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Portions of this book have appeared in somewhat different form in other venues, and thanks are due for the permission to reprint them here:

Part of the introduction is drawn from my essay in the May 2008 issue of PMLA and is reprinted by permission of the Modern Language Association of America; that material has also been published in different form in the winter/spring 2011 ADE Bulletin and is reprinted by permission of the Association of Departments of English.

Part of chapter 1 is drawn from my essay in the winter 2009 issue of Cinema Journal, and an early version of that chapter was published in the fall 2010 issue of Social Epistemology.

An early version of chapter 3 appeared on MediaCommons and in the fall 2007 issue of the Journal of Electronic Publishing.

Early drafts of many of this book’s arguments appeared on a range of blogs, including Planned Obsolescence, MediaCommons, The Valve, and if:book; thanks to their editors for the platform they provided.

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Introduction: Obsolescence

The old stuff gets broken faster than the new stuff is put in its place.
—Clay Shirky, “Newspapers and Thinking the Unthinkable”

In many cases, traditions last not because they are excellent, but because influential people are averse to change and because of the sheer burdens of transition to a better state.
—Cass Sunstein, *Infotopia*

The text you are now reading, whether on a screen in draft form or in its final, printed version, began its gestation some years ago in a series of explorations into the notion of obsolescence, which culminated in my being asked to address the term as part of the workshop “Keywords for a Digital Profession,” organized by the Committee on the Status of Graduate Students at the December 2007 Modern Language Association (MLA) convention in Chicago. However jaded and dispiriting the grad students’ choice of “obsolescence” as a keyword describing their own futures might appear, the decision to assign me this keyword was entirely appropriate. My work has circled the notion of obsolescence for quite a while, focusing on the concept as a catch-all for multiple cultural conditions, each of which demands different kinds of analysis and response. As I said at the MLA workshop, we too often fall into a conventional association of obsolescence with the death of this or that cultural form, a linkage that needs to be broken, or at least complicated, if the academy is going to take full stock of its role in contemporary culture and its means of producing and disseminating knowledge. For instance, the obsolescence that I focused on in my first book, *The Anxiety of Obsolescence: The American Novel in the Age of Television*, is not, or at least not primarily, material in nature; after all, neither the novel in particular, nor the book more broadly, nor print in general is “dead.” My argument in *The Anxiety of Obsolescence* is, rather, that claims about the obsolescence of cultural forms often say more about those doing the claiming than they do about the object
of the claim. In fact, agonized claims of the death of technologies like print and genres like the novel sometimes function to re-create an elite cadre of cultural producers and consumers, ostensibly operating on the margins of contemporary culture and profiting from their claims of marginality by creating a sense that their values, once part of a utopian mainstream and now apparently waning, must be protected. One might here think of the oft-cited reports published by the National Endowment for the Arts, Reading at Risk (2004) and To Read or Not to Read (2007). Each of these reports, like numerous other such expressions of anxiety about the ostensibly decline of reading (a decline that comes to seem inevitable, of course, given the narrowness with which "reading" is defined: book-length printed and bound fiction and poetry consumed solely for pleasure), works rhetorically to create a kind of cultural wildlife preserve within which the apparently obsolete can flourish. My argument in The Anxiety of Obsolescence thus suggests that obsolescence may be, in this case at least, less a material state than a political project aimed at intervening in contemporary public life, perhaps with the intent of shoring up a waning cultural hierarchy.

I’m beginning this new project by discussing my last project in no small part because of what happened once the manuscript was finished. Naively, I’d assumed that publishing a book that makes the argument that the book isn’t dead wouldn’t be hard, that publishers might have some stake in ensuring that such an argument got into circulation. What I hadn’t counted on, though, as I revised the manuscript prior to submitting it for review, was the effect that the state of the economy would have on my ability to get that argument into print. In December 2003, almost exactly seventy-two hours after I’d found out that my college’s cabinet had taken its final vote to grant me tenure, I received an email message from the editor of the scholarly press that had had the manuscript under review for the previous ten months. The news was not good: the press was declining to publish the book. The note, as encouraging as a rejection can ever be, stressed that in so far as fault could be attributed, it lay not with the manuscript but with the climate; the press had received two enthusiastically positive reader’s reports, and the editor was supportive of the project. The marketing department, however, overruled him on the editorial board, declaring that the book posed "too much financial risk . . . to pursue in the current economy."

This particular cause for rejection prompted two immediate responses, one of which was most clearly articulated by my mother, who said, “They were planning on making money off of your book?” The fact is, they were—not much, perhaps, but that the press involved needed the book to make money, at least enough to return its costs, and that it doubted it would, highlights one of the most significant problems facing academic publishing today: an insupportable economic model.

To backtrack for a second: that there is a problem in the first place is something about which I hope, by this point, anyone reading this doesn’t really need to be convinced; “crisis in scholarly publishing” has become one of the most-heard phrases in certain kinds of academic discussions, and organizations including the American Council of Learned Societies (ACLS) and the Association of Research Libraries (ARL), publishers such as Lindsay Waters and Bill Germano, scholars including Cathy Davidson and John Willinsky, and, perhaps most famously, past MLA president Stephen Greenblatt have been warning us for years that something’s got to give. So of course the evidence for this crisis, and for the financial issues that rest at its heart, extends far beyond my own individual, anecdotal case.

Though the notion of a crisis in scholarly publishing came into common circulation well over a decade ago (see, e.g., Thatcher 1995), the situation suddenly got much, much worse after the first dot-com bubble burst in 2000. During this dramatic downturn in the stock market, when numerous university endowments went into free fall—a moment that, in retrospect, seems like mere foreshadowing—university presses and university libraries were among the academic units whose budgets took the hardest hits. And the cuts in funding for libraries represented a further budget cut for presses, as numerous libraries, already straining under the exponentially rising cost of journals, especially in the sciences, managed the cutbacks by reducing the number of monographs they purchased. The result for library users was perhaps only a slightly longer wait to obtain any book they needed, as libraries increasingly turned to consortial arrangements for collection-sharing, but the result for presses was devastating. Imagine: for a university press of the caliber of, say, Harvard’s, the expectation for decades had been that they could count on every library in the University of California system buying a copy of each title they published. Since 2000, however, the rule was increasingly that one library in the system would buy that title. And the same has happened with every such system around the country, such that, as Jennifer Crewe (2004, 27) noted, sales of monographs to libraries were less than one-third of what they had been two decades before—and they’ve continued to drop since then. So library cutbacks have resulted in vastly reduced sales for university presses, at precisely the moment when severe reductions in the percentage of university press budgets subsidized by their institutions have made those presses dependent on income from sales for their survival. (The
average university press, as we'll see, receives well under 10 percent of its annual budget from its institution. We can only imagine what will happen to that figure in the current economic climate. The results, of course, are that many presses have reduced the number of titles that they publish, and that marketing concerns have come at times, and of necessity, to outweigh scholarly merit in making publication decisions.

Despite the fact that The Anxiety of Obsolescence was finally published—by a smaller press with more modest sales expectations—my experience of the crisis in academic publishing led me to begin rethinking my argument about the continued viability of the book as a form. Perhaps there is a particular type of book, the scholarly monograph—or, even more specifically (given that marketing departments prefer known quantities), the first scholarly monograph—that is indeed threatened with obsolescence. Even so, this is not to say that the monograph is "dead." Even first books are still published, after all, if not quite in the numbers they might need to be in order to satisfy all our hiring and tenure requirements, and they still sell, if not exactly in the numbers required to support the presses that put them out. The scholarly press book is, however, in a curious state, one that might usefully trouble our associations of obsolescence with the "death" of this or that cultural form, for while it is no longer a viable mode of communication, it is, in many fields, still required in order to get tenure. If anything, the scholarly monograph isn't dead; it is undead.

The suggestion that one particular type of book might be thought of as undead indicates that we need to rethink, in a broad sense, the relationship between old media and new, and ask what that relationship bodes for the academy. If this traditional mode of academic publishing is not dead, but undead—again, not viable, but still required—how should we approach our work and the publishing systems that bring it into being? There's a real question to be asked about how far we want to carry this metaphor; the suggestion that contemporary academic publishing is governed by a kind of zombie logic, for instance, might be read as indicating that these old forms refuse to stay put in their graves, but instead walk the earth, rotting and putrescent, wholly devoid of consciousness, eating the brains of the living and susceptible to nothing but decapitation—and this might seem a bit of an overreaction. On the other hand, it's worth considering the extensive scholarship in media studies on the figure of the zombie, which is often understood to act as a stand-in for the narcotized subject of capitalism, particularly at those moments when capitalism's contradictions become most apparent. And, of course, there's been a serious recent uptick in broad cultural interest in zombies, perhaps exemplified by the spring 2009 release of Pride and Prejudice and Zombies. If there is a relationship between the zombie and the subject of late capitalism, the cultural anxiety that figure marks is currently, with reason, off the charts—and not least within the academy, as we not only find our ways of communicating increasingly threatened with a sort of death-in-life, but also find our livelihoods themselves decreasingly lively, as the liberal arts are overtaken by the teaching of supposedly more pragmatic fields, as tenure-track faculty lines are rapidly being replaced with more contingent forms of labor, and as too many newly-minted Ph.D.s find themselves without the job opportunities they need to survive. The relationship between the zombie status of the scholarly book and the perilous state of the profession isn't causal, but nor is it unrelated, and until we develop the individual and institutional will to transform our ways of communicating, we're unlikely to be able to transform our broader ways of working.

Just to be clear: I am not suggesting that the future survival of the academy requires us to put academic publishing safely in its grave. I'm not being wholly facetious either, though, as I do want to indicate that certain aspects of the academic publishing process are neither quite as alive as we'd like them to be, nor quite as dead as might be most convenient. If the monograph were genuinely dead, we'd be forced to find other forms in which to publish. And if the book were simply outmoded by newer, shinier publishing technologies, we could probably get along fine with the undead of academic publishing, as studies of forms like radio and the vinyl LP indicate that obsolete media have always had curious afterlives. There are important differences between those cases and that of academic publishing, however: we don't yet have a good replacement for the scholarly monograph, nor do we seem particularly inclined to allow the book to become a "niche" technology within humanities discourse. It's thus important for us to consider the work that the book is and isn't doing for us; the ways that it remains vibrant and vital; and the ways that it has become undead, haunting the living from beyond the grave.

