

Trivializing or liberating? The limitations of hypertext theorizing.

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The advent of hypertext systems has created substantial changes in the literary community, rendering various literary content in electronic form. Although electronic text offers a wide array of benefits for printing and publishing companies, it poses serious threats to readers. Hypertext systems are not only bound to change the reading habits of literary enthusiasts, but also undermine the historic value gained from reading books and other conventional forms of literature. Hypertexts may also divert the psychological depth of reading to the technical dexterity of computer programs.

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The textual world is no longer what it was - at least, this is what some prominent hypertext theorists would have us believe. For them, the new world of cyberspace and hypertext has freed text from the constraints of the pre-electronic medium of print. Stuart Moulthrop is one of several recent theorists who speak for this new vision: what it means, he urges, is "that we must fundamentally re-think our position as subjects of electronic textuality" (edge.html). As he sees it, the enthronement of hypertext as the writing space of the future has been accomplished: now we must be prepared to accept and work through its implications. George Landow adopts a similar tone in the second paragraph of his *Hypertext 2.0*: "we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity and replace them with ones of multilinearity, nodes, links, and networks" (2). Associated with a liberationist and democratizing rhetoric that promises to realize the true potential of text, hitherto locked within the prison-house of the book, such claims at the same time announce that the abstractions of postmodern theory are about to be incarnated and tested on the electronic pulse.

The prescriptive tone of such pronouncements, however, suggests that not all of us may be quite as comfortable in the hypertextual world as its advocates seem to imply. Not surprisingly, a vision as comprehensive as this has met with resistance on several grounds. Sven Birkerts, seeing the electronic medium as a threat to the imaginative solitude of the book reader, argues that we are about to cut ourselves off from the sense of history we gain from books (20). Myron Tuman complains that online literacy replaces the psychological depth of reading with the technical cleverness of the programmer (41). Andrew Dillon attacks several "myths" that are central to hypertext theory: the belief that because the mind is associationist in how information is linked, hypertext is more natural; the belief that print is linear, hence constraining (28-30). Noting that empirical studies that demonstrate the claimed benefits of hypertext are hard to find, Jean Francois Rouet and Jarmo J. Levonen suggest that hypertext theorists have substituted ideology for scientific inquiry.

In this essay I want to articulate my own sense of resistance to hypertext advocacy by focusing in particular on problems inherent in the view of reading proffered by theorists of this new medium. As I see it, although hypertext may have much to offer, both aesthetically and pedagogically, the universalizing nature of the claims made on its behalf, and the polarization involved in deprecating (often explicitly) all previous forms of printed literature, obscures the central issue: namely, what it means to read, and how far reading practices change in the context of a new medium such as hypertext. In particular, I will argue that literary reading, that is, reading of imaginative texts such as novels or poetry, is rendered incomprehensible by the model of reading put forward in hypertext theory. To clarify the issues, I will begin by assessing the emphasis on hypertext as a visual medium with spatial or iconic properties, and show how a false sense of the reader's freedom has been inferred from this. Second, I will analyse two claims commonly associated with hypertext: the instability of electronic text, which is said to make it both more creative and less "serious," and the attribution of agency to text. I will suggest that on both grounds the disembodied nature of electronic text precludes much that is most significant in the process of literary reading, which depends on the reader's affective engagement with a stable text. Finally, I will call into question the information processing or network model of text that underlies hypertext theory, arguing for an alternative, constructive model of reading that, while incompatible with the forms of hypertext, better accounts for what is known about readers' responses to literary texts.

An emphasis on the spatial characterizes much recent rhetoric about hypertext. Derived from the foregrounding of the visual components of writing on the computer screen, the multi-directionality implicit in the spatial is proposed as a site of opposition to the rigid linearity of the printed page. The change in the interaction between reader and text that it produces, however, appears to bring significant and possibly disabling constraints that call into question the liberationist premise. It says appears, since while studies of the pedagogical implications of hypertext are common (e.g., Rouet & Levonen), and while one should not ignore the work of J. Yellowlees Douglas, there is as yet little

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reliable evidence to enable us to assess the significance of hypertext reading.

Hypertext, it should be noted, takes many forms, and it has been used for both literary and non-literary purposes. It is frequently used as an online substitute for the printed text: text sections are arranged within a hierarchical structure analogous to a table of contents. The internet pages of commercial firms, universities, or government organizations are invariably structured in this way. Cross-links may enable the reader to jump between non-adjacent sections, but this is equivalent to cross-referencing in the printed text. To the advocates of hypertext such formalized structures are of little interest: for them the most important uses of the hypertext medium are not those built with a tree structure but those that are interlinked like a web or network with no superordinate structure or single, predetermined logical sequence. Once launched, the ordering of text sections (usually short passages, called nodes or *lexia*) is driven by reader choice, based on the links available from the current node. In contrast to the linear sequence presupposed by a hierarchical organization, a network hypertext is self-navigating, produced within what Jay David Bolter (to cite the title of his book) calls a "writing space." It is this kind of hypertext that I examine here.

