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The Library versus the Internet: Literary Studies under Siege?

[1]

DAVID S. MIALL

ALONG WITH MANY OTHER ASPECTS OF NORTH AMERICAN CULTURE, LITERARY STUDIES IS BEING SWEEPED INTO THE DIGITAL age. In considering what this might mean, I examine in particular how the Internet, with its many and protean conveniences for literature, is beginning to supplant the library, that traditional bastion of the text. The prospects for literature are not necessarily favorable. While libraries have been attempting to adapt to the Internet, the nature of the digital medium and some of the rhetoric that has attended it invoke troubling questions, raising the possibility that central features of literary studies may be in danger of being disregarded or marginalized. The digitizing of literature affects how we read and what we read, methods of study, the preservation of the archive, and the forms taken by new writing, some of which is specifically designed to exploit the electronic medium. In this paper I offer a sketch of the problems, possibilities, and paradoxes that we face as literary scholars.

Developing an appropriate rhetoric to consider the digital age has, in itself, presented a problem. The promise of the new medium has led to inflationary claims, suggesting that the human species is about to burst from its chrysalis into an information utopia. "The development of digitally controlled cognitive prostheses," says Pierre Lévy, is "transforming our intellectual capabilities as clearly as the mutations of our genetic heritage." The totality of knowledge will soon become available: it will constitute a knowledge space or cosmopedia, in which "the power of disciplinary knowledge is dissolved" (xxiv, x). These claims echo arguments for the mechanization of knowledge dating back to Vannevar Bush's Memex proposal (1945) and the World Brain of H. G. Wells (1938), both of which were to be based on microfilm. Following the advent of hypertext in the 1980s, literary scholars such as George Landow, Jay David Bolter, and Richard Lanham gained prominence by promoting views for literature as radical as those of Bush and Wells, promising liberation from the printed text and the transformation of literary studies by digital

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means. But “[t]he fashionable mind is the time-denying mind,” as Harold Innis put it (89): I will suggest that the views of these scholars are underwritten by the triumph of space over time—of mechanisms of display over the engagement of literary reading.

On the other hand, the information-rich electronic world has also been seen as dystopian. Jean-Pierre Dupuy suggested over twenty years ago that the more we communicate, the more we create a hell, “a place which is void of *grace*—the undeserved, unnecessary, surprising, unforeseen” (3). Borrowing Ivan Illich’s terms, he argued that the ubiquity of information imposes heteronomous behaviors—in other words, a degree of dependency on external authorities that precludes the autonomy of individual change and growth. Too much Internet, this implies, will result in the information equivalent of iatrogenic disease. For example, Johndan Johnson-Eilola warns that electronic media flatten out history, since all is equally available and similarly represented (102). “In such a geography,” he suggests, “there is no future and no history, only a timeless succession of instants” (167). Sven Birkerts, in *The Gutenberg Elegies*, has voiced similar alarm, if in a more apocalyptic tone, lamenting the loss of a sense of history amid a sea of digital media and pointing more specifically to the damage being done to reading: “the old act of slowly reading a serious book becomes an elegiac exercise.” As a result, Birkerts also sees humanity facing radical change: “We are poised at the brink of what may prove to be a kind of species mutation. We had better consider carefully what this means” (6, 31).

I believe that neither of these radically different views is likely to be realized imminently, as far as we can estimate the future of literary studies, and that neither particularly helps us foreground the problems that the increasing digitization of literature may present. Despite a degree of resistance in the literary medium and widespread caution among our colleagues, literary studies is unquestionably changing in re-

sponse to the Internet and to the reconfiguration of our libraries. There is no simple way to characterize this change. It raises a series of issues, each significant in its own way, but overall we face a mosaic of conflicting prospects, ranging from how we read to what electronic tools we expect to acquire. It may also be urgent to examine these issues now, before commercial pressures and cultural change impel literary studies to evolve into something else. In Britain, for example, in February 2001 the main body for formulating the national school curriculum put forward a plan to eliminate literature almost entirely, putting in its place media studies, including the Internet and e-mail (Clare). The minister of education, David Blunkett, rejected it.