A few distinctions are necessary. The obsolescence faced by the first academic book is not primarily material, any more than is the putative obsolescence of the novel; a radical shift to all-digital delivery would by itself do nothing to revive the form. However much I will insist in what follows that we in the humanities must move beyond our singular focus on ink-on-paper to understand and take advantage of pixels-on-screens, the form of print still functions perfectly well, and numerous studies have indicated that a simple move to electronic distribution within the current system of academic publishing will not be enough to bail out the system, as printing, storing, and
I want to hold up alongside the blog’s persistent ephemeral nature the state of the scholarly monograph, which I’d argue faces an obsolescence that is primarily institutional, arising from the environment in which it is produced. If, after all, there’s something obsolete about the book, it’s not its content; despite my general agreement with calls to decenter the book as the “gold standard” for tenure and place greater value on the publication of articles, there’s a kind of large-scale synthetic work done in the form of the book that’s still important to the development of scholarly thought. Nor is the problem the book’s form; the pages still turn just fine. What has ceased to function in the first academic book is the system surrounding its production and dissemination, the process through which the book comes into being, is distributed, and interacts with its readers. I mentioned earlier that the message I received from that press, declining my book on financial grounds, produced two immediate responses. The first was my mother’s bewildered disbelief; the second came from my colleague Matt Kirschenbaum, who left a comment on Planned Obsolescence saying that he did not understand why I couldn’t simply take the manuscript and the two positive readers’ reports and put the whole thing online—voila: peer-reviewed publication—where it would likely garner a readership both wider and larger than the same manuscript in print would. “In fact I completely understand why that’s not realistic,” he went on to say, “and I’m not seriously advocating it. Nor am I suggesting that we all become our own online publishers, at least not unless that’s part of a continuum of different options. But the point is, the system’s broken and it’s time we got busy fixing it. What ought to count is peer review and scholarly merit, not the physical form in which the text is ultimately delivered” (Kirschenbaum 2003).

This exchange with Matt, and a number of other conversations that I had in the ensuing months, convinced me to stop thinking about scholarly publishing as a system that would simply bring my work into being, and instead approach it as the object of that work, thinking seriously about both the institutional models and the material forms through which scholarship might best circulate. I began, in early 2004, to discuss in a fairly vague way what it would take to found an all-electronic community-run scholarly press, but it took a while for anything more concrete to emerge. What got things started was a December 2005 report by the online journal Inside Higher Ed on the work that had been done to that point by an MLA task force on the evaluation of scholarship for tenure and promotion, and on the multiple recommendations thus far made by the panel. At the request of the editors of The Valve, a widely read literary studies–focused blog, I wrote a lengthy con-
sideration of the recommendations made by this panel, and extended one of those recommendations to reflect one possible future, in the hopes of opening up a larger conversation about where academic publishing ought to go, and how we might best take it there.

Many of the recommendations put forward by the MLA task force (expanded in the task force's final report; see Modern Language Association of America, December 2006) were long in coming, and many stand to change tenure processes for the better; these include calls for departments

- to clarify the communication of tenure standards to new hires via memorandums of understanding;
- to give serious consideration to articles published by tenure candidates—thus, as I noted, decentering the book as the gold standard of scholarly production—and to communicate that expanded range of acceptable venues for publication to their administrations;
- to set an absolute maximum of six letters from outside evaluators that can be required to substantiate a tenure candidate’s scholarly credentials, to draw those evaluators from comparable institutions rather than more prestigious ones, and to refrain from asking evaluators to make inappropriate judgments about the tenure-worthiness of candidates based on the limited portrait that a dossier presents;

and, perhaps most importantly, at least for my purposes,

- to acknowledge that scholarship of many different varieties is taking place online, and to evaluate that scholarship without media-related bias.

These were extremely important recommendations, but there was a significant degree of “easier said than done” in the responses they received (particularly the last one), and for no small reason: they require a substantive rethinking not simply of the processes through which the academy tenures its faculty, but of the ways those faculty do their work, how they communicate that work, and how that work is read both inside and outside the academy. Those changes cannot simply be technological; they must be both social and institutional. This recognition led me to begin two projects, both aimed at creating the kinds of change I think necessary for the survival of scholarly publishing in the humanities into the twenty-first century.

The first of these is MediaCommons, a field-specific attempt to develop a new kind of scholarly publishing network, which my collaborators and I have been working on with the support of the Institute for the Future of the Book, a National Endowment for the Humanities (NEH) Digitization, Start-Up Grant, and the NYU Digital Library Technology Services group. MediaCommons is working to become a setting in which the multiplicity of conversations in and about media studies taking place online can be brought together, through projects like In Syndication, which aggregates a number of the leading blogs in the field. We’re also publishing a range of original projects, the longest-running of which is In Media Res, which asks five scholars a week to comment briefly on some up-to-the-minute media text as a means of opening discussion about the issues it presents for media scholars, students, practitioners, and activists. We hope to foster that discussion as part of a much broader scholarly ecosystem, understanding that the ideas we circulate range in heft from the blog post through the article to the monograph. Those heftier forms are published through MediaCommons Press, a project in which we produce longer texts for open discussion, some of which move through the digital phase on their way to a primary life in print. (For example, we launched an experiment in open peer review in March 2010 on behalf of Shakespeare Quarterly, for a special issue on Shakespeare and New Media.) Other projects are meant to have a primary digital existence, including Nick Mirzoeff’s The New Everyday, an experimental “middle-state” publication. But the chief importance of MediaCommons, as far as I’m concerned, is the network it aims to build among scholars in the field, getting those scholars in communication with one another, discussing and possibly collaborating on their projects. To that end, we’ve built a peer network backbone for the system—Facebook for scholars, if you like. Through this profile system, members can gather the writing they’re doing across the web, as well as citations for offline work, creating a digital portfolio that provides a snapshot of their scholarly identities.

Working on MediaCommons has taught me several things that I mostly knew already, but hadn’t fully internalized: first, any software development project will take far longer than you could possibly predict at the outset; and second, and most important, no matter how slowly such software development projects move, the rate of change within the academy is positively glacial in comparison.

My need to advocate for such change is what led to this project, for although numerous publications in the last few years have argued for the need for new systems and practices in scholarly publishing—to name just two, John Willinsky’s The Access Principle (2006) and Christine Borgman’s Scholarship in the Digital Age (2007)—these arguments too often fail to
account for the fundamentally conservative nature of academic institutions and (the rhetoric of a David Horowitz notwithstanding) the similar conservatism of the academics that comprise them. In the main, we're extraordinarily resistant to change in our ways of working; it is not without reason that a senior colleague once joked to me that the motto of our institution (one that I think might usefully be extended to the academy as a whole) could well be “We Have Never Done It That Way Before.” As Donald Hall has noted, scholars often resist applying the critical skills that we bring to our subject matter to an examination of “the textuality of our own profession, its scripts, values, biases, and behavioral norms” (Hall 2002, xiv); such self-criticism is a risky endeavor, and those of us who have been privileged enough to succeed within the extant system are often reluctant to bite the hand that feeds us. Changing our technologies, our ways of doing research, and our modes of production and distribution of the results of that research are all crucial to the continued vitality of the academy—and yet none of those changes can come about unless there is first a profound change in the ways that scholars think about their work. Until scholars really believe that publishing on the web is as valuable as publishing in print—and more importantly, until they believe that their institutions believe it, too—few will be willing to risk their careers on a new way of working, with the result that that new way of working will remain marginal and undervalued.

In what follows, then, I focus not just on the technological changes that many believe are necessary to allow academic publishing to flourish into the future, but on the social, intellectual, and institutional changes that are necessary to pave the way for such flourishing. In order for new modes of communication to become broadly accepted within the academy, scholars and their institutions must take a new look at the mission of the university, the goals of scholarly publishing, and the processes through which scholars conduct their work. We must collectively consider what new technologies have to offer us, not just in terms of the cost of publishing or access to publications, but in the ways we research, write, and review.

In chapter 1, I argue that we need to begin with the structures of peer review, not least because of the persistent problem they present for digital scholarship, and the degree to which our values (not to mention our value) as scholars are determined by them. Peer review is at the heart of everything we do—writing, applying for grants, seeking jobs, obtaining promotions. It is, arguably, what makes the academy the academy. However, the current system of peer review is in fact part of what's broken, of what threatens a vibrant mode of scholarly communication with obsolescence. As I explore in the next chapter, a rather extraordinary literature is available, mostly in the sciences and social sciences, on the problems with conventional peer review, including its biases and flaws. It also requires an astonishing amount of labor, for which academics can't currently receive any “credit.” And thus when Kirschenbaum says that “what ought to count is peer review and scholarly merit, not the physical form in which the text is ultimately delivered,” I agree, but at the same time feel quite strongly that the system of peer review as we know it today is flawed, a backchannel conversation taking place between editor and reviewer that too often excludes the author from its benefits, and that too often impedes rather than assists in the circulation of ideas. For that reason, I want to force us to take a closer look at what we mean when we say peer review, and what it is we expect the process to accomplish, in order to make sure that we're not installing a broken part in a new machine.

A dramatically changed peer-review system such as the one that I propose, however, would require us to think about new structures of authorship. In chapter 2, I argue that a turn from pre-publication review to post-publication review will almost certainly necessitate a parallel turn from thinking about academic publishing as a system focused on the production and dissemination of individual products to imagining it as a system focused more broadly on facilitating the processes of scholarly work, as the time and effort required to maintain a community-oriented, gift-economy-driven system of peer-to-peer review will oblige scholars, much like the developers of large-scale open-source software projects, to place some portion of their emphasis not on their own individual achievements, but rather on finding their self-interest served by the advancement of the community as a whole. This is a utopian ideal, of course, and it largely goes against our training as scholars, particularly within the humanities; what we accomplish, we accomplish alone. (Or, as a commenter on Twitter put it after hearing a talk of mine, “Being helpful is not really part of academic culture.”) As I reconsider authorship within digital networked publishing structures, I argue, using the example of blogs, that what we will need to let go of is not what we have come to understand as the individual voice, but rather the illusion that such a voice is ever fully alone. Roland Barthes, of course, claimed back in 1967 that no text is a single “line of words,” but that each is instead a “multi-dimensional space in which are married and contested several writings, none of which is original: the text is a fabric of quotations” (Barthes 1967/86, 52–53). We have long acknowledged the death of the author—in theory, at least—but have been loath to think about what such a proclamation might mean for our own status as authors, and have certainly been unwilling to part with the lines on the CV that result from publishing.
Digital networks, as structures that facilitate interaction, communication, and interconnection, will require us to think differently about what it is we’re doing as we write. As the example of the blog might suggest, communities best engage with one another around writing that is open rather than closed, in process rather than concluded. If we were to shift our focus in the work we’re doing as authors from the moment of completion, from the self-contained product, to privilege instead the process of writing, discussion, and revision, we’d likely begin to “publish” work—in the sense of making it public in readable form—earlier: in its development (at the conference paper stage, for instance) and to remain engaged with those texts much longer after they’ve been released to readers. Although this idea makes many scholars nervous—about getting “scooped,” about getting too much feedback too soon, about letting the messiness of our processes be seen, about the prospect of never being fully “done” with a project—it’s worth considering why we’re doing the work in the first place: to the degree that scholarship is about participating in an exchange of ideas with one’s peers, new networked publishing structures can facilitate that interaction, but will best do so if the discussion is ongoing, always in process.

