains in the essay *Différance*, "is usually said to be put in the place of the thing itself, the present thing, 'thing' here standing equally for meaning or referent. The sign represents the present in its absence. It takes the place of the present. When we cannot grasp or show the thing, state the present, the being-present, when the present cannot be presented, we signify, we go through the detour of the sign."[20] As the sign of something, a sign is commonly understood as a kind of delegate of or substitute for something else. It is put in the place of something, when that thing is unable to be present as such. It is a detour that becomes necessary when something that should be present remains, for whatever reason, absent or inaccessible. The sign re-presents the present when it is not present. In this way, the classically determined structure of the sign constitutes what Derrida calls "deferred presence," *defer* being understood in the double sense of "to delegate to something else" and "to postpone it." The sign defers to something else in its deferred presence.

Finally, defined as a form of deferred presence, the sign is situated in the interval separating two presents. "This structure," Derrida continues,

> presupposes that the sign, which defers presence, is conceivable only on the basis of the presence that it defers and moving toward the deferred presence that it aims to reappropriate. According to this classical semiology, the substitution of the sign for the thing itself is both *secondary* and *provisional*: secondary due to an original and lost presence from which the sign thus derives; provisional as concerns this final and missing presence toward which the sign in this sense is a movement of mediation."[21]

19. Charles Sanders Peirce, *The Collected Papers of Charles Sanders Peirce,* vol. 2, ed. Charles Hartshorne and Paul Weiss (Cambridge, Mass.: Harvard University Press, 1932), p. 228.

20. Jacques Derrida, *Margins of Philosophy*, trans. Alan Bass (Chicago: University of Chicago Press, 1982), p. 9.

21. Ibid.

A sign, as Geoffrey Bennington succinctly describes it, "stands between two presents."[22] On the one hand, a sign, as the surrogate of something else, is possible only on the basis of an originally present thing from which it has been derived and to which it defers. On the other hand, a sign functions as a kind of promissory note, pointing toward the eventual reappropriation and future presentation of this now-absent and deferred thing. Situated in the interval between something that was but is no longer and the promise of something that is not yet, a sign is considered to be both secondary and provisional. It is secondary, because it is derived from and defers to an original presence. It is provisional, because it stands in for something for the time being, promising the presence of that which is now absent.

It is this "classical semiology" that has been employed to explain and justify the paradox of a book. In the first edition of *Writing Space*, for example, Jay David Bolter addresses this matter in one concise sentence, explicating what many books leave unexplained: "This printed book can be about, but cannot be, an electronic book."[23] The printed book, *Writing Space*, is concerned with or refers to an electronic book but necessarily remains otherwise than an electronic book. The print publication can characterize, explain, and even question the features, structure, and function of the electronic book, but it clearly is not that which it indicates. Understood in this way, *Writing Space*, quite literally, stands between two presents. On the one hand, the printed book has been derived from an original hypertext that was present only in the mind of the author. The first line of Bolter's book refers to this original but now absent hypertext: "Because the subject of this printed book is the coming of the electronic book, I have found it particularly difficult to organize my text in an appropriate manner—appropriate, that is, to the printed page. In my mind the argument kept trying to cast itself intertextually or 'hypertextually.'"[24] The printed book, Bolter tells us, is a derived and highly constrained manifestation of what had originally presented itself in hypertextual form. The book stands in for this original hypertext that could not present itself as itself because of the demands and requirements of print. On the other hand, *Writing Space* is also a promissory note, pointing to a hypertext

22. Geoffrey Bennington, *Jacques Derrida* (Chicago: University of Chicago Press, 1993), p. 24.

23. Bolter, *Writing Space* (1991) (above, n. 4), p. x.

24. Ibid., p. ix.

that is not yet, but may be, present. The last page of the book addresses this matter directly:

> At the end of this printed book, the reader has the opportunity to begin again—by working through the text on a computer diskette that can be obtained by sending in the order form enclosed in the book. The diskette, which runs on Macintosh computers, contains a hypertextual rewriting of this book. The hypertext shadows the printed version, presenting paragraphs that appear in print and offering hypertextual notes that expand particular ideas. These elaborations could not be included in the printed version because of limited space or because a particular digression did not seem appropriate to the linearity of print.[25]