The appeal to spatial principles is shown by Landow's enlistment of Derrida's call for "a new form of hieroglyphic writing" which would escape "the constraints of linearity" (Hypertext 59). Similarly, Bolter notes that "Computer writing is primarily visual, rather than oral"; it "gives a renewed prominence to the long discredited art of writing with pictures" (45-46). Bolter's discussion includes analysis of an Ojibwa pictogram of 1858 which, as he notes, provides no indication whether it should be read from right to left or left to right. In a basic sense this absence of directionality mirrors self-navigating hypertext in its most common instantiations: text nodes can be read in any order, links can be traced either forward or backward (that is, there is no forward that is not purely relative), and no link has priority over any other link, as Martin E. Rosenberg has pointed out (280).

Hypertext thus forces text nodes toward the status of icons. The icon is a common feature of our present-day graphical computer screen, whether Macintosh or Windows. The icon offers a miniature representation of a program or other function that can be executed by the user, but this representation is arbitrary (as a user I can change it for another): it cannot be operated on directly by the user, it is discontinuous with the program that it is used to launch, and its fixed pictogram has only a coincidental relationship with the processes that I carry out through the program. For example, the word processor I am now

using, Microsoft Word, is launched from an icon of the letter W. But it would be naive indeed to think that I could produce only Ws with the program. By placing nodes of text within a hypertext system we invite the possibility that they will be treated iconically. Bolter's commitment to the iconic is shown by his likening of the electronic page with its multiple windows to a page in a magazine. As he sees it, whereas the simple printed page with its single block of text offers no distracting competition for the reader's attention, "A magazine or newspaper is...closer in spirit to the topographic writing space of the computer....Larger units of text together with images can be isolated on the computer screen. The screen itself becomes a magazine page in which units even rearrange themselves to meet various needs" (69). The magazine page as an object for reading, however, is in one respect less challenging than a hypertext: the blocks of text appear on a single page, and a glance at each enables us to anticipate whether directing attention to the text within it is likely to be worthwhile. In most hypertexts, in contrast, the nodes linked to the current text are off-screen, and little or no information about the nodes is offered; thus anticipation is disabled. Under these circumstances the choice of which link to pursue becomes either problematic or arbitrary, since either I must spend time attempting to reflect on the relationship between the current text and the one I have just left (but this places heavy demands on memory if the previous text is now off-screen), or I accept that the present text is no more meaningful than any other text to which I might have moved, so that the quality of attention I give to it is likely to be reduced.

The problem of link navigation, how to make readers' choices meaningful, is discussed by George Landow. In a 1991 article, "The Rhetoric of Hypermedia," he formulated a set of "rules" for facilitating a reader's ability to navigate a hypertext knowledgeably and with anticipation. But the more that Landow's rules for hypertext linking are adopted, the weaker become the iconic or visual qualities of hypertext praised by Bolter. Where Landow's rules put back in place the inherent structure of the printed text by signalling the type and quality of the relationship between one text and another, the iconicity of texts linked without such information leaves the reader to infer a relationship. Since there is no certainty that the reader will guess what the author had in mind (if anything), inferences made by the reader are likely to be more or less arbitrary and of short duration; moreover, the primary task now becomes that of reading the current text, not considering its relation to the previous one. Thus from the perspective of the reader the inherent tendency of hypertext is, paradoxically, to disconnect text sections, not to connect them. As Landow himself says elsewhere, hypertext "disperses, or atomizes text" (Hypertext 65). In Stuart Moulthrop's definitive term, in his essay comparing link navigation to

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traveling, the end point at which hypertext arrives is "breakdown" ("Traveling" 67). The reader may continue to read, but the behavior that ensues is of the kind now aptly known as "surfing."

The emphasis on the spatial is, of course, not original to hypertext theories, but dates back to pre-computer literary theorists, notably Roland Barthes. In *S/Z* he praises the "writerly" text as open to reader's multiple interpretations in ways that the "readerly" text is not. The writerly text is figured as a network: "we gain access to it by several entrances"; "the codes it mobilizes extend as far as the eye can reach, they are indeterminable" (5-6). Bolter and Landow enlist Barthes as a hypertextualist *avant le lettre*. In this context, Landow enthusiastically observes, "hypertext creates an almost embarrassingly literal embodiment of a principle that had seemed particularly abstract and difficult when read from the vantage point of print" (Hypertext 65). What is more embarrassing, one might counter-reply, is the way that hypertext theory literalizes arguments that Barthes proposed figuratively. Where Barthes, with great subtlety, explains what he means by a "writerly" text by pointing to a remarkable array of reading operations to which we are invited in construing the meanings in a narrative by Balzac, the hypertext reader described by Bolter or Landow is imprisoned within a predetermined set of operations that preempts the writerly response in favor of reader manipulation.