This foregrounding of conversation, however, will likely also require authors, who are in dialogue with their readers—who are, of course, themselves authors—to relinquish a certain degree of control over their texts, letting go of the illusion that their work springs wholly from their individual intelligence and acknowledging the ways that scholarship, even in fields in which sole authorship is the norm, has always been collaborative. (We resist this, of course; as Lisa Ede and Andrea Lunsford [2001] have pointed out, no matter how much we claim to value the collective or collaborative, the proof of our profoundly individualistic sense of accomplishment rests in the literally unthinkable nature of the multi-author dissertation.) Sometimes the result of these new conversational publishing practices might be productive coauthoring relationships, but it need not always be so; we may instead need to develop new methods of citation that acknowledge the participation of our peers in the development of our work. Along the way, though, we’ll also need to let go of some of our fixation on the notion of originality in scholarly production, recognizing that, in an environment in which more and more discourse is available, some of the most important work that we can do as scholars may more closely resemble contemporary editorial or curatorial practices, bringing together, highlighting, and remixing significant ideas in existing texts rather than remaining solely focused on the production of more ostensibly original texts. We must find ways for the new modes of authorship that digital networks will no doubt facilitate—process-focused, collaborative, remix-oriented—to “count” within our systems of valuation and priority.

In the later chapters, I explore a number of other such changes that will be required throughout the entire academic community if such new publishing practices are to take root. Publishers, for instance, will need to think differently about their business models (which may need to focus more on services and less on objects), about their editorial practices (which may require a greater role in developing and shepherding projects), about the structures of texts, about their ownership of copyright, and about their role in facilitating conversation; they’ll also need to think in concert with libraries about archival and preservation practices, ensuring that the texts produced today remain available and accessible tomorrow. Universities, in the broadest sense, will need to rethink the relationship between the library, the university press, the information technology center, and the academic units within the institution, reimagining the funding model under which publishing operates and the institutional purposes that such publishing serves—but also, and crucially, reimagining the relationship between the academic institution and the surrounding culture. As new systems of networked knowledge production become increasingly prevalent and influential online, the university and the scholars who comprise it need to find ways to adapt those systems to our needs, or we will run the risk of becoming increasingly irrelevant to the ways that contemporary culture produces and communicates authority.

In the end, what I am arguing is that we in the humanities, and in the academy more broadly, face what is less a material obsolescence than an institutional one; we are entrenched in systems that no longer serve our needs. But because we are, by and large, our institutions—or rather, because they are us—the greatest challenge we face is not that obsolescence, but our response to it. Like the novelists I studied in my first book, who may feel their cultural centrality threatened by the rise of newer media forms, we can shore up the boundaries between ourselves and the open spaces of intellectual exchange on the Internet; we can extol the virtues of the ways things have always been done; we can bemoan our marginalization in a culture that continues marching forward into the digital future—and in so doing, we can further undermine our influence on the main threads of intellectual discussion in contemporary public life. The crisis we face, after all, does not stop with the book, but rather extends to the valuation of the humanities within the university, and of institutions of higher education within the culture at large. We tend to dismiss the public disdain for our work and our institutions
as a manifestation of the ingrained anti-intellectualism in U.S. culture, and perhaps understandably so, but until we take responsibility for our culture’s sense of our irrelevance, we cannot hope to convince it otherwise. Unless we can find ways to speak with that culture, to demonstrate the vibrancy and the value of the liberal arts, we run the risk of being silenced altogether.

And we will be silenced, unless we can create new ways of speaking both with that culture and among ourselves. We can build institutional supports for the current, undead system of scholarly publishing, and we can watch as the profession itself continues to decline. Or we can work to change the ways we communicate and the systems through which we attribute value to such communication, opening ourselves to the possibility that new modes of publishing might enable, not just more texts, but better texts, not just an evasion of obsolescence, but a new life for scholarship. The point, finally, is not whether any particular technology can provide a viable future for scholarly publishing, but whether we have the institutional will to commit to the development of the systems that will make such technologies viable and keep them that way into the future.

Peer Review

In a world where knowledge is being made available at a rate of millions of pages per day, it is comforting to know that some subset of that knowledge or science has been critically examined so that, were we to use it in our thinking for our work, we would be less likely to have wasted our time.

—Ray Spier, “The History of the Peer-Review Process”

[El]ectronic publishing distinguishes between the phase where documents are placed at the disposal of the public (publishing proper) and the phase where “distinctions” are being attributed. It used to be that being printed was “the” distinction; electronic publishing changes this and leads us to think of the distinction phase completely separately from the publishing phase.

However, doing so changes the means by which distinction is imparted, and imparting distinction is a sure sign of power. In other words, those who now hold that privilege are afraid of losing it (“gate keepers”) and they will [use] every possible argument to protect it without, if possible, ever mentioning it.

—Jean-Claude Guédon and Raymond Siemens, "The Credibility of Electronic Publishing: Peer Review and Imprint"

We police ourselves into irrelevance and insignificance.

—Cathy Davidson, “Research: How Peer Review Counts and Doesn’t”

For the past few years, I have worked with the Institute for the Future of the Book, my colleague Avi Santo, and a range of prominent scholars in media studies on MediaCommons, an all-electronic scholarly publishing network. During the planning phases of the project, we blogged, held meetings, and tested some small-scale implementations of the network’s technologies—and in all of the feedback that we received, in all of the con-
netic media." If "the letter itself," the smallest unit of our discourse, has been thus transformed by the computer that encodes and represents it to us, it's arguable that we need to begin wrestling with that encoding process itself, to understand code as a mode of writing, to become literate in markup/computer languages as well as human languages.

The thought of looking under the hood like this, of being asked to understand not simply another publishing format, but another language entirely, will no doubt result in new kinds of anxieties for some authors. Perhaps we don't all need to become comfortable with code; perhaps literacy in the computer age can remain, for most of us, at the level of the computer's representations to us, rather than at deeper layers of the computer's translations. I raise the question of reading code, however, as a means of asking us to consider what a text is, and what it can be, in the digital age. If we have the ability to respond to video with video, if we can move seamlessly from audio files to images to text as means of representing music, it may behoove us to think about exactly what it is we're producing when we write, how it is that these different modes of communication come together in complex document forms. And, as the next chapter will argue, we need to think about textual structures at multiple levels, in order to develop new digital structures that can begin to do some of the work that the codex form has long done.

Texts

"There are still many tricks that electronic technology is quite incapable of performing; still many structural, practical, and interpretative problems embedded in the new systems; still many radical and continuing limitations on the supposed electronic management of knowledge."

— Ian Donaldson, "The Destruction of the Book"

Books, the centuries-old foundation of textuality, can now be seen as overshadowed by a metatextuality that extends progressively to the whole complex of modes of representing the world, to all the different media, while continuing, nevertheless, to function as a referent. It is for this reason that the difficulty of perfecting and framing the methods for leafing through "pages" on screen witnesses both an effort to reframe the book as a nonbook, and at the same time the book's permanence.

— Patrick Bazin, "Toward Metareading"

If, as I argued in the preceding chapters, peer review in a digitally networked environment might most productively become a process of peer-to-peer review, and if online authoring will require us to think differently about the relationships among individual authors, we might expect that moving the machinery of publishing online would similarly demand or result in some greater connectivity in the forms that our published texts assume. To some extent, this goes without saying: the very essence of the web lies in the hyperlink, and texts on the web seem destined to be connected via links of one form or another. In this chapter, however, I press a bit harder on what those connections might mean and how they might affect the kinds of texts we produce, the ways we distribute them, and the ways that they are, finally, read. In exploring those connections, I want to think less about the technology of the link per se than about what D. F. McKenzie (1999) has called "the sociology of texts," which is to say the ways that texts of all varieties inter-
act, both with one another and with their readers. In thinking through the sociology of texts, we need to consider “the human motives and interactions which texts involve at every stage of their production, transmission, and consumption” (15). Because the dominant print-based forms of today's scholarly communication have been with us for so long, many of those motives and interactions have become invisible to us; texts simply are the way they are, or, when we do consider them more deeply, they are the ways that print requires them to be.

In what follows I will explore the kinds of interactions fostered by the current forms of scholarship—which have developed in concert with print's technologies of production, distribution, and use, but which aren't in any inescapable sense determined by those technologies—and how network-based communication might inspire new kinds of interactivity in our scholarship. When I talk about “interactivity” in this sense, however, I don’t mean the kinds often associated with computer-based texts, which are imagined to be digital forms of the “choose your own adventure” text. Lev Manovich (2001, 55) has compellingly debunked what he refers to as “the myth of interactivity” in new media, pointing out that the term as used in this sense is tautological, “stating the most basic fact about computers.” Instead, I'm interested in a more communicative sense of interaction across texts, between texts and readers, and among readers. These forms of interaction exist even in what seems like the static, discrete textual forms made possible by print, but the affordances of network-based communication present the potential for heightening and highlighting them in ways that could prove extremely powerful for the future of scholarship.

Although this chapter explores the new kinds of textual structures that network-based publishing might inspire, it doesn't attempt to take on all such structures. Most notably, I'm not primarily focused on the kinds of multimodal scholarship that I discussed at the end of the previous chapter, though I think that such new forms, especially as they're being pioneered in venues such as the online journals Kairos and Vectors, could have an enormous impact on the ways that we produce and support scholarly arguments. Multimodal texts, which make rich use of images, audio, video, and other forms of computer-processed data, enable authors to interact in new ways with their objects of study, and to create rich models of complex processes and ideas. In this chapter, however, I focus most of my attention on the kinds of scholarly texts that are primarily composed of text, in no small part because the new digital form that we're seeking might continue the work that the book has done for us for the last five centuries. What I hope to explore in the pages that follow are the possibilities for a new digital form that's as comfortable, engaging, information-rich, flexible, and inviting as the book itself has been—but that extends beyond the covers of the individual text to take advantage of the interactive possibilities that the network presents.

In order to begin exploring that new textual structure, it would be useful first to think carefully about what exactly the book has been, how its affordances have affected the organization of knowledge, and how our interactions with it have shaped our assumptions about the relationships between author, text, and reader that it mediates. During the December 2006 Modern Language Association convention in Philadelphia, Peter Stallybrass presented a paper whose title indicated that it would focus on the relationship between textual studies—or the application of material culture approaches to the study of textual production—and the book. At the very outset of his presentation, however, Stallybrass overturned several basic assumptions about that form's production often unconsciously held by both literary scholars and textual critics. In asking who, exactly, it is that produces the thing we know as the book, he made a somewhat startling claim: Authors do not write books, he argued, but rather sentences or, on a larger scale, texts. Similarly, printers do not produce books, but rather pages. The primary argument that Stallybrass's paper sought to make was about the need for textual studies scholars to think in terms of pages, both bound and unbound, in order to escape what he called “the tyranny of the book.” While any such escape from tyranny in criticism is undoubtedly a good thing, our attention in this project needs to remain on the book, as it is the endangered form that we must either save or replace.