Writing Space ends by pointing the reader to the electronic text that the book indicates but could not be. The printed text, therefore, not only refers to an absent hypertext that existed in the mind of the author, but also promises a hypertext that can, at the end of the book, be made present for an additional $9.95 plus $2.00 shipping and handling (Fig. 2). In describing his publication in this fashion, Bolter, whether he explicitly recognizes it or not, defines *Writing Space* in accordance with the classically determined structure of the sign: he distinguishes a signifier, the printed book, from its signified, an electronic book, and he situates it in the interval between two presents, a hypertext that was but now is not and a hypertext that is not currently present but will be.

This sign structure, although applied to a different object, is reiterated in the second edition of *Writing Space*. The new edition, which is shorter than the first by some 10,000 words, recasts the argument of the original publication in order to take into account changes that have occurred in "the writing space offered by electronic technology."[26] "Those changes," as Bolter points out in the new preface, "are due almost entirely to the development of the World Wide Web," which now provides the definition and privileged example of hypertext.[27] In reworking *Writing Space* to take the Web into account, Bolter revises both the preface and introduction and concludes by pointing the reader not to a diskette, containing a "stand-alone hypertext," but to a website, which incidentally does not yet exist at the published URL (*http://www.lcc.gatech.edu/~bolter/writingspace/*). In this Web-

25. Ibid., p. 240.

26. Bolter, *Writing Space* (2001) (above, n. 1), p. xi.

27. Ibid.

Figure 2. The order form included with the first edition of *Writing Space* (1991).

oriented remix, the subject matter of the printed book is not the electronic book, but the remediation of print that is effected by digital technology. This shift in the object of the investigation—a shift that could be characterized as a change from a nominal to a verbal object—is announced by the text's new subtitle, "Computers, Hypertext, and the Remediation of Print." As Bolter describes it, "this edition of *Writing Space* is meant . . . to show how hypertext and other forms of electronic writing refashion or 're-mediate' the forms and genres of print."[28] Likewise, the website, referenced at the end of the book, is described as remediating the book itself: "If the hypertext diskette for the first edition was meant to provide a shadow text, a metaphoric replacement of the printed text, the Web site is instead an extension, and a re-mediation of the printed text."[29] The concept of *remediation*, as defined by Bolter, is a remarkable reiteration of Marshall McLuhan's understanding of the process of technological transformation. According to McLuhan, a new medium does not simply replace an old medium; the content of any new medium is the old medium it is said to be replacing.[30] Likewise, "remediation" describes the shift from one form of information technology to another, "in the sense that a newer medium takes the place of an older one, borrowing and reorganizing the characteristics of the writing in the older medium and reformulating its

28. Ibid., p. xii.

29. Ibid., p. 214.

30. Marshall McLuhan, *Understanding Media: The Extensions of Man* (Cambridge, Mass.: MIT Press, 1995), p. 8.

cultural space."[31] Consequently, the goal of the second edition of *Writing Space* is to describe the remediation of print by electronic technology, and the website that is referenced at the end of the book provides an example of this remediation, performing what is indicated. This reformulation of *Writing Space*, or what one might be tempted to call its remediation, still operates according to the classically determined structure of the sign: the printed text is *about* the remediation of print by digital media. In being about the process of remediation, the book not only refers to something else but stands between two presents: it refers to a remediation of print that is already under way in the technology of the World Wide Web, and it anticipates a website (which seems to be endlessly postponed) that remediates the printed book that presents this information. In occupying the interval between these two remediations, *Writing Space* is a sign of the remediation of print in print.