[II]

To compare the library and the Internet is to contrast two opposed principles, or so it would seem: one fostering an ethic of preservation and limited accessibility, the other an ethic of dissemination and abundance. It is hardly surprising, then, that libraries have actively been extending their services to the Internet to provide greater accessibility. In fact, a cursory examination of discussions of the library over the last few decades reveals widespread assertions that it suffers from two major problems, for which the Internet now appears a just-in-time solution. The major libraries have become too big to navigate effectively, and the cost of print materials in the last decade has escalated far faster than increases in budgets.

Some forty years ago the expansion of libraries was held to militate against their effective use. In 1962 John Kemeny, then chair of mathematics and astronomy at Dartmouth College, estimated that Harvard Library would hold ten million volumes by 2000 (it currently has over fourteen million). Such increases in size make it difficult to locate a single book on a topic, let alone retrieve all the relevant information in a research area. Kemeny argued that “our

university libraries will be obsolete by 2000 A.D.” (135). Twenty years later James Thompson, librarian of the University of Reading in England, argued the same point in *The End of Libraries* (1982). He claimed that libraries (as they existed then) were already unusable and that to navigate a modern library effectively now required several years of training (7). Kemeny advocated a national research library operated by remote technologies based on microformat tape: a user sitting at a terminal anywhere in the United States would be able to dial up a view of a particular tape and download it to a local tape for reading offline. Kemeny discusses a classification scheme that would enable relevant documents to be retrieved (his examples are drawn from scientific literature). In *Toward Paperless Information Systems*, published in 1978, F. W. Lancaster outlined a model for searching and distributing information in electronic form that would make the library obsolete. In comparing this proposal with a system being developed for the CIA, which he helped design, Lancaster also pointed out the importance of being able to personalize information: while a formal information system was normative and liable to become static, a personal system would be subjective and dynamic (34). This would make library work more effective for the literary scholar if it could be implemented, but library development so far has been based largely on older organizational systems that have done little beyond replacing paper with electronic catalogs, databases, and (more recently) full texts online. These offer only a partial and inadequate solution to the needs of the literary scholar; even full-text searching provides access only to words, not to concepts. We still lack an effective, organized way to research the field of literary scholarship provided in thousands of books and journal articles (and, now, Internet sites), since the appropriate tools have yet to be developed.

While the proposals of Kemeny and Lancaster anticipate what will become possible through the Internet, personalized access to li-

brary resources remains beyond the horizon. Even now Lancaster’s vision of a personal information system at the desktop, which was also the basis of Bush’s Memex proposal of 1945, can only be implemented partially and through the individual scholar’s labor. As Ted Nelson commented, “It is strange that [Bush’s article] ‘As We May Think’ has been taken so to heart in the field of information retrieval, since it runs counter to virtually all work being pursued under the name of information retrieval today” (248). Thus, whether I am downloading a Web document to my computer for later reading or entering information in a bibliographic database, developing a personal information system is still an ad hoc process that assembles different and partly incompatible pieces. Yet the formal library system envisaged by Kemeny would provide only a limited and possibly frustrating venue for literary research. In a commentary on Kemeny’s proposal, Robert Fano pointed to the difficulties of searching based on a normative classification scheme. The problem is the notion of classification as transubjective: “human knowledge cannot be classified with sufficient precision for literature search purposes,” Fano argued, adding that “even if it could be classified at any given time, the classification would change too fast to be of any real use.” Fano’s preferred strategy starts with a target research paper, then traces the references it provides; this gives access to literature from the past. A citation index then points to later papers that cite the target one (163–64).