In setting up his argument about the need for textual scholars to focus on the page, however, Stallybrass suggested, almost as an aside, that the book is a production, finally, of the binder. This is a point I'd like to dwell on a bit, as it suggests that the bookness of the book derives less from its material composition—ink-on-paper—than from its organization, which in the case of print takes the form of sequenced, bound, and cut leaves. As Stallybrass (2002, 42) notes, conventional wisdom holds that the development of that form—specifically, the shift from the scroll to the codex—enabled “the capacity for random access,” allowing a reader to turn immediately to any particular point in a text, thus facilitating the reader's active engagement in and manipulation of the textual object. Turning our material focus from print to binding as the source of bookness holds significant implications for scholars working on new, electronic modes of textuality, and in particular, on the future of the book. For if this is the case—that the formal properties of the book that have the greatest impact on our reading experience are derived not from print, but
rather from the codex—researchers working on new ways of transforming ink-on-paper to pixels-on-screens may be addressing the wrong problem, or at least the wrong aspect of a knottier problem than it has at times appeared. As Johanna Drucker (2008, 217) has suggested, it's all too easy for the problem of the digital future of the book to get caught up in how the book *looks* rather than how it *works*; in order to imagine a new digital form for the book, we need to focus on what, and how, it communicates.

The task, in other words, is on some level to forget about the arrangement of pixels on the screen and instead focus on our experience of larger-scale structural or organizational matters. This is not to say that interface design isn't important; as scholars including Stan Ruecker and Alan Galey (2009) have recently argued, design is itself a hermeneutic process, always presenting an interpretation of the ways digital projects communicate. It's also evident that the absence of careful design can interfere with the reader's ability to engage with digital text. Stallybrass (2002) notes the irony, for instance, in what appears to be the computer's regression from the kinds of manipulation that the codex made possible, as many digital texts reimpose the limitations of the scroll on our reading practices. Despite having greater capacities for random access to texts via searching and other modes of linking, the web's reliance on scrolling text too often fails to take account of the ways that cognitive practices of reading are spatially organized. See, for instance, Geoffrey Nunberg's footnoted observation in "The Places of Books in the Age of Electronic Reproduction": "One ancillary effect of this homogenization of the appearance of electronic documents is to blur the sense of provenance that we ordinarily register subconsciously when we are reading. As a colleague said to me not long ago, ‘Where did I see something about that the other day? I have a clear mental picture of a UNIX window’" (1993, 37n31). Stallybrass similarly notes the dislocation that results from the inability to stick one's finger between the pages of an electronic text to mark one's place. None of this is meant to imply that digital publishing ought to mimic the spatial arrangement of bound pages; if anything, too much current thinking about the design of digital texts is predicated on the structure of the book rather than any natively networked structure. Rather, I suggest that those of us working on the future of publishing online need to think in terms that are not just about page design, but rather about larger-scale textual structures, and about readers' interactions with and through those structures.

In what follows, I will explore a few projects focused on stretching the boundaries of textual structures in digital scholarship, exploring the ways these projects conceive of the possibilities for a web-native replacement for the codex form. An early draft of a portion of this chapter was posted for comment and discussion using one of these technologies, CommentPress; I later revised the article based upon the comments I received and republished it in CommentPress on MediaCommons, as well as in a more traditionally linear format in the Journal of Electronic Publishing. This experiment allowed me, in some sense, to practice what I am preaching, but it also permitted some insight into the limitations of current web-based publishing technologies, as well as into some of the issues that publishing organizations face in the deployment of these technologies. None of the projects I discuss in this chapter should thus be imagined as a conclusion to the issues I'm exploring, but instead as various modes of exploration, ways of approaching the issues involved in electronic publishing from a broader structural perspective. At stake is not the success or failure of any particular technology, but rather our ability to produce a reading experience that provides net-native principles of organization as compelling as those of the codex, but with the extraordinary flexibility and multiplicity of the digital. Only in significantly broadening our sense of the text beyond the structures that have developed in print, I argue, will we be able to forge a new form for scholarship that will thrive electronically.

Documents, E-books, Pages

As I've suggested, much recent research on new systems of digital textuality has fallen into the trap of attempting all too literally to reproduce the printed page on digital screens through innovations in hardware or software—whether through various "e-book" readers such as Amazon's Kindle or computer-based document types such as the PDF (Portable Document Format) originated by Adobe. Many of these technologies have been reasonably successful, perhaps most notably the PDF, which has made possible the widespread distribution online of materials that either were originally in print or that are intended to wind up in print once again. Except for their mode of distribution, however, there's almost never anything particularly "net-native" about PDF-based texts, with little in their form that makes use of the digital environment in which they exist. These documents are, until printed, like paper under glass: mostly unmarkable, resisting interaction with an active reader or with other such documents in the network. More recent iterations of PDF software do allow users to annotate documents, but even so, such annotations remain superficial—the ability to add "sticky notes" or to mark in the margins of a static document is useful, but no deeper interaction with the text, its author, or its other readers is possible. Various modes
of e-book hardware and software, ranging from the Expanded Books of the early 1990s Voyager Company through today’s platforms such as the Kindle, have focused on becoming more genuinely digital in mode by providing readers with a set of tools that can be brought to bear on the text, including bookmarking, annotation, hyperlinking, and the like, all of which are simultaneously aimed at allowing the reader to traverse the text in ways that would be difficult, if not impossible, in print, while also providing the ability to mark the text so lamented by bibliophiles in contemplating on-screen reading. Thus far, however, no e-book format, whether, in Clifford Lynch’s (2001) terms, device-based or text-based, has been terribly successful at luring readers away from pages and toward screens.5

One of the problems with both the e-book reader and the portable document format—as well as, for that matter, the more generic HTTP/HTML-based web technologies that have produced billions upon billions of web pages—is visible in their very vocabulary: despite whatever innovations exist in “pages,” “documents,” or “e-books,” we remain tied to thinking about electronic texts in terms of print-based, or, more specifically, codex-based, models. As Drucker notes, “Such nomenclature seems charged by a need to acknowledge the historical priority of books and to invoke a link between their established cultural identity and the new electronic surrogates” (2008, 216). The book and other forms of print have been critically important to the development of Western culture over the last six hundred years; they are so deeply ingrained in the ways we think that it becomes hard to imagine alternatives to them.6 However, simply translating texts from paper to screen misses the point. There’s a reason, after all, why so many of my students print the PDFs that I teach in my classes before they read them, and why the response of many readers to e-book formats is to talk about the smell of paper, the use of a pencil, or the comfort of reading in bed; each of these e-book forms loses many of the benefits of print in the process of trying to retain them.7 While these technologies have demonstrated that the format of ink-on-paper can successfully be translated into pixels-on-screens, they’ve done so at the cost of remaining trapped in what Paul Levinson (1997, 126), following Marshall McLuhan, has referred to as “rear-view mirrorism,” the difficulty we have defining new technologies except in terms of older ones. Take, for instance the example of the car: the first major insight of its inventors was the flash that one might produce a carriage that was able to move without the horse; had the thinking about such an invention remained at the phase of the “horseless carriage,” however, many of the later developments in automotive design would have been impossible.8

In the same fashion, many of our attempts to produce a new form of electronic textuality have yet been unable to escape the structures of thought associated with the printed book, resulting, as Drucker (2008, 216) points out, in forms that “often mimic the most kitsch elements of book iconography while for the longest time the newer features of electronic functionality seemed not to have found their place in the interface at all.” These elements of the book mimicked in the e-book of course have their own histories; print-based features such as the title page, for instance, or the sequence of contents, or running page headers, or even something as simple as page numbers, took decades to coalesce, and as Kindle users are discovering, they don’t translate easily to new environments. Worse, attempting to make those translations in any direct sense may prevent us from really seeing the ways the new format might best function; we are being distracted by our attempts to simulate “the way a book looks” from the more crucial problem of “extending the ways a book works” (p. 217). Once we’ve genuinely managed to make that turn, developing wholly new textual structures, today’s concept of the “e-book” will no doubt sound naïve, a remnant of our tenuous toe-dipping into digital publishing.

Hypertext

Some part of that naiveté arises from the term’s very indication that we have not yet found the net-native structure that will be as flexible and inviting to individual readers as the codex has been. The absence that the “e-book” highlights is not the means of moving from imprinting ink on paper to arranging pixels on screens, but the means of organizing and presenting digital texts in a structural sense, in a way that produces the greatest possible readability and writerly engagement, that enables both the intensive development of an idea within the bounds of the electronic text and the extensive situation of that idea within a network of other such ideas and texts. Developing this format is of vital importance, not simply because the pleasure it can produce for readers will facilitate its adoption, but because it promises to have a dramatic impact on a wide range of our interactions with texts. As Roger Chartier has argued, if texts are emancipated from the form that has conveyed them since the first centuries of the Christian era—the codex, the book composed of signatures from which all printed objects with which we are familiar derive—by the same token all intellectual technologies and all operations working to produce meaning become similarly modified. . . . When it passes from the codex to the monitor screen the “same” text is no longer truly
the same because the new formal mechanisms that deliver it to the reader modify the conditions of its reception and its comprehension. (Chartier 1993, 48–49)

Those conditions of reception and comprehension, and the intellectual technologies that will be put to use in the production of further, future texts, are the true stakes of imagining new structures within which new kinds of digital texts can be published.

Hypertext is one of the few modes of radical experiment in textual form to which the digital has thus far given birth. This networked data structure, the invention of which is generally credited to Ted Nelson and Douglas Engelbart, created the possibility of dramatically reorganizing text in networked ways, delinearizing and interlinking the text both within its own boundaries and in relation to other such texts. Numerous literary authors and critics saw the future in early hypertext publishing, envisioning a means of creating a new, more active relationship between the reader and the text. On the one hand, such thinkers pointed out the ways that hypertext’s technologies succeeded in making manifest what had always been latent in the reader’s encounter with print: “Hypertext only more consciously than other texts implicates the reader in writing at least its sequences by her choices” (Joyce 2000, 131). In this, hypertext became the fulfillment of the ideal form of the codex. On the other hand, hypertext also promised a radical restructuring of worldview, of “intellectual technologies,” as Chartier suggests, by lending its readers a new set of metaphors through which to build a whole new epistemology. Thus, J. David Bolter suggested early on that hypertext’s structure might affect not just the ways we understand texts, but the ways we understand the world in its entirety:

There is nothing in an electronic book that quite corresponds to the printed table of contents. . . . In this sense, the electronic book reflects a different natural world, in which relationships are multiple and evolving. There is no great chain of being in an electronic world-book. For that very reason, an electronic book is a better analogy for contemporary views of nature, since nature today is often not regarded as a hierarchy, but rather as a network of interdependent species and systems. (Bolter 1991, 105)

In leaving behind the codex, in eliminating the “great chain of being” enforced by the book, such critics suggested, hypertext would enable a new enlightenment to dawn, resulting in, among other things, the leveling of the previously hierarchical relationship between author and reader, elevating the reader to full participation in the production of the text’s meaning.