In defining both editions of *Writing Space* in accordance with the classically determined structure of the sign, Bolter effectively circumvents the complications inherent in the "paradox of a book" and avoids the potential charge of self-contradiction. In distinguishing signifier from signified, the subject matter to which the book refers is detached and insulated from the material in which it appears. And in occupying the interval between two presents, or what Bolter calls in the first edition "this period of transition,"[32] the printed book is and remains effectively immaterial. In providing an account of this matter, Bolter explicates what appears to be obvious and virtually beyond question: whether it is explicitly demarcated in a statement like "this book is about . . ." or remains implicit in the course of its undertaking, a book is about something. In being *about*, it defers and refers to something else. And in being referred elsewhere, the material of the book is considered to be secondary and provisional: it does not and should not matter, or, if it matters, it does not matter much; what is of primary and lasting importance is what the book indicates about its subject matter. Accordingly, the material of the book recedes from view and becomes virtually transparent. In fact, the more transparent the signifier is, the better it functions as the delegate of the signified. In *Remediation*, a book coauthored with Richard Grusin, Bolter describes the features of this kind of transparent intermediary: "A transparent interface would

31. Bolter, *Writing Space* (2001) (above, n. 1), p. 23.

32. Bolter, *Writing Space* (1991) (above, n. 4), p. ix.

be one that erases itself, so that the user is no longer aware of confronting a medium, but instead stands in an immediate relationship to the contents of that medium."[33] This transparency through deliberate self-erasure has also been the ideal of the ideal book. "The purpose of the book," Mark Taylor writes in *Erring*, "is to render present the discourse of the world by bringing about the absolute proximity or perfect transparency of object to subject. Though not always obvious, this aim implies the self-negation of the book. In the course of approximating its goal, the book inscribes a paradoxical 'progression' toward its own self-effacement."[34] It is because of this programmed autoerasure and resulting transparency that so many books about Virtual Reality, cyberspace, the Internet, and computer technology not only ignore the material of print but say little or nothing about this process. As the means of providing information about something else, the actual material of these books is effectively invalidated, taken for granted, and not made the explicit object of investigation.

There are, of course, exceptions to this programmed transparency—books where the structure of signification becomes, in one way or another, increasingly opaque and questionable. In these cases, the issue is explicitly identified and described in the course of handling the "paradox of a book." Negroponte, for example, not only makes explicit identification of the paradox but supplies several responses to the question "why an old-fashioned book?":

> First there are just not enough digital media in the hands of executives, politicians, parents, and all those who most need to understand this radical new culture. Even where computers are omnipresent, the current interface is primitive—clumsy at best, and hardly something with which you might wish to curl up in bed. A second reason, is my monthly column in *Wired* magazine. The rapid and astonishing success of *Wired* has shown that there is a large audience for information about digital life-styles and people, not just theory and equipment. I received so much thoughtful feedback from my (text only) column that I decided to repurpose many of the early themes, because a great deal has changed even in the short time since those stories were written.[35]

The principal reason why *Being Digital* is a book and not a computer program or multimedia presentation is that, despite every-

33. Bolter and Grusin, *Remediation* (above, n. 1), p. 24.

34. Mark C. Taylor, *Erring: A Postmodern A/Theology* (Chicago: University of Chicago Press, 1984), p. 82.

35. Negroponte, *Being Digital* (above, n. 9), p. 7.

thing that is stated about the advantages of being digital, there are at least two problems with digital technology. On the one hand, it is scarce; there simply is not enough of it to go around. Although constituting the foundation of a new culture, the technology that Negroponte considers is, in his opinion, not yet widely available to the individuals who most need to understand it. On the other hand, even when the technology is available, it is not easy to use: the interface, which is a combination of both hardware and software elements, is inconvenient, cumbersome, and certainly not user-friendly. Print, by contrast, not only is widely available and easy to use but has, as is evidenced by the remarkable success of magazines like *Wired*, a considerable and attentive audience. Even though digital technology marks the end of the circulation of information in the form of "dead-tree" atoms, magazines and books persist; they remain popular and are not yet passé. *Being Digital* is an old-fashioned book, because (1) digital technology is not able to present itself as such: it either is not present or, if present, is ostensibly inaccessible; and (2) print remains accessible, convenient, and not yet obsolete. It is because digital technology is not yet able to present itself as such that Negroponte has recourse to printed signs. These signs, which are still widely available and popular, are employed to stand in for this technology that remains absent or inaccessible. The printed book, therefore, takes the place of that which is not, at the present, able to be present, re-presenting what should be present in its absence.