For Bolter, a good example of a hypertext in advance of its time is Derrida's *Glas*. Derrida divides the page into two columns of text: in the left column we find extracts from and comments on Hegel, in the right comments on Genet. As the reader scans the different apparently unrelated blocks of text, "connections seem to be there, as words and sentence fragments refer the reader back and forth between Hegel and Genet" (116). Thus, Bolter continues, "*Glas* belongs in the electronic medium, where...any relationships between textual elements can float to the surface; the computer invites the writer to reveal the inner structure in the appearance and the behavior of the text" (117). But this, precisely, is what *Glas* stops short of doing: once the links are specified, the array of potentially infinite connections implicit in Derrida's text is eliminated. To what extent the connections invoked by *Glas* could even be specified in the writing space is not considered by Bolter.

The computer framework thus places more limitations on writing (and reading) than does conventional printed text. The infinite possibilities of response by each reader are limited to the few links prepared by the hypertext designer. The possibilities for the writer are also constrained. Indeed, as Bolter himself notes, Wordsworth's "spontaneous overflow of powerful feelings" is rendered

impossible since the linking network required by the computer presupposes that text "must be planned and structured by the author" (153).

The pre-eminence given to the spatial in hypertext theory is thus at odds with its liberationist ideology, and in the end self-confuting. The choice of multiple pathways through hypertextual space provides only an illusion of reader emancipation. More seriously, it privileges the visual in the reader's response in ways that return us to outmoded 18th-century accounts of literature from Addison to Kames, with their elevation to a critical principle of Horace's *ut pictura poesis*. Indeed, John Tolva specifically invokes this principle in claiming that hypertext enables us to fulfill the visual effectiveness for which literary texts have always striven. What such advocacy overlooks is that the argument for the preeminence of the visual in literature has long been disputed. Edmund Burke, for example, argued that the clearness of images in a literary text militated against the fullness of the reader's affective response (55-58). The Romantic poets also argued strenuously against the visual. In *The Prelude* (1805) Wordsworth recalled a time in his own approach to nature when "the eye was master of the heart," adding that the visual organ is "The most despotic of our senses" (11.172-74). The question that needs to be asked, then, is whether the systematic discounting of non-spatial dimensions of reading, such as personal memory or literary context, is indeed intrinsic to hypertext reading, a necessary concomitant of the ludic, uncommitted ambience of hypertext reading that Bolter advocates (130), and if so whether this is a desirable consequence.

In addition to the emphasis on the spatial dimensions of hypertext, the ludic mode of reading appears to be driven by another aspect of hypertext writing that has been singled out as a signifying property of the medium: according to hypertext theorists electronic text is inherently unstable. In Bolter's words, "Electronic text is the first text in which the elements of meaning, of structure, and of visual display are fundamentally unstable....All information, all data, in the computer world is a kind of controlled movement, and so the natural inclination of computer writing is to change, to grow, and finally to disappear" (31; emphasis mine). Bolter's ascription of a "natural inclination" to computer writing transfers agency for writing onto discourse, as though writing wrote itself. Similar claims are common among hypertext theorists. Richard Grusin, who cites a score of additional examples, including several from Bolter's book, traces it to the much-noted death of the author heralded by Foucault and Barthes. Translated into the electronic domain, this results in a kind of technological determinism. Given Bolter's otherwise relentless rejection of Romantic poetics, his use here of organic terminology - "to change, to grow, and finally to

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disappear" - is both ironic and inconsistent with his emphasis elsewhere in his book on the mind as a type of computer (185).

There is, moreover, something curious about Bolter's ascription of agency to electronic writing, and his argument that the resulting instability constitutes a main way that hypertext is distinguished from print: "Elements in the electronic writing space are not simply chaotic; they are instead in a perpetual state of reorganization. They form patterns, constellations, which are in constant danger of breaking down and combining into new patterns" (9). What such arguments overlook is that the print text is not necessarily stable either. What he calls the "frozen structure of the printed page" (21) is subject to the pressures of change, perhaps as much as any electronic text. One need only draw attention to the way that the history of scholarly editing is premised on the successive "reorganization" of texts. The practices of many writers show examples of texts that were subjected to revision, both before and after they reached print. In Coleridge and Textual Instability, for example, Jack Stillinger points to the ten different versions of Coleridge's poem "Frost at Midnight" produced by the author. Which of these is the "correct" one?