But—and this is one of the dirty little secrets of electronic textuality, one that doesn’t get spoken terribly often—hypertext can often be difficult to read. And to teach: the vast majority of my students have visceral reactions against hypertext every time I introduce them to it. Some of what they hate, of course, may be attributed to the general appearance of datedness that most of the classic hypertexts now have, given that the most crucial Storyspace-composed texts haven’t been ported to OS X-native formats, thus requiring that they be run in “Classic” mode, a mode no longer available since the release of OS 10.5 and one that was clunky even when it was available under OS 10.4 (see fig. 3.1). But when pressed to think beyond the slowness, the small window, the pixelated fonts, what my students most often voice is their sense of disorientation, their lostness within the world of the text. They stab randomly at it, trying to find their way somewhere; they wander aimlessly, trying to make sense of their paths; they finally give up, not at all sure how much of the text they’ve actually read, or what they should have taken from it. As critics including Christopher Keep (1999, 165) have pointed
out, the disorientation produced by hypertext’s apparent immateriality can have powerful physical and metaphysical effects: “Hypertexts refigure our perception of ourselves as closed systems: sitting before the computer monitor, mouse in hand, and index finger twitching on the command button, we are engaged in a border experience, a moving back and forth across the lines which divide the human and the machine, culture and nature.” This “back and forth” cannot be experienced neutrally, as it suggests a profound dislocation of the self in the encounter with the machinic other.

The negative response to hypertext among contemporary students often gets dismissed as a kind of reactionary technophobia resulting from tradition-bound understandings of textuality, and not without reason; we’ve taught them, and they’ve learned well, to value the organizational strategies of the book. Students of mine, in fact, who’ve been willing to rough it through the confusions of a text like Thomas Pynchon’s Gravity’s Rainbow have felt stymied by Michael Joyce’s Afternoon, unable to discern from the text the most basic rules for its comprehensibility. But I’m unconvinced that the problem that this generation of students has with hypertext is entirely a retrograde one; one of the other issues that they point to, in their complaints about the hypertext form, is feeling manipulated. Hypertext isn’t really interactive, they argue; it only gives the illusion of reader involvement—and certainly only the illusion that the hierarchy of author and reader has been leveled: clicking, they insist, is not the same as writing. In fact, hypertext caters not to the navigational and compositional desires of the reader, but to the thought processes of the author. Hypertext, after all, was originally imagined in Vannevar Bush’s classic 1945 essay “As We May Think,” not as a technology through which readers would encounter a single text, but as a means for researchers to organize their thoughts about multiple texts and share those thoughts with other researchers. Similarly, Nelson (1965, 84) describes “the original idea” of his Xanadu project as having been the production of “a file for writers and scientists.” The “we” doing the thinking in both Bush’s and Nelson’s visions was the author and his descendants, not average readers. Insofar as hypertext attempts in its form to more accurately replicate the structures and processes of human thought, it is the processes of the author’s thought that are represented, often leaving the reader with the task of determining what the author was thinking—thus effectively reinscribing the author-reader hierarchy at an even higher level.

Such a focus on authorial desire wasn’t a necessary element of early interactive texts; in addition to the Storyspace-style hypertexts such as Afternoon, the personal computing environments of the late 1970s and early 1980s gave rise to a number of “interactive fiction” titles such as Adventure and Zork. These texts, part narrative and part game, provided an often dungeon-like space that users explored, solving puzzles, fighting battles, and unlocking new parts of the textual world for further exploration. Such interactive fiction relied on a parser that took textual inputs from a user, read them for comprehensible commands (such as “go north,” “open window,” or “take rock”), and selected the appropriate outputs. While a text like Zork arguably bore less in common with narrative in any traditional sense than it did with games, particularly of the Dungeons & Dragons role-playing variety, the mode of interactivity that it relied upon was far closer to the hypertextual ideal of reader-as-coauthor than that of hypertext itself.

Given the original publication dates and platforms of Zork and Adventure, they should be equally difficult to access today as are Afternoon and the other Eastgate-published hypertexts. However, as Dennis Jerz pointed out (2009), Infocom, the primary publisher of interactive fiction in the early 1980s, designed a virtual machine through which those titles run; all that is required to operate the virtual machine on any new platform is a new interpreter for that platform, and the fans of interactive fiction, many of them technologists, have over the years produced the new interpreters that have kept Zork and Adventure alive even on today’s newest operating systems and devices. Had early hypertext such as Afternoon run in such a virtualized, interpretable environment, its user base might have been able to help the publisher keep the texts alive. But it’s also worth suggesting that the deeper level of interactivity of the writing user of interactive fiction, as opposed to the clicking reader of hypertext, might have contributed to the creation of that actively invested user base in the first place.

Experiments in hypertext thus may have pointed in the general direction of a digital publishing future, but were finally hampered by difficulties in readerly engagement, as well as, I would argue, by having awakened in readers a desire for fuller participation that hypertext could not itself satisfy. For this reason, I suggest that if we are going to make any real headway in bridging the gap between our evident abilities with respect to arranging pixels on screens and the difficulties that remain with organizing texts in digital environments—in moving away from thinking about electronic publishing as a problem revolving around the future of print and instead thinking of it as a problem related to the future of the codex—we need to think differently about the networked relationships among our texts, and among the readers who interact with them. Enormous amounts of research have been done on the means of situating text within a digital network—on making text transmissible, comfortably readable.
onscreen, and so forth. All of this is necessary, of course, and no doubt a pre-cursor to the problems on which several contemporary projects are focused: the need to situate text within a network that is not just digital but interactive, fostering communication that is not just one-way, from author to reader, but multi-directional, from reader back to author, among readers, among authors, across texts. This network is fundamentally social in its orientation; as John Seely Brown and Paul Duguid (2000, 18) have convincingly argued, the ends of information are always human ends, and thus the communication of that information must always follow social purposes; similarly, Drucker (2008, 221) reminds us that the book is not, and has never been, separable from the interactions we have with it. In building the scholarly communication network of the future, a network that can foster the discursive exchange and development of ideas among peers that is ostensibly the purpose of all scholarship, we need to create structures that foreground those social interactions that we have with and through texts.

**Database-Driven Scholarship**

One key element in building such a network will be a shift in our understanding of the relationship between the individual text and the many other texts to which it might potentially connect. Lev Manovich has convincingly argued in *The Language of New Media* (2001) that the constitutive features of computerized media forms include the modularity of the media elements they involve, the automated processes that can be used to bring them together, and the variable nature of the texts that such processes create. If this is so, it stands to reason that digital publishing structures designed to facilitate work within the database logic of new media, in which textual and media objects can be created, combined, remixed, and reused, might help scholars to produce exciting new projects of the kind that I discussed near the end of the last chapter. Such a platform, for instance, might fruitfully allow authors to create complex publications by drawing together multiple preexisting texts along with original commentary, thus giving authors access to the remix tools that can help foster curation as a sophisticated digital scholarly practice. Curated texts produced in such a platform might resemble edited volumes, whether by single or multiple authors, or they might take as yet unimagined forms, but they would allow users to access and manipulate a multiplicity of objects contained in a variable, extensible database, which could then be processed in a wide range of ways, as well as allowing users the ability to add to the database and to create their own texts from its materials.

Numerous such databases exist, of course; extensive digital projects focused on the creation of archives and repositories have developed since the early days of popular computing. The oldest and most famous such archive may be Project Gutenberg, founded by Michael Hart in 1971. Hart's philosophy in beginning the production of this archive was that "anything that can be entered into a computer can be reproduced indefinitely" (Hart 1992); perhaps more importantly, anything so entered can also be processed in a wide variety of ways. The potential value of creating a full archive, in "Plain Vanilla ASCII," of the wealth of texts available in the public domain is evident: these texts can not only be read on a wide variety of platforms, but also repurposed in a range of other projects. The scholarly value of Project Gutenberg, however, may be open to question; as Hart has noted, "Project Gutenberg has avoided requests, demands, and pressures to create authoritative editions." We do not write for the reader who cares whether a certain phrase in Shakespeare has a 'r' or a 'R' between its clauses. We put our sights on a goal to release etexts that are 99.9% accurate in the eyes of the general reader" (ibid.). Scholars, however, do care about the authoritativeness of the objects with which they work, and therefore a range of authoritative digital archives of work by and about a number of authors has been created, including *The William Blake Archive*, *The Walt Whitman Archive*, *The Swinburne Project*, and so on. These projects are grounded in the large-scale digitization of published and unpublished texts, images, and other materials related to the work and lives of these authors, creating extensive searchable databases of digital objects that potentially can be reused in a wide range of scholarly projects.

The problem in developing such new forms of publication as these databases, however, is what Jerome McGann (2005, 112) has referred to as one of the crises facing the digital humanities: such "scholarship—even the best of it—is all more or less atomized"; the various digital texts and collections that have been created are "idiosyncratically designed and so can't talk to each other," and there are no authoritative, systemic, searchable bibliographies of these projects that enable scholars to find the digital objects they'd like to reuse. In response to these problems, McGann and the Applied Research in Patacriticism group at the University of Virginia began developing NINES, the Networked Infrastructure for Nineteenth-century Electronic Scholarship, as "a three-year undertaking initiated in 2003 . . . to establish an online environment for publishing peer-reviewed research in nineteenth-century British and American studies" (p. 116). NINES has since become an aggregator for peer-reviewed digital objects published in a range of venues. This project, which has received significant funding from the Mellon Foundation, was established as a means of averting atomization in the digital humanities.
brings separate projects into dialogue with one another. The NINES goals, as described on the site ("What Is NINES?"), are:

- to serve as a peer-reviewing body for digital work in the long 19th-century (1770–1920), British and American;
- to support scholars’ priorities and best practices in the creation of digital research materials;
- to develop software tools for new and traditional forms of research and critical analysis.

Among the tools that NINES has developed are Juxta, a system for online textual collation and analysis, and Collex, which forms the core of the NINES site today. Collex is an aggregator tool that searches multiple scholarly databases and archives, with fifty-eight federated sites represented, including library and special collection catalogs, repositories, journals, and other projects; Collex allows a user to find objects in a wide range of such locations and then to "collect" and tag such items, structuring them into exhibits (see fig. 3.2).