In this way, *Being Digital* stands between two presents. On the one hand, the descriptions of digital technology that are provided in the book have, it is assumed, been derived from an original encounter with the things that are represented in the text. On the other hand, this technology, although not currently present, will be present and widely available in the near future. In *Being Digital*, this situation is substantiated and authorized by the figure of the author. As Douglas Adams succinctly describes it in an endorsement for the book, "Nicholas Negroponte writes about the future with the authority of someone who has spent a lot of time there." What authorizes Negroponte to make signs of a not-yet-available technology is that he has had access to it. Digital technologies, although not currently available to everyone, have at least been made present to Negroponte, who has either participated in their development or experienced them firsthand at places like MIT's media laboratory. Without this unique access to technology, his signs would be nothing but conjecture and

groundless speculation—a kind of science fiction. Likewise, the technology he describes in the book will not always be absent; its presentation is merely delayed. It either is just beginning to be made available or will be available at some point in the future. Consequently, the representations provided in *Being Digital* are the result of and authorized by a previous encounter with what will be the future. This situation is neither particularly strange nor disturbing; it is nothing less than the temporality of the sign.

The "paradox of a book" is explained, if not resolved, by enlisting the classically determined structure of the sign. In being about computers and new technology, the book is understood as a surrogate for something else from which it is originally derived and to which it ultimately refers. The printed signifier, therefore, is considered to be both secondary and provisional in relation to the primacy of its signified. And for this reason, the tension between the book's material and its subject matter is rendered effectively immaterial. There is, however, at least one difficulty with this explanation. Critiques of this classical semiology—from the work of Charles Sanders Peirce and Ferdinand de Saussure to that of Umberto Eco, Julia Kristeva, and Jacques Derrida—have demonstrated that this formulation of the sign is a metaphysical fantasy. Most notably, signs do not refer to something that transcends and exists outside the order of signs. In fact, signs refer only to other signs. Bolter explains this by employing the familiar example of the dictionary:

> For the dictionary has always been the classic example of the semiotic principle that signs refer only to other signs. . . . We can only define a sign in terms of other signs of the same nature. This lesson is known to every child who discovers that fundamental paradox of the dictionary: that if you do not know what some words mean you can never use the dictionary to learn what other words mean. The definition of any word, if pursued far enough through the dictionary, will lead you in circles. This paradox is the foundation of semiotics. A sign system is a set of rules for relating elements. The rules are arbitrary, and the system they generate is self-contained. There is no way to get "outside" the system to the world represented, because, as in the dictionary, signs can only lead you elsewhere in the same system.[36]

According to this "semiotic principle," signs do not refer to things that exist outside the system of signs; signs refer to other signs. The dictionary provides the classic illustration: in a dictionary, words are defined by other words. Consequently, one re-

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36. Bolter, *Writing Space* (1991) (above, n. 4), p. 197.

mains inside the system of linguistic signifiers and never gets outside language to the referent or what semioticians call the "transcendental signified."[37] For Bolter, this formulation is not merely a theoretical possibility—it is exemplified in and embodied by the technology of computer-based hypertext:

> The new view of signs is embodied unambiguously in electronic hypertext. Here the writer and reader know that there is no transcendence, because they know that the topical elements they create are arbitrary sequences of bits made meaningful only by their interconnecting links. . . . The fact that electronic signs only refer to other signs is the fundamental characteristic of the medium, made apparent in every act of electronic writing. . . . Electronic readers and writers have finally arrived at the land promised (or threatened) by post-modern theory for two decades: the world of pure signs. While traditional humanists and deconstructionists have been battling over the arbitrary, self-referential character of writing, computer specialists, oblivious to this struggle, have been building a world of electronic signs in which the battle is over.[38]

According to Bolter, the critique of classical semiology materializes in electronic hypertext. That is, hypertext demonstrates the seemingly infinite self-referential character of the sign that has been espoused in recent theory. This insight, Bolter argues, is unmistakably evident in every act of electronic writing. Mark Amerika's *Hypertextual Consciousness*, for instance, "a companion theory guide" to his award-winning *Grammatron*, provides an illustration of Bolter's position. *Hypertextual Consciousness* is unique in that it presents hypertext theory in the form of hypertext. Unlike Landow's *Hypertext*, Richard Lanham's *Electric Word*, or even Bolter's *Writing Space*, Amerika's examination of hypertext is situated in and takes place as hypertext—"Not," Amerika points out, "because its words can't be printed and bound by traditional book-contained media,"[39] but because the subject matter of the work calls into question the assumptions and material of traditional forms of reading and writing. By appearing in this

37. A similar determination can be found in the writings of Marshall McLuhan, who proposed that "the 'content' of any medium is always another medium" (*Understanding Media* [above, n. 30], p. 8). According to this argument, there is never an immediate encounter with the thing represented in and by a particular medium—there is only the endless process of mediation, where one medium contains and refers to another.