Studies have shown that literary scholars are far more likely to follow Fano’s strategy than Kemeny’s. The theoretical shifts in literary studies occur too rapidly for keywords in databases such as the *MLA Bibliography* to offer more than a rough approximation of the contents of the items indexed, and the personal research framework of the individual scholar, which is so characteristic of our field, remains beyond the reach of such databases. Stephen Wiberley, in a survey he reported in 1991, found, as Fano suggested, that “humanists’ principal means for identifying

what they read is through tracing footnotes." If a citation occurs in the writing of a well-respected scholar, then "the humanist will have special reason to read the cited source" (20). And while library literature since the time of Kemeny has been promoting the role of libraries in offering texts online, Wiberley notes that this model is better suited to science, where it is more usual to read short sections of text containing specific information. The humanities scholar typically reads a whole text, and this is better done on paper than on a computer screen (19). In a 1991 survey of the research reading of literary scholars shown by their published work, Martha Pankake found that two-thirds or more of published articles cited books; and among scholars working on older literature, such as Milton or Henry James, nearly half the books cited were published several decades or even centuries ago. Addressing digital resources, she concludes, "[W]e see that the types of materials scholars use correspond poorly with the types of materials most readily accessible by computer" (10).

A more recent study by Beau David Case shows the limited effect of online library materials even after a decade of active developments. Surveying in Ohio in 1999, Case asked faculty members and graduate students what resources they rated most highly—that is, thought "very important" to their research. The most frequent nominees were printed books (mentioned in 95 percent of the responses) and printed journals (82 percent), while a significant number of participants were using electronic bibliographies (59 percent); in contrast, Internet resources were rated very important by 36 percent of the participants and electronic texts by only 6 percent (740). The field of online library resources for literary studies thus seems not to have met the needs of the scholar: although well-edited texts are now becoming available online, many of the research materials on which scholars depend are still available only in print; even when material is provided online, it is usually more convenient to read it on paper; and a detailed, personally

relevant classification of the contents of the research literature remains beyond the capacity of the institutional database or catalog. The problems confronting the library now, however, suggest that the literary scholar may be obliged to turn with increasing frequency to electronic resources, since these may soon be all that libraries will make available in several key areas.

This brings us to the second and more recent problem confronting the library: the soaring cost of print materials. Libraries face massive increases in material costs, especially in journal subscriptions, increases that have far outstripped budgets. The Association of Research Libraries, which is campaigning to reduce costs, reports that in the United States the cumulative consumer price index increased 35.7 percent during 1989–99 while journal subscription prices charged to libraries over the same period increased 183.9 percent ("Comparison"). This figure includes science and medicine journals, which have become notoriously expensive; but even for language and literature journals the price increase over 1990–2000 is a sizable 85.7 percent ("Subscription Prices"). As a result, across 1986–98 the journal purchases of research libraries declined 6 percent, while monographs declined 26 percent (*Create*). The association has sponsored the Scholarly Publishing and Academic Resources Coalition (SPARC), whose declared aim is to bring these costs under control but in particular to promote electronic modes of scholarly publication. The timely advent of the Internet is clear, given the alternative it offers for low-cost publication. As one report puts it, "A moment of opportunity is at hand, occasioned by the potential for peer-reviewed electronic publishing and a sense of desperation spawned by runaway acquisition costs" ("To Publish"). The move to electronic publication and dissemination is now seen as the only viable solution.

Meanwhile, outside the library, physicists have established an archive of pre- and postprint papers at Los Alamos, which helps to bypass the time lag in publication typical of print jour-

nals; and scholars such as Stevan Harnad have been promoting this model as an alternative for other disciplines (Harnad's *CogPrints* [cogprints.soton.ac.uk] for psychology is exemplary; we await a similar initiative for literary studies). While a number of established journals are now provided electronically as well as in print—for example, the Project Muse titles from Johns Hopkins University Press—these are restricted to institutions with a subscription; thus, the budget problem remains unresolved. The free but peer-reviewed electronic journal looks increasingly likely to offer a serious alternative to these hybrid forms. Growth in e-journal titles has been rapid, from 306 titles in 1995 to over eight thousand by the end of 1999 (Okerson). Journals that publish only on the Internet, like *Early Modern Literary Studies* and *Romanticism on the Net*, are now indexed in major bibliographies, suggesting that the struggle for acceptance for new journal titles in the electronic medium has been largely won. According to a recent Canadian survey on the issue, carried out for the Humanities and Social Sciences Federation, nearly two-thirds of the faculty members questioned thought that peer-reviewed electronic publications were equal in quality to traditional print journals, although most respondents said that nonelectronic journals still had greater credibility (Siemens et al.). This suggests that traditional print journals will come under increasing pressure to modify their means of distribution, although the prestige of journals such as *PMLA* or *Studies in Romanticism* indicates that major change may be five or ten years away. The electronic distribution of books, especially academic books, has been slower to develop, but several major publishers in the field of literary scholarship are now poised to provide electronic versions of print titles (primarily anthology texts). For a fee, students will soon be able to go online and order up their course packs, assembled by their instructors for download to the students' computers; the Internet site will at the same time provide access to an extensive set of