Collex’s tagging function serves to add user-generated metadata to expert-created data within the various collections and archives that NINES draws together, but the key aspect of this "folksonomy" arises when the user then reshares the tagged objects; as Kim Knight (2006) has argued, "Collex’s folksonomical characteristics only take on interpretive importance as the community of users develops and collections and exhibits are shared." As NINES/Collex developer Bethany Nowviskie has noted (2007, 1), however, one of the project’s primary focuses is on precisely such an "expansion of interpretive methods in digital humanities," through the connection and juxtaposition of digital objects and the production of commentary on and around them. The potential impact of such curatorial work could be enormous, as scholars find new ways to discover, manipulate, connect, and comment upon digital research objects. One problem facing the system, however, is that, as Madeleine Clare Elish and Whitney Trettien (2009, 6) point out, "in reality, the information that NINES aggregates is quite shallow, most of it only metadata, or information about information." Most of the "objects" that NINES is currently able to retrieve in a search are simply citations or catalog entries rather than the objects themselves. However, as access to primary objects alongside this metadata is increased, Collex’s usefulness as a research and publishing tool will no doubt grow.

Other such collection- and exhibit-building projects are in production as well. Most notably, the Center for History and New Media is developing Omeka, a simple but extensible open-source platform that, once installed, enables the creation, organization, and publication of archival materials in a wide range of formats, producing sophisticated narratives by combining digital objects with text about them. Omeka’s ease of use and granular publishing structure resemble that of a blog engine, leading Dan Cohen (2008) to describe the project as “WordPress for your exhibits and collections.” Like Collex, Omeka is developing means of accessing and ingesting materials from existing repositories of digital texts and objects, thus potentially enabling scholars to repurpose those objects in engaging ways. While the "exhibit” has not been a standard mode of scholarly production in fields outside art history, we might consider the new kinds of scholarly inquiry such a mode of curation could inspire. As more of our work within the humanities comes to engage with mediated primary materials such as visual representations and digital archives, the more we might fruitfully create new forms of networked arguments driven by the juxtaposition of digital objects and their analysis.

Furthermore, the availability of digital objects is producing new kinds of research questions. In addition to the collection and exhibit software discussed...
above, a wide range of tools is being developed to support what has been called "data-driven scholarship" in the humanities; these include SEASR (Software Environment for the Advancement of Scholarly Research), which allows scholars to perform sophisticated forms of textual analysis, process the results of that analysis, and create engaging visualizations of the data that the analysis returns. Other tools such as Pliny allow scholars to create rich annotations for the objects they are studying and then organize those annotations in ways that highlight the relationships among the objects. Annotation, organization, analysis, and visualization represent new, computer-native modes of academic work, all of which permit scholars to find and analyze patterns at a scale previously impossible. One problem tools such as these face, however, is uptake; as a report from a meeting titled "Tools for Data-Driven Scholarship: Past, Present, Future" notes, "the vast majority of scholars who are not directly involved with the creation of digital tools and collections are not adopting these new applications and resources in the number one might anticipate this far into the digital revolution" (Cohen et al. 2009). To some extent, the report indicates, failures in uptake have to do with lapses in communication; scholars are too often unaware that such tools exist.4 Even when traditional scholars do find these tools, there's often lingering uncertainty about what exactly one might do with them and why—what they'll accomplish, what the resulting project will look like, what it will tell us that we haven't yet seen. Those questions can be answered only when digital humanists engage and experiment with such computational tools, and thereby give rise to new kinds of scholarly questions.

Each of the projects discussed above is focused on the interactions among texts that the modularity, automatization, and variability of computer-based media might enable. What hasn't yet been fully realized in many of these projects, however, is the key aspect of interaction between the reader and the text; despite all of the wonderful work being done on NINES, through Omeka, and in a range of other exciting digital tools, that work remains largely author-centric. Given the discursive purposes of scholarship, it might be useful to explore the ways that, long before the development of the digital network, the circulation of texts operated within and was driven by the social networks of their readers.

**Reading and the Communications Circuit**

Scholars working on areas of material culture studies such as the history of the book, as well as those literary critics focused on reader reception, have long included among their interests the social networks formed by readers and their effects on the dissemination and the reception of texts. Leah Price (2004, 309–10), in an essay reviewing the vast number of approaches to the study of reading as a cultural activity, notes that some scholars trace an historical trajectory from "the open spaces of antiquity (gardens, porticoes, squares, streets) to the closed sites of the Middle Ages (churches, monks' cells, refectories, courts)," while the act of reading also "carved out privacy within communal institutions such as the coffee shop, the public library, and the railway carriage," both trends suggesting an increasing privatization of the act of reading. However, Price also notes that even at its most solitary, reading has always had communal aspects. These social aspects of reading have been explored by scholars ranging from Robert Darnton (1982), who focuses on books' circulation as a manifestation of a "communications circuit," to Elizabeth Long (1993), who argues that, in Price's words, "readers need others to set an example, to provide a sounding board for reactions to texts, to recommend and criticize and exchange books" (Price 2004, 306), to Stanley Fish (1980), who has argued most famously for the role of "interpretive communities" in shaping readers' potential responses to texts.

Texts have thus never operated in isolation from their readers, and readers have never been fully isolated from one another, but different kinds of textual structures have given rise to and interacted within different kinds of communications circuits. Newspapers and pamphlets, as most famously studied by Jürgen Habermas (1989) and Benedict Anderson (1991), developed their influence in close concert with the rise of a coffee-house culture in which the events and polemics of the day were discussed and debated, giving birth not simply to a Habermasian sense of the "public sphere," but to a sense of the public inhabiting that sphere, the "imagined community" of the nation.5 Books, similarly, moved within a set of social and communal structures that greatly affected their reception and comprehension, including libraries and reading groups, which not only assisted readers in the selection of texts but also provided space for their discussion. That said, the technology of the book, which fostered the notion of the text as the discrete, unique, authentic product of an individual author—what Joseph Esposito (2003) has referred to as "the myth of the primal book"—similarly fostered a sense of the discrete reader with whom it interacted, shifting the predominant mode of reading from a communal reading-aloud to a more individualized, isolated, and silent mode of consumption.6

This isolated mode of reading overwhelmingly dominates our understanding of book-consumption today, and particularly the form done by scholars. The library model of textual circulation, once understood to be a communal enterprise, now comes to seem profoundly individualistic: books
are checked out and read by one person at a time, in retreat from interaction with the world. Indeed, when we imagine scholarly interactions with the bulk of printed texts today, particularly within the humanities, the primary images that arise are of isolation: individual scholars hunched over separately bound texts, each working individually, whether in their separate offices or in the silent reading rooms of the major research libraries. Of course scholars need to read and reflect in relative silence and retreat in order to understand and process the texts with which they work, as well as to produce more texts from those understandings. But the isolated aspect of this mode of reading has come to dominate our sense of the practice of reading as a whole, and in so doing the scholar has come to partake of the myth of individual genius, in which the great man produces noble ideas wholly from his own intellectual resources. As Walter Ong has suggested,

Writing is a solipsistic operation. I am writing a book which I hope will be read by hundreds of thousands of people, so I must be isolated from everyone. While writing the present book, I have left word that I am "out" for hours and days—so that no one, including persons who will presumably read the book, can interrupt my solitude. (Ong 2002, 100)

Such an understanding of the operation of scholarship ignores the ways that the communal lingers in the circuit, if only in submerged ways; the scholar alone in his or her office with a book is never wholly alone, but is always in conversation with that book's author, and the products of this scholar's readings are likewise intended to contribute to an ongoing conversation with other thinkers in the field. This conversation takes place at an often glacial pace, as years elapse between thought and utterance, in the form of the book's publication, and between utterance and response, in the form of reviews of or responses to that book, but it is a conversation nonetheless. This perspective on the practices of scholarly discourse is meant to suggest that, in attempting to reproduce the book form electronically, technologists have for too long focused on the isolated practices of reading—the individual reader, alone with a screen—rather than the communal engagement in discussion and debate to which those practices are, on some level, meant to give rise. Scholars operate in a range of conversations, from classroom interactions with students to conference discussions with colleagues; they need to have available to them not simply the library model of texts circulating among individual readers, but also the coffee-house model of public reading and debate. This interconnection of individual nodes into a collective fabric is the strength of the network, which not only physically binds individual machines, but also can bring together the users of those machines, at their separate workstations, into a communal whole.

There's nothing particularly revolutionary in this insight; "The network can create virtual connections among otherwise isolated individuals!" is little more than the kind of utopian thinking that colored Internet studies since Howard Rheingold's The Virtual Community was first published in 1993. My interest in thinking about the relationship between the social network and the structure of online texts should not be read as suggesting that such wired community will solve all of the problems of contemporary scholarly publishing. I do argue, however, that understanding the ways that texts circulate within and give rise to communities will be a necessary component of any successful electronic publishing venture. Given that the strength of the network with respect to the circulation of text is precisely its orientation toward the commons—that many readers can interact with the same text at the same time—developers of textual technologies would do well to think about ways to situate those texts within a community, and to promote communal discussion and debate within those texts' frames. Developers of new textual technologies and publishing systems must recognize that, on the one hand, simply publishing texts online, finding ways to reproduce the structures of the book in digital form, is insufficient, because the network cannot, and should not, replicate the codex; and that, on the other hand, simply moving toward a more internally networked form of publishing will likewise not revolutionize the circulation of texts, as the emphasis remains on the individual text, the individual author, the individual mind. The processed book, as Esposito (2003) has argued, cannot remain isolated from other texts: "By being placed within a network, where it is pointed to and pointed from, where it is analyzed and measured and processed and redistributed, a book reveals its connections to all other books." And, as Richard Lanham (1992, 203) noted in an early essay on studies of electronic textuality, these connections have the potential to alter "the whole idea of scholarly originality, research, and production and publication"—but such transformations can only succeed if the medium's interactivity and nonauthoritative structures are fully mobilized in our new textual forms. It's no paradox that my students resist hypertext while embracing Facebook; the generation celebrated by Time magazine as the "Person of the Year" in late 2006—"you" (Grossman 2006)—expects that the reader will likewise be allowed to write.

The speedy rise to popularity of academic blogging, and in particular in the success of a range of scholarly group blogs such as The Valve in liter-
ary studies (Holbo et al.), Crooked Timber in political philosophy (Bertram et al.), Cleopatra in history (Bady et al.), and Language Log in linguistics (Lieberman et al.), indicates that scholars, and not just students, desire such interaction. Many scholars feel over-isolated, longing for new modes of collaboration and discussion, and such blogs have enabled a kind of conference-without-walls in which new ideas and texts can be discussed in something closer to real time. Moreover, contrary to the sense of some more curmudgeonly folks that the kinds of casual writing done on scholarly blogs can only detract from one's ability to produce “serious” work by stealing time and focus or by encouraging speed at the cost of deliberativeness, in fact, many academic bloggers argue that their blogging and the discussions on various other blogs have helped them produce more substantive work. By revitalizing discourse among peers, blogs have helped revive the coffee-house model of textual circulation.