38. Bolter, *Writing Space* (1991) (above, n. 4), p. 204.

39. Mark Amerika, *Hypertextual Consciousness: A Companion Theory Guide* (1997), available online at *http://www.grammatron.com/htc.html* (accessed December 3, 2002).

Figure 3. Mark Amerika's *Hypertextual Consciousness.*

manner, *Hypertextual Consciousness* does what it says and says what it does. "I <u>link</u> therefore I am," states one of the initial pages, where the word "link" is an active hypertext link to be activated by the reader/participant (Fig. 3). "Link," however, literally refers the reader/participant to other signs situated elsewhere in the hypertextual system. Like the words listed in a dictionary, the signifier "link" does not have a referent situated outside the hypertextual document in which it appears. It is made meaningful only by its interconnecting links. [40]

But if Bolter is correct about this matter, then the material of his own project becomes questionable, if not contradictory. On the one hand, his book employs the classically determined structure of the sign, situating *Writing Space* as a sign of either the elec-

40. In stating this, I am not making the claim that hypertext has a more trustworthy referential dimension than print. In fact, the seemingly endless play of signification that is exhibited in books about technology extends to all signifiers whether they be printed on paper or presented in digital form on the surface of a computer monitor. The only advantage hypertext has over printed text is that hypertext is often far more attuned to its own performative dimension; that is, it performs/enacts/embodies what it addresses.

tronic book or the hypertextual remediation of print. In this way, he explains and even resolves the apparent contradictions involved with the paradox of a book. The various determinations that are published in the material of the book point to and are about something else. On the other hand, Bolter endorses the standard critique of this structure of signification. He not only affirms the original absence of a "transcendental signified" and the hypothesis that signs refer only to other signs, he also claims that electronic hypertext illustrates and embodies this fundamental semiotic principle. Consequently, it appears that Bolter's book cannot function as it has been determined. *Writing Space* requires a transcendental signified in order for it to deflect the charge of self-contradiction and to resolve the paradox of a book, but the signified—computer-based hypertext—already demonstrates the impossibility of there ever being such a thing.

Sign Matters

The world does not exist outside its expressions.[41]

"What's the matter with books?" is that the subject matter of so many print publications in this, the so-called late age of print, disputes the material in which it necessarily appears. In book after book we read about how the computer, the Internet, and Virtual Reality will eventually replace the "civilization of the book" with the wired (and now wireless) civilization of computer-mediated communication. *Ceci tuera cela*. Books have dealt this with matter by mobilizing the classically determined structure of the sign. Whether explicitly acknowledged or not, print publications have resolved this "paradox of a book" by distinguishing between the printed signifier and its signified. As the sign of something else to which it refers and ultimately defers, the material of the book is rendered immaterial and the tension between its material and subject matter is apparently resolved. This classical semiology, however, is not without significant complications. For at least half a century semioticians, linguists, literary theorists, and philosophers of language have questioned its validity and applicability. The signifier, they argue in one way or another, does not simply refer to a "transcendental signified" but makes reference to other signifiers. Although there remains considerable debate as to the actual consequences of this insight, what is not

41. Gilles Deleuze, *The Fold: Leibniz and the Baroque*, trans. Tom Conley (Minneapolis: University of Minnesota Press, 1993), p. 132.

debated is the fact that the "classically determined structure of the sign," although useful in certain contexts, is too simple an explanation. This conclusion renders classical semiology questionable and, as a consequence, impedes resolution of the "paradox of a book," which had relied on it. If signs refer to other signs and the existence of a "transcendental signified" is suspended or, at least, questionable, then the material of the book can no longer be written off as virtually transparent and effectively immaterial. The signifier matters, and the subject matter of the book cannot be insulated from the effects of its own material. This has at least three consequence that affect how we read and understand books about technology.