relevant online resources from journals (see, e.g., *XanEdu* [www.XanEdu.com], created by Bell and Howell). For the students' purposes, this development has the potential to bypass the library altogether, except as another Internet site where additional online resources may be found.

Thus, the Internet will play an increasing role in literary studies, replacing or supplementing many of the functions of the library in a process driven by escalating library costs, by the new information media, and by students (who are often more at home on the Internet than many faculty members). The digitization of the entire corpus of printed texts seems unlikely (the director of the Library of Congress, for one, has firmly set his face against this ["Library"]), so the library will still be needed as an archive for the bulk of the rare and older collections. But it seems probable that within the next decade or two many of the materials we require as literary scholars (especially in our role as teachers) will be available on the Internet (Schuyler). Materials and protocols for online research have already been developed by several major projects, ranging from the long-standing Women Writers Project at Brown University to the recent eLib initiative in Europe, including the hybrid library projects that recognize the need for a common interface to electronic and print resources (Raitt).

But the delivery of library materials over the Internet, while valuable, is hampered by conflicting standards and poor use of the medium, and acceptance of this distribution method in literary studies is threatened by the systemic problem of configuring texts for the online reader. While the coming electronic library is likely to bring major benefits to many disciplines and will require the expertise of the humanities computing specialist (Moulthrop), for literary studies the effects are questionable. At worst, they will change literary studies to such a degree that the basis of the discipline becomes unrecognizable. In the last section of this paper I describe several problems and consider how far they might be resolved.

[III]

If we envisage scholars of the future working at their computers, we can imagine them preparing a paper in one window and consulting reading materials (books and journal articles) and bibliographic databases on the Internet in another window, with access to the literary work they are writing about in a third window that provides advanced tools for searching and analyzing the text. The setup should, among other things, allow for copying and pasting quotations, importing a bibliographic reference, and pursuing a text cited in any footnote or references list and for a citation system showing where in the literary text a passage is located. At the present state of development such seamless integration of systems remains out of reach. Convergence of electronic library resources still seems far off. Currently we face a mosaic of different systems; a few are interoperable, allowing movement and transfer of material, but the user of most electronic resources is locked into what the supplier provides. While I am reading an electronic journal essay, I usually cannot click on a reference link and be taken where that resource resides; most standard bibliographies such as the *MLA Bibliography* provide no access to the paper or chapter in question, even if it is in electronic form. Modes of presentation vary: I may find myself reading an HTML-coded document, but often the mode is a PDF file or a page image that precludes copying and pasting. To call up and consult each resource may require a different set of skills. I have to learn some fifteen systems to use my university library effectively. Some of them are only available in the library, while others I can access over the Internet. If I turn to the Web, the imprecision of the search engines and the proprietary nature of some major literary resources mean that an online text search will produce limited, incomplete results (as I usually warn my students). Moreover, literary sites on the Internet, although they may benefit from the creativity of design the Internet offers, are often

unreliable, with inadequate bibliographic preparation; each has a different design, following principles that may be obscure; and many sites have been short-lived. The rest of the literary corpus remains immersed in the library, invisible to the Internet except as entries in online catalogs—and this world is still much larger than the portion that can be visited online.