But this coffee-house model still largely revolves around the contemporary equivalent of newspaper and pamphlet publishing, rather than the longer, more deliberative form of the book. One question that remains is whether the library model of the circulation of single-author, long-form texts meant to be consumed in relative isolation over longer periods of time might similarly benefit from the kinds of interaction that blogs produce, and if so, how. The library in such a model would become not simply a repository, but instead fully part of a communications circuit that facilitates discourse rather than enforcing silence. Many libraries are already seeking ways to create more interaction within their walls; my institution's library, for instance, hosts a number of lecture series and has a weekly “game night,” each designed to help some group of its users interact not simply with the library's holdings, but with one another. Games may seem a frivolous example of the contemporary academy's drive to cater to the younger generation's relatively non-intellectual interests, but it is in fact hoped that patrons who use the library in such a fashion will not only be more likely to use it in traditional ways—more likely, for instance, to feel comfortable approaching a research librarian for help with a project—but also more empowered to collaborate with one another, breaking the library's stereotypical hush.

Libraries are interested in establishing themselves as part of a scholarly discursive network, and for that reason emphasizing the development of electronic publishing technologies based on an individualist sense of book circulation—on the retreat into isolation that accompanies our stereotypical imaginings of the library—threatens to miss the point entirely, ignoring the ways that the book itself has always served as an object of discussion, and thus overlooking the real benefits of liberating the book's content from the codex form. Network interactions and connections of the types provided by blog engines can revitalize academic discourse not just in its pamphlet/coffee-house mode, but also in its book/library mode, by facilitating active reader engagement with texts, promoting discussion within the text's own frame, and manifesting the ways that each individual text is, and has always been, in dialogue with numerous texts that have preceded it, as well as others yet to come.

CommentPress

A number of projects underway attempt to reimagine reading as a socially situated process. Among the most significant of these is CommentPress, a blog-based publishing engine developed by the Institute for the Future of the Book, which seeks to promote dialogue within and around long-form texts in two primary ways: first, by structuring those texts around chunks that can be interlinked in linear and non-linear fashions, and that can take advantage of the ability to link to (and receive links from) other such texts in the network; and second, by allowing those chunks of texts to be commented on and discussed at various levels of granularity, from the whole document to the individual paragraph. The goal of CommentPress stems from the desire to see whether a popular net-native publishing form, the blog, which, most would agree, is very good at covering the present moment in pithy, conversational bursts but lousy at handling larger, slow-developing works requiring more than chronological organization—whether this form might be refashioned to enable social interaction around long-form texts. ("About CommentPress" 2007)

Such interconnections and discussions are possible in large part because CommentPress builds upon a popular blogging engine, WordPress. As I noted in the last chapter, blogs are arguably the first successful web-native mode of electronic publishing, and their rapid spread and relative robustness suggest that their tools might be applicable to a range of other potential digital publishing modes. The conventional structure of a blog privileges immediacy—the newest posts appear first on the screen, and older posts quickly lose currency, moving down the blog's front page and eventually falling off it entirely, relegated to the archives. This emphasis on the present works at cross purposes with much long-form scholarship, which needs stability and
longevity in order to make its points. But, as I've argued elsewhere, such scholarship might adopt from blogs their community-oriented structure, in which posts are generally made to elicit comment, and in which responses from other authors produce links on the original posts to which they refer (see Fitzpatrick 2007a). CommentPress allows commenting technologies to be usefully appropriated to a number of forms of scholarly publishing, ranging from the article to the long-form monograph, making manifest the recognition that readers of scholarly texts are nearly always themselves authors in other venues.

I have worked with the Institute for the Future of the Book for the last several years, most notably on MediaCommons, an electronic scholarly network focused on media studies that hopes to reground the purposes of scholarly publishing in the desire for communication among a group of peers. The Institute has conducted a number of experiments focused on new textual structures, seeking to devise ways to publish long texts online in engaging, readable formats. These experiments, by and large, have sought to enable conversation in and around digitally published texts. As Bob Stein suggested to a reporter from The Chronicle of Higher Education, the electronic text can powerfully overcome the codex's isolation: "[B]est of all would be if readers could talk to each other, and if readers could talk to the author, because the reason for a book is to afford conversation across space and time, and so why shouldn't some of that conversation take place literally within the book itself?" (Young 2006) CommentPress is one of the primary tools through which the Institute hopes to facilitate some of that conversation.

The deep origins of CommentPress lie in a project with McKenzie Wark who, in preparing the manuscript for his 2007 book Gamer Theory, was persuaded to collaborate with the Institute in putting a draft of the text online. Because of the text's structure, the online version (titled GAM3R 7H3oRY so that Wark could distinguish Google hits mentioning the online text from those mentioning the print book) easily adapted itself to publication through a blogging engine. However, Wark and the Institute early expressed an interest in subverting one of the basic structures of the blogging hierarchy: rather than keeping each chunk of the "original" text up top, with comments relegated to a spot further down the screen, Wark and the Institute's developers collaborated on a design (see fig. 3.3) that placed the text and the comments side-by-side, emphasizing the conversational principle that they hoped the publication would foster.\textsuperscript{35} GAM3R 7H3oRY lent itself to being published in this fashion in part because the text was already "chunked," written in a rigidly algorithmic structure, with 9 alphabetically sequential chapters, each containing 25 paragraphs, with a strict 250-word limit per paragraph; as the paragraph's themselves were often aphoristic, many of them stood alone well, and reader comments thus could be closely associated with each paragraph of the text. However, the translation of what was originally intended to be a traditional codex book into this non-linear structure nonetheless created some complications: each paragraph looked a bit more free-standing than it really was; a reader couldn't simply enter and exit the text at any random point; readers often left questions or comments on early chunks about issues that were addressed in later parts of the text. Moreover, publishing Wark's text online was extraordinarily labor-intensive, as the interface required too much manual tweaking to be readily adaptable for more general publishing purposes.

The next phase in the Institute's development of CommentPress was its publication of Mitchell Stephens's article "Holy of Holies: On the Constituents of Emptiness" (2006) as what they termed a "networked working paper," imagining this paper, as their blog entry announcing its publication suggested, as "small steps toward an n-dimensional reading/writing space" (Vershbow 2006b). This new experiment was in part designed to help develop means for publishing texts that aren't as quite so self-chunking as Wark's manuscript was, so that a reader could simultaneously have a sense of the
text's whole and pay close attention to its individual parts. In the design for "Holy of Holies," the Institute gave each paragraph its own comment stream, allowing the comment area to the right of Stephens's text to become dynamic, changing as the user selects the comment icon next to each paragraph (see fig. 3.4). Each section of the text likewise allows for more general comments, which can be found by selecting the comment icon next to the section title; all comments that have been made on any section can be read by clicking on the "All Comments" tab above the comment window. Moreover, clicking on the small icon to the right of a commenter's name highlights the paragraph to which the comment is attached. The 104 comments Stephens received on the paper were by and large substantive, and they included a number of technical comments that allowed the Institute to continue developing the templates for publications with this kind of fine-grained commenting ability.

The Institute's next such venture was in certain ways the most ambitious, and in others, the most traditional: the Institute teamed up with Lewis Lapham of Lapham's Quarterly to publish a commentable version of the Iraq Study Group Report. This version of the CommentPress templates carried over from "Holy of Holies" the ability of readers to discuss full sections of the text as well as comment at the more fine-grained paragraph level, but added two important innovations: first, a space for general comments about the report as a whole, and second, and more importantly, the ability to read comments organized not just by section but also by commenter, enabling a reader interested in the responses of another particular reader to see those comments as a group. The Institute followed this with a treatment of President Bush's televised address to the nation responding to the report, interweaving the transcribed text of the address with streaming video of the speech, opening both the content and the delivery to discussion.

Interestingly, the entire Iraq Study Group Report received a total of 92 comments, fewer than did Mitchell Stephens's much shorter—and arguably much less pressing—paper. The reasons in no small part have to do with the structure of the two social networks into which the texts were released: Stephens put his paper into CommentPress as a means of presenting it to a working group at the Center for Religion and Media at New York University, a group organized around the discussion of texts like Stephens's, so the technology to some degree facilitated the interactions and exchanges members of the group already wanted to have. However, the majority of commenters on the paper were not affiliated with the working group but had been following Stephens's blog, hosted by the Institute, on which he had for some months been thinking out loud about the process and progress of his research. These read-

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**The Holy of Holies:**

**On the Constituents of Emptiness**

2. "Erelyt": An Introduction

In the year 586 BCE, the Persian general Cambyses II burned Jerusalem, in the process of extinguishing Israel and all its surrounding territories, and burned the most sacred place in the Jewish temple in Jerusalem. What he destroyed was the temple that was different in one crucial respect from all other temples.

*Pompeii's inscription was made ignorant, what the Jews called their second temple. The original version of the first temple was supposed to have been a magnificent structure in Jerusalem constructed by Judah's King Solomon on land purchased by his beloved, King David. Its architectural evidence—and one indeed—has been found of anything remotely on that scale existing in what appears to have been here at the time, the tenth century BCE, a tiny, sleepy kingdom. But by the reign of King Josiah, in the seventh century BCE, a central temple modestly shared in Jerusalem. It was destroyed by King Nebuchadnezzar II of Babylonia in 586 BCE. Construction on a new temple began with the return from exile in Babylonia in 536 BCE."

That was the second temple. The austere and purist ethos that was at the heart of the Jewish religion were performed in and around such a temple in Jerusalem for more than a millennium. (Historically beginning in 586 BCE, with a version that may only have qualified as magnificent.)

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Fig. 3.4. Mitchell Stephens, "The Holy of Holies" (futureofthebook.org/mitchellstephens/holyofholies/)
phen's commenters were, by and large, not just attuned to the issues he presented, but actively engaged in other online reading and writing practices, which prepared them to be active contributors.21

All this is to say that no technology, whether CommentPress or another system, will be a panacea; even the most ingenious new structures for publishing a text online will not automatically get any randomly selected group talking. Technologies like these can, however, facilitate discussions among readers who are both motivated and prepared to have them.

And academics, unsurprisingly, often want to talk. After their first successful experiments with this new format for discussion-oriented publishing, the Institute began receiving numerous requests from academics and other authors hoping to use the template to publish their papers. They agreed in a few cases, helping Cathy Davidson and David Theo Goldberg (2007) publish a HASTAC (Humanities, Arts, Science, and Technology Advanced Collaboratory) working paper, as well as using a modification of the template as the engine behind the first release of MediaCommons's ongoing video discussion feature, In Media Res. This growing demand spurred the Institute to compile the various hacks and templates that, to this point, they had been tweaking manually into a releasable, documented, open-source theme easily installable and usable with any WordPress installation. CommentPress 0.9, a development release, was first made available to testers on July 21, 2007. The following day, I used my web hosting provider's one-click install function to load a new installation of WordPress, installed and set up the CommentPress theme, loaded in the text, and did a bit of tinkering with formatting and the like, taking a draft of the article on which this chapter is based from a Word document to "published" (including, arguably, founding the publisher) in under three hours (see fig. 3.5).