First, "there is," to deploy one of Derrida's more controversial statements, "nothing outside the text."[42] If there is no "transcendental signified" outside the system of signs, then a book about computer technology refers not to computer technology per se but to other signs in the system of what could be called, for lack of another word, "literature." This does not mean, of course, that there is no actual or even virtual technology: certainly the computer, hypertext, interactive multimedia, and Virtual Reality systems exist. What this does mean, however, is that this technology, although extant, does not constitute a transcendental signified that would anchor and substantiate the classically determined structure of the sign that is deployed in books about technology. This is evident in the material of books that purport to be about the computer. *Writing Space*, for example, does not, strictly speaking, refer to technological equipment: like the dictionary, its signifiers signify other signifiers. Bolter explicitly marks this in the preface to the second edition: "In revising this book, as I have noted, I have depended on the published work of many colleagues in literary hypertext and computer science, as the references indicate. In addition to drawing on their printed and electronic publications, I have also been privileged to know

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42. Derrida, *Of Grammatology* (above, n. 14), p. 158. "There is nothing outside the text" is one of the most misquoted, misused, and misunderstood statements written by Derrida. Although this problem has been addressed in several places, the most direct explanation has been provided in the afterword to Jacques Derrida, *Limited Inc.* (Evanston, Ill.: Northwestern University Press, 1993): "'There is nothing outside the text.' That does not mean that all referents are suspended, denied, or enclosed in a book, as people have claimed, or have been naive enough to believe and to have accused me of believing. But it does mean that every referent, all reality has the structure of a differential trace, and that one cannot refer to this 'real' except in an interpretive experience" (p. 148).

many, perhaps most, of the important figures in the field. I have benefitted from attending their conference papers and from e-mail discussions and private conversations."[43] *Writing Space*, as its extensive list of references indicates, refers not to actual hardware and software but to other published works, conference papers, e-mail discussions, and even private conversations. This statement does not imply that the technology of hypertext and the computer does not exist outside these various texts. What it does mean, however, is that the assumed transparency of literature that is the standard operating presumption of publications addressing technology is at least questionable, if not a fiction. The same is true with Negroponte's *Being Digital*, a book that appears to be, by all accounts, all about technology. Like *Writing Space*, *Being Digital* does not refer to technology but to all kinds of other signifiers and signifying events: films, conversations, presentations, demonstrations, congressional hearings, and so forth. A book addressing technology, therefore, is not, technically speaking, about technology, if the word "about" is understood in its prepositional form as pointing to a transcendental signified that exists beyond the system of signs. Instead, a book about technology actually takes place in the seemingly endless play of signifiers and can be said to be "about technology" only if "about" is understood in its adverbial sense as "circling around" and "indirect."[44]

43. Bolter, *Writing Space* (2001) (above, n. 1), p. xiv.

44. There are two reasons why the work of Derrida has been selected in order to articulate this necessarily self-referential character of media. First, what is at issue in this essay are books about new media—that is, writing about technology. For many writers of media theory, either writing does not qualify for explicit analysis as a medium or it is subordinated, as Derrida has demonstrated time and again, to the metaphysical privilege of speech, whether that be in the form of an assumed "original" orality or the so-called second orality supposedly instituted by electronic media. Derrida, on the contrary, is one of the only writers of theory who takes writing seriously; consequently, it is his work that is most appropriate in the context of this text that addresses texts about technology. Second, in taking writing seriously, Derrida is hypersensitive to the self-reflective situation that necessarily structures and underlies his own work. His writing on writing is exceedingly self-reflective, allowing what is written to affect how it is written and vice versa. What distinguishes Derrida's writing is not the fact that it includes such self-reflection, but the fact that this self-reflection is permitted to proliferate almost without boundaries. Whereas other theorists often try to exhaust the process of self-reflection, arguing that such "navel gazing" must end at some point in order to get on with the matter, Derrida, following the precedent of Hegel's speculative philosophy (see n. 49), locates the matter in a self-reflection that is and must be interminable. This kind of endless and unavoidable self-reflection is perhaps best exemplified in the initial sentence of "Signature Event Context," where the questioning of communication turns back on itself, ceaselessly implicating the question in its ques-