The online world for literary studies is undoubtedly in our future, impelled by the powerful forces shaping the library that I have described. But there is little sign that the problems we face will soon be resolved, in part because so far the major initiatives behind these developments conflict with commercial interests. Libraries may be eager to propose standards that would help, but publishers and software creators have little to gain and possibly much to lose from others' standards. As Priscilla Caplan suggests, "This is likely to be an increasingly important factor in the digital library area, where our applications are not necessarily going to be of significant import to designers of computing and communications infrastructures and tools." In general, as Caplan points out, the electronic tools that support and run the Internet have, with a few marginal exceptions, been created not by us but by powerful commercial interests such as Microsoft, and this is unlikely to change in the near future. If it does, and literary scholars are finally able to create their own tools, what will be needed for the design process, in Michael Heim's term, is *technalysis*: "the detailed phenomenology of specific technologies" that "places the human being at the center of technology" (45). As Andrew Odlyzko complains, the personal computer and the Internet medium have been designed to serve developers much more effectively than users: "Little attention was paid to human factors. The result is that both networking and computing are frustrating for end users" (2). I now consider four factors that influence our experience and behavior as literary scholars when we turn to the Internet.

First, the Internet has become an important medium for the delivery of documents, but its

marginal status for the other activities of literary scholarship has a number of causes. The Internet is poorly organized in comparison with the library: "Trying to find information on the Web," says Debra Jones, "is like walking into a library after an earthquake, with the books strewn all over the floor" (qtd. in *Library Advocate's Guide*). Several initiatives are under way to rectify this: the Dublin Core is a proposal for a system of metadata in Web pages that would incorporate bibliographic principles and systematically help to identify documents on the Web (dublincore.org); a similar plan in the United Kingdom called Serendipity is locating Web pages in relation to standard library classifications ("Serendipity"). However, the same limitations to classification apply here as in bibliographic databases: the class terms are too broad and are likely to be outmoded by shifts in the theoretical interests of the discipline. A better way of mapping the concepts in the body of a document is required. This issue is related to another long-standing one, the limits and difficulties of electronic text analysis.

Once I have located a text and have (perhaps) read it online, what else can I do with it? If I wish to present my reading to others, by creating links or annotations, I have to download the text and must possess appropriate Web authorship tools. For closer study I may want to index the text with a concordance, but this requires time spent encoding the text so that I can relate a word to its position in the work. Even here, however, the tools are limited to showing distributions and frequencies of words. As Willie Van Peer has pointed out, this provides access only to the lowest levels of textuality, those likely to be of least interest to literary scholars, who usually have little reason to locate and count words. And this application makes disappointingly limited use of the computer's power. We stand in need of more effective and more varied means of text analysis that will undertake not only collocation analysis (with built-in significance testing) but also such features

as multivariate analysis of selected collocate groupings; graphing of selected word frequencies; dictionary- and thesaurus-controlled searching, including lemmatization; comparison of word distribution in a given text against a standard corpus; online content markup; pattern matching across texts; and analysis of sound frequencies based on phonetic transliteration. In addition, the methods should be applicable to texts on the Internet, once they have been suitably encoded. At the moment, text analysis tools offer only the most basic facilities; more complex tasks require researchers to write their own programs, a barrier that has effectively kept text analysis at the margins of literary scholarship.

Second, while the adaptation of literary texts for the Internet is now widely practiced, it may come at a price. We face practical problems over the reliability of electronic texts and their long-term preservation (Miller; Brand and Sanders). There is no guarantee that the Internet medium will remain much as it is now, able to support the reading of texts in the future in the way that printed texts have remained accessible for hundreds of years. More urgent, we have hardly begun to ask the relevant questions about reading practices and how these are influenced by the nature of the medium (especially when it includes multimedia elements). It has become common, for example, to consider an annotated text online an improvement on the same text in print, a position developed by scholars such as George Landow (see, e.g., his description of a hypertextual edition of Milton [176]). A recent example by a middle school teacher, centered on hypertextual links to a short Tennyson poem, shows how thoroughly the boundaries of reading and commentary have been blurred (Patterson). The process of reading that focuses on the text, before any annotation or comment, is being forestalled by the design of many literary Web sites, where we lack the technology to turn the links off. Thus, the ambience of a text, its peripheral meanings, especially those that speak to the personal in the reader, are replaced by hypertextual

interventions embedded in the text. To borrow Michael Polanyi's term, the tacit knowing that supports any conscious activity is preempted by links. The look of the computer screen pulls this difference into awareness, making readerly absorption or flow difficult or impossible.