The original releases of CommentPress provided two "skins" from which users could select: one more traditionally blog-like, in which excerpts from posts appeared in reverse-chronological order on the site's front page, but full post pages provided paragraph-level commenting parallel to the original text; and one for "documents," which presented a table of contents on the front page linked to each of the document's sections. In either skin, comments were readable in multiple modes: clicking on a small dialogue bubble to the right of a paragraph revealed comments on that paragraph, while a combination page/bubble icon to the right of a page's title showed comments on the whole page. Readers could also browse all comments, organized either by commenter or by section of the text; browsing in this way provided links back to the portion of the original text on which the comment was made. In the months following the beta release of CommentPress, the Institute updated and advanced the software to release 1.4, adding features such as a widget-ready theme that allowed users to customize the sidebar of a text quickly and easily. Moreover, because CommentPress was released as an open-source project, users were able both to get the tool quickly into use—it was adopted, for instance, for a web-based version of the Ithaka Report, "University Publishing in a Digital Age" (Brown, Griffiths, and Rascoff 2007)—and to repurpose and redistribute it in ways that could enrich the possibilities the project presents for electronic publishing.

My experience of using CommentPress left me quite enthusiastic about the form; I was able to get the kinds of feedback on my article draft that I required, as well as to have a record of the responses the draft produced. The draft received a total of fifty-nine comments, just over a third of which were my own responses to issues raised by other readers. Those issues ranged from the factual to the interpretative, and in every case pressed my thinking about the article forward. In fact, though the Journal of Electronic Publishing, which published a revised version of the article (Fitzpatrick 2007d), offered to have it peer reviewed, I felt strongly enough about the reviews the article had already received to stick with the open process; rather than send the finished version to blind reviewers, I republished it in CommentPress as well, receiving another twenty-five or so comments from a second group of read-

Fig. 3.5. Kathleen Fitzpatrick, "CommentPress" (screenshot from the author's collection)
ers. The kinds of feedback that I received helped me clarify that article's argument as it continued to develop into this text.22

In my experience, then, CommentPress became a useful tool not just for quickly and engagingly publishing a text, and for seeking feedback while a text is in draft form, but for facilitating an open mode of review. As I discussed briefly in chapter 1, Noah Wardrip-Fruin similarly used a CommentPress-derived tool to facilitate the blog-based review of the manuscript for his book, *Expressive Processing*; his reflections on the process not only pointed out that "the blog commentaries will have been through a social process that, in some ways, will probably make us trust them more" than the traditional blind peer reviews he also received (Wardrip-Fruin 2008), but also that the blog-based review uncovered one of the manuscript's weaknesses in an unexpected way. One of the reviewers, Ian Bogost, noted on his own blog that he had trouble following the manuscript's argument through the series of posts that comprised it, attributing that difficulty to the blog form's serialized structure (Bogost 2008). As it turns out, however, the traditional peer reviewers noted issues in following the argument across the text as well: "What had seemed like a confirmation of one of our early fears about this form of review—the possibility of losing the argument's thread—was actually a successful identification, by the blog-based reviewers, of a problem with the manuscript also seen by the anonymous reviewers" (Wardrip-Fruin 2009a). In the end, the blog-based review provided Wardrip-Fruin with more feedback, and with feedback that he trusted more, based upon the community out of which it arose.

Wardrip-Fruin also notes, however, that the preexistence of the community was an absolute necessity for this project; while the Institute for the Future of the Book "sought to build new communities from scratch, via widespread publicity, for their projects" such as *GAMJzR 2H3oRy*, he argued, "this cannot be done for every scholarly publication—and a number of fields already have existing online communities that function well, connecting thinkers from universities, industry, nonprofits, and the general public" (Wardrip-Fruin 2009a). Making use of such an already existing community was necessary for the richness of discussion that *Expressive Processing* received. Similarly, a commenter on the revised version of my article noted that "in order to get the 'liveliness of conversation and interaction' required, some kind of community has to exist. Maybe in the form of an established scholarly web site, journal portal, or blog" (Hillesund 2007). Without such a community available and willing to discuss published texts, interaction will inevitably lag; one of the key tasks in building such technologically net-

worked publishing environments will be maintaining the social networks they are meant to connect.

CommentPress ran into a series of problems early in its life, however, due in part to its dependence on the stability of the WordPress software on which it was based, as well as its reliance on the particular developer who originally wrote the plugin. The October 2007 release of WordPress 2.3, which heavily revised some key aspects of the codebase, effectively broke CommentPress; current CommentPress users were required to refrain from updating their WordPress software, and new users were obliged to find an older release in order to create CommentPress sites. In the meantime, however, the developer of CommentPress had moved on to another project. The Institute was finally able to release a WordPress 2.3-compatible update for CommentPress in January 2008, but the project’s momentum had been severely compromised in the interim. Since that time, however, CommentPress has undergone two parallel development paths: the original developer has updated the code, re-releasing it as "digress.it," while the Institute has, following another successful project, overhauled the code as well, and in late 2009 released CommentPress 3.1 (see "digress.it").

In its most recent experiment, the Institute published the entire text of Doris Lessing's 1962 novel *The Golden Notebook* online, engaging seven women to read and discuss the text in the margin (see fig. 3.6). This project produced robust discussion not just among the seven primary readers, but also among a wide range of other readers who participated in the connected forum. This division between readers who could comment in the margins and those who could only discuss in the forums became one of the most heated topics under consideration; as the project announced on its front page,

**How come only the seven women can comment in the margins?**

Good conversations are messy, non-linear and complicated. The comment area, a chronological scrolling field[,] just isn't robust enough to follow a conversation among an infinite number of participants. Seven may even be too many. (Lessing 2008)

As one commenter noted in the forum, she understood why the "two-tiered structure" was necessary to "prevent chaos," but was unhappy with the distinction that resulted: "Grad school all over again I guess" (marthaquest 2008). The Internet hates walled gardens, and thus one of the clear challenges faced by a conversational publishing system like CommentPress is precisely that of managing the potential for chaos in large-scale open discus-
sions. And while CommentPress has gone some distance toward imagining social interaction within and around texts, the fact that it still relies upon scrolling text windows suggests that, though we're beginning to solve the larger-scale structural problems of native digital textuality, we still have miles to go before our interactions with the screen have the ease of our interactions with the book.24

The new kinds of interactions we need to develop affect authors as much as readers. Authors who publish via CommentPress need to develop the hosting skills required for such a conversational publishing strategy to succeed; as their texts are under discussion, they need to be present without being omnipresent, responding as called upon to reader comments, but without dominating and therefore closing down the discussion. As Wardrip-Fruin (2009a) notes, "[T]he flow of blog conversation is mercilessly driven by time. While it is possible to try to pick up threads of conversation after they have been quiet for a few days, the results are generally much less successful than when one responds within: a day or, better yet, an hour." Authors will therefore be required to manage the labor involved not simply in producing the text, but also in publishing it and in engaging with its audience, and our expectations with respect to faculty workload will have to reflect that labor: "[G]enerally pursuing blog-based review with time for full conversational engagement would require a shift in thinking around universities. It isn't uncommon for authors to request release time for book writing and revisions, yet it has almost never been requested in order to participate more fully in community peer review. I hope that will change in the future" (ibid.). As authors begin increasingly to publish in networked environments, we won't be quite so able to walk away from a text in manuscript form and leave its dissemination and discussion to others; we'll need to commit to being present in a text, for a time, and to engaging with the publishing process. This mode of participation is only one of the ongoing challenges involved in maintaining new digital publishing systems once they're built; new forms such as CommentPress will require significant investments of labor, not just in the development, installation, and implementation of the technologies themselves or in the design and release of texts through them, but in the post-publication maintenance of the texts. Publishing systems like CommentPress thus won't relieve institutions of the infrastructural demands posed by current analog press and library systems; if anything, as I discuss in the next chapter, they'll produce new kinds of requirements for preservation of the texts published through them.

That said, CommentPress demonstrates the fruitfulness of reimagining the technologies of electronic publishing in service to the social interconnections of authors and readers. The success of the electronic publishing ventures of the future will likely hinge on the liveliness of the conversations and interactions they produce, as well as the new writing that those interactions inspire. CommentPress grows out of an understanding that the chief problem in creating the future of the book is not simply placing the words on the screen, but structuring their delivery in an engaging manner; the issue of engagement, moreover, is not simply about locating the text within the technological network, but also, and primarily, about locating it within the social network. The publishing platform of the future might bring together the modes of interaction between readers and texts that CommentPress fosters with the modes of interaction among texts that are produced by the database-driven scholarship of projects such as NINES. Such a platform would allow not only for ease of reading and for engaging discussion, but also for the curation and remix of existing texts and digital objects into more new, exciting kinds of texts, finally resulting in a digital mode of publishing that doesn't just rival but indeed outdoes the codex. This new publishing structure would invite the reader in, acknowledge that the reader's engagement with the text is a mode

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Fig. 3.6. Page from the Institute for the Future of the Book's publication of Doris Lessing's *The Golden Notebook* (thegoldennotebook.org)
of social interaction, and recognize that the reader is, in many cases, a writer too. This publishing structure would also demonstrate an understanding that all publication is part of an ongoing series of public conversations, conducted in multiple time registers, across multiple texts. Making those conversations as accessible and inviting as possible should be the goal in imagining the textual communications circuit of the future.

Preservation

Access to data tomorrow requires decisions concerning preservation today.
—Blue Ribbon Task Force on Sustainable Digital Preservation and Access

Despite real technical obstacles, digital preservation is ultimately a challenge demanding social (above and beyond the purely technological) solutions.
—Matt Kirschenbaum, Mechanisms

Having explored the ways that authorship, authority, and interaction will of necessity change as we establish and come to depend upon new networked publishing systems, we must also think carefully about how those systems, and the texts that we produce within them, will live on into the future. Absent a printed and bound object that we can hold in our hands, many of us worry, and not without reason, about the durability of the work that we produce. Having opened a word-processing document only to find it hopelessly corrupted, watched a file seemingly evaporate from our computers, or possibly even suffered a massive hard disk failure, we are understandably nervous about committing our lives' work to the ostensibly intangible, invisible bits inside the computer. So goes the conventional wisdom of inscription and transmission: the more easily information can be replicated and passed around, the less durable its medium becomes. The post-Gutenberg form of print-on-paper provided vast improvements in our cultural ability to reproduce and distribute texts, but it's undeniable that stone tablets promise to last far longer. And so it is with the shift from print into the digital: what we gain in ease and speed of copying and transmission, we apparently lose in permanence; the ephemeral nature of digital data threatens our cultural and intellectual heritage with an accelerated cycle of evanescence.

To an extent, this conventional wisdom is correct: we do need to think seriously about how we preserve and protect the key digital documents and