Second, material matters. If there is nothing outside the text—that is, if the existence of the "transcendental signified" is questionable, and everything is already involved in the play of signifiers—then the way we address and investigate technology has to change. The words, descriptions, and metaphors used to examine or question a new technology can no longer be perceived as mere transparencies for the sake of conveying information about something else that exists outside the system of signification. It is not the case that there either is or will be a new technology that is then represented in the convenient and, at least for now, accessible forms of print media. Instead, what a new technology is and what it will become is itself a product of the print media it is said to challenge and to be in the process of replacing. Consequently, one would need to submit McLuhan's statement concerning technological change to the kind of inversion for which he is famous: The content of a particular medium is the "new medium" that supposedly will replace it. William Gibson's *Neuromancer,* the book that introduced the neologism "cyberspace," provides the proverbial example.[45] Technically speaking, cyberspace is not a matter of technology: it is a fiction created in a work of science fiction. Consequently, cyberspace is not the result of innovations in computer hardware and software, but is the product of the play and circulation of signs that commences with Gibson's imaginative novel. This does not mean that something similar to what Gibson describes does not exist outside the various fiction and nonfiction texts that address themselves to the subject matter of cyberspace. It means that cyberspace—what it is, and how we understand what it is—is not something that is found empirically in some object existing in the world. It is something that is continually manufactured, mediated, and supported by a complex network of signifiers that includes science fiction novels, television programs, films, magazines, academic studies, technical papers, conferences, trade shows, comic books, websites, threaded discussions, blogs, and so on. This approach is not simply antiempirical or idealistic; it is, on the contrary, honest about the necessary restrictions and requirements of what

tioning. For more on the self-reflective character of Derrida's writing, see Rodolphe Gasché, *Tain of the Mirror* (Cambridge, Mass.: Harvard University Press, 1987); Chang, *Deconstructing Communication* (above, n. 14). For a consideration of the application of Derrida's work to new media and technology, see Gunkel, *Hacking Cyberspace* (above, n. 14).

45. William Gibson, *Neuromancer* (New York: Ace Books, 1984).

would be a strict and serious form of empiricism. If we are honest with ourselves, we would have to admit that information technology has never been immediately present in and of itself such that we could justify the stance of a naive empiricism. Instead, what we know about information technology is always already mediated by other forms of information technology. If we are to address information technology, we cannot ignore this situation that constitutes the very possibility of an experience with technology. We need to make it the foundation of our endeavors.

Such an approach would institute something like a "rhetoric of technology"—a method of examination that is attentive to the various ways technology has been situated in the material of discourse. This would be the case, if and only if "rhetoric" is understood outside its classical opposition to philosophy—because what is described reiterates the inaugural gesture of the first and exemplar philosopher. "It is," John Sallis writes, "in the *Phaedo* that Socrates, recounting his own history, tells of that decisive turn by which he was set once and for all on his way."[46] In this crucial scene situated on the eve of his execution, Socrates describes how he began his practice by following the way of his predecessors, seeking, as he characterizes it, "the kind of wisdom that they call investigation of nature."[47] He recounts how this attempt to grasp the immediate, sensible things continually led him adrift and how, in the face of this disappointing failure, he began anew, having recourse to these things in discourse: "So I thought I must have recourse to λογοι and examine in them the truth of things."[48] Consequently, the inaugural gesture of philosophy, as described by its principal practitioner, consists in a turn away from a direct and immediate investigation of the nature of things, toward an investigation situated in and attentive to λογοι. A similar turn or course adjustment is necessary with regard to the investigation of technology: like Socrates, one has recourse to discourse and examines in it the truth of things.

Third, because of this, the examination of information or communication technology must be a self-reflective endeavor, or

46. John Sallis, *Delimitations: Phenomenology and the End of Metaphysics* (Bloomington: University of Indiana Press, 1986), p. 5.