What is the digitizing of literature for, then? Will it enable us to do better what we already do, such as annotate texts, or enable practices that were impossible before, such as graphing the conceptual structures inhering in a text? Or will electronic text eliminate or make more difficult existing practices, such as the absorbed mode of reading celebrated by Sven Birkerts or Victor Nell? What new ecology of literary reading and scholarship will digitizing serve? Without adequate studies of reading and attendant scholarly practices, including Heim's technalysis, such questions remain unanswerable. Meanwhile, as we noticed, the majority of literary scholars still make rather limited use of the new digital opportunities.

Third, the culture war of hypertext theorists against the existing state of the literary discipline has tended to dominate discussion of electronic media, narrowing the range of issues that call for our attention. As I have shown elsewhere, while the debate was carried out chiefly on behalf of hypertext fiction, it made claims that were extended to the state of literature in general, promoting hypertext theory as part of a larger movement to disown the past. But the theorists in question (e.g., Bolter) have highlighted what may be the most significant problem for reading by showing that the computer screen privileges space over time. Their arguments have called the printed text into question by supposing that it enforces a linear process of reading, one that is oppressive and should now be considered illegitimate or outmoded. But this forestalls the absorbed mode of reading characteristic of the printed page, which requires time to unfold. As N. Katherine Hayles describes the issue, the printed page hardly detains us as we move to an imagined world beyond it: "the more

the imagination soars, the more the page is left behind. The difference in the way that proprioceptive coherence works with the computer screen, compared with the printed page, is an important reason why spatiality becomes such a highly charged dimensionality in electronic hypertexts" (88). Thus we could argue, borrowing Henri Bergson's terms, that the linked screens of hypertext, while attempting to create difference, actually produce homogeneity, or succession without difference (109–10). It is duration, the immersion in the linear process of reading, that allows for heterogeneity—that is, the changes in perception that the defamiliarizing power of literature can effect in a reader. As Gilles Deleuze puts it, "Duration is always the location and the environment of differences in kind; it is even their totality and multiplicity" (32). Whether such reading is possible on a computer screen is open to doubt: various technical, design, and other empirical aspects have yet to receive close study (cf. Dobson and Miall).

Fourth, the accessibility of advanced scholarship on the Internet brings with it the risk of spurious interdisciplinarity. As Philip Agre has pointed out, the act of locating our scholarly resources on the Internet removes librarians and teachers. This process, which Agre terms *disintermediation*, suggests the obsolescence of institutions such as the library and the university. The availability of academic discourse at all levels on the Internet brings the risk of flattening the structures of knowledge, making them largely invisible to the Web-surfing student or incautious scholar. Induction into a discipline is a matter not only of acquiring information but of assimilating a set of theoretical frameworks, assumptions, and practices that can take several years to master. The breaking down of disciplinary boundaries that hypertext theorists have celebrated may lead to fine, innovative work, but it is also likely to lead to inappropriate and spurious connections, unfounded assertions, and misinformation.

As the Internet is likely to play an increasing role in our daily lives as scholars, the prognosis for literary studies is thus a problematic one. In summary, while many texts, primary and secondary, are becoming available on the Internet, we need to raise a number of questions concerning the quality of texts and how they are delivered; how we read literary texts online—indeed, whether they are readable as literature at all; what added value might be obtained from electronic texts if appropriate tools became available; how far online media are capturing the field of literary scholarship or are changing it; what economic and technical issues the field now faces, with the shift from libraries to the Internet; and other institutional issues that I have not considered in this essay, such as student access, faculty evaluation, technical support, and the role of computers in mainstream literature programs. In these considerations debate so far has been driven largely by practical aspects, like library or technology budgets, or by narrowly based theories focused on the new media. I suggest that it is time to take a more comprehensive look at our discipline and estimate how far the new media can accommodate our central values as literary scholars.

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