47. Plato, *Phaedo*, trans. Harold North Fowler (Cambridge, Mass.: Harvard University Press, 1990), 96a.

48. Ibid., 99e.

what Hegel calls a "speculative science."[49] If what we know about technology is always already mediated by other forms of technology, then the object of investigation is already implicated and involved in the method of its investigation. Just as there is no transcendental signified outside the play of signifiers, there is also no privileged position of observation situated outside of and insulated from the material of the investigation. This situation, despite initial appearances, is not some kind of circular reasoning that would either neutralize the investigation or be at odds with what is commonly called "objective science." "It characterizes," as Briankle Chang has argued, "the epistemic quandary of writers from diverse fields in which the act of the investigation is itself implicated in the object of inquiry."[50] The crucial task in all such situations is not to break free of the circularity to substantiate what Chang calls the "naive empiricist picture,"[51] but to recognize the necessity of the circularity and to learn to enter into and work through it in a way that is attentive to its structure. What matters, then, are examinations like that posed by Adilkno, the Foundation for the Advancement of Illegal Knowledge. Adilkno begins their book *Media Archive* with a remarkable question that puts everything on the line in one line: "To write about media is to ask the question what gives writing the right to speak for other media."[52] This book about media, therefore, begins with a question about its own form of mediation that puts in question what it does as it does it. Although this kind of inquiry seems hopelessly self-involved, it is only by addressing itself to this question that Adilkno's text addresses its subject matter in a way that matters and takes its own matter seriously. A similar gesture can be found at the beginning of Derrida's "Signature Event Context." Derrida begins this essay on communication by questioning the very possibility of that in which he is engaged: "Is it certain that

49. Georg Wilhelm Friedrich Hegel, *Enzyklopädie der philosophischen Wissenschaften im Grundrisse* (Hamburg: Meiner, 1969). For Hegel, "speculative" is not a pejorative term meaning "groundless consideration or idle review of something that is often inconclusive"; instead, he understands and utilizes "speculative" in its original and strict etymological sense, which is derived from the Latin noun *speculum*, meaning mirror. For Hegel, a "speculative science" is a form of self-reflective knowing—that is, it is a manner of cognition that makes its own cognizing an object of its consideration.

50. Chang, *Deconstructing Communication* (above, n. 14), pp. ix–x.

51. Ibid., p. x.

52. Adilkno, *Media Archive*, trans. Laura Martz (New York: Autonomedia, 1998), p. 1.

to the word communication corresponds a concept that is unique, univocal, rigorously controllable, and transmittable: in a word, communicable?"[53] Finally, the same can and must be said of this entire investigation. In asking the question "what's the matter with books?" the material of the text is already and unavoidably involved in the subject matter it addresses. Consequently, whatever comes to be written about the self-referential character of the signifier must be applied to and put into practice by the text that makes this statement. This has, in fact, been the case insofar as the text, from the beginning, refers only to other texts and addresses nothing other than the apparent failure of signification, that is, the antagonism of subject matter and material evident in these texts. In other words, what the text "says" about the self-referential quality of text necessarily affects and has already determined how it operates.

What is illustrated in these three cases is a kind of interminable, if not confusing, self-reflection, where the subject matter addressed in the investigation is mirrored in the material of the investigation and vice versa. But if such self-reflection is interminable, then it seems that the investigations will never get on with the matter; they will never be able to say anything about the subject matter that matters. The real danger, however, is that if we get on with the matter too quickly—that is, at the expense of recognizing and dealing with the way the subject matter is already embedded and implicated in this material—we will forget and pass over a great deal that matters. If we continue to write and read books about technology, then the crucial questions—the questions that matter—will not be about computer technology and the fate of print media: these inquiries, which claim to target the actual material of hardware and software and even address wider social and political matters, move quickly, perhaps too quickly, into the subject matter and often ignore the material in which they appear. Instead the critical questions, the ones that are material for any publication about information technology, are the ones that take these matters seriously. Such inquiries, from the beginning, recognize that the subject matter addressed and the material in which it is addressed are already implicated in and necessarily involve each other. Consequently, the question that matters is not, for example, Will the computer replace or even destroy the book? but How and why does this question materialize in books? What are the effects of this particular mat-

53. Derrida, *Margins* (above, n. 20), p. 309.

ter on the subject matter that is addressed? What's the matter with books?