More important, if an electronic text is in "a perpetual state of reorganization" (it is not clear where Bolter would have us look to see this process in action), then the question of agency is not a trivial one. A text that was unstable, changing at random, would hardly capture our attention for long. The quality of attention we give to, say, the seventh version of Coleridge's poem is a product of our engagement with the issues that the poem presents us as readers. If Coleridge has revised a word, we care about this because it may impact on our understanding. His change of "dead calm" in the 1817 version to the later "deep calm" in line 45, for example, significantly affects the meaning of the whole poem. If such words permutated by chance, like printer's errors, we would spend little time considering them.

In the case of a literary text, its verbal stability, including perhaps the efforts of the writer to achieve it as evidenced by its revision history, determines the quality of attention we give to it. We give such attention principally because a literary text typically sustains a richness of interpretive possibilities at the semantic and affective level. If electronic text is inherently unstable at the level of the word then it will attract less serious attention from its readers. This will impact especially on the reception of writing that is designed to be "literary" (poetry, novels). But for Bolter "Electronic literature will remain a game, just as all computer programming is a game." Playfulness is the hallmark of electronic literature, in contrast to the

"solemnity" of printed literature (130). The major problem with Bolter's argument, however, is that the material fixedness of print does not transfer into our mode of reading it. The medium need not determine the message, and perhaps our response to electronic print need not be doomed to mere play. The characteristics of hypertext that I have considered so far, however, seem likely to ensure that it will elicit less attention and less commitment than the printed text from its readers.

Putting aside the kind of specialized reading that occurs in a classroom, response to a literary work seems to depend in part on memory, feelings, or desire, such as the pull of narrative; it may call upon feelings not previously acknowledged or recognized by the reader, and include the relations, explicit or not, that are elicited to other literary texts, art works, movies, and the like. This makes reading at times a defamiliarizing, perspective-shifting experience, a view confirmed by a number of empirical studies of actual readers, including those I have conducted (see my "Beyond the Schema"). While it is possible that electronic literary texts could be designed to evoke this engaged and transforming response, it seems unlikely given the way that the electronic medium is understood by its theorists.

The principal difficulty lies in the disembodied nature of electronic reading. The presence of the body during ordinary reading makes available types of response that are less available if not absent from the electronic medium. We do not have to resort to nostalgia about the weight, the odor, or the binding of the printed book in order to see why. As I and Don Kuiken have argued (see "Beyond Text Theory"), literary reading is predominantly an affective process, whereas the medium of hypertext tends to place emphasis on the discursive. Feelings in literary response draw upon bodily configurations of meaning, on personal resources of imagery and memory that implicate the reader's self concept to some degree. In contrast, while we can endow the computer with bodily properties, we can do so only figuratively. Pamela Gilbert remarks of our relationship to the internet that "We 'finger' one another, 'surf' the Net, 'go to' a remote site, 'get' files from one place, and 'put' them somewhere else. The metaphor of the Net as space masks the disassociation of Netters from their bodies, masks the fact that the bodies are elsewhere, real, material "invested with a responsible subjectivity" (art-gilbert.html).

As Gilbert's comments show, we domesticate and familiarize the internet and other computer domains by deploying physical or spatial metaphors. Literary texts in contrast are more likely to invoke the familiar in order to unsettle it. In this respect, it is our existing repertoire of concepts and schemata that prove inadequate for

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understanding some aspect of the world, and must be altered under the guidance of the text. Literary reading involves a response beyond the cognitive or information processing systems that can be modeled by computer programs. As Willie van Peer has shown, to the extent that the attributes of literature are confined to what can be represented by a computer, our understanding of literary meaning will be shallow and trivialized. Literary reading, such as that involved in responding to a lengthy George Eliot novel or a complex Sylvia Plath poem, requires a degree of absorption over time if new understanding is to evolve. Such absorption is not, as Bolter would have it, the "passive reading" which is "the goal of the naive reader or one who reads for entertainment" (155). The interactive nature of literary reading requires readers to permeate the text with their own images, memories, and desires; but the text in turn refashions these and situates them within a new perspective. This interactivity, of course, is sometimes hard to see, for as Marie-Laure Ryan suggests, it "has been obscured by the reader's proficiency in performing the necessary world-building operations" (ryan.html). The postmodern or hypertext fiction tends to preclude this interactivity; by drawing attention to its own fictionality, it ironizes the constructive process, repeatedly decentering the reader and blocking participation in the fictional world. The text turns out to be worth less than our wishes to invest in it had led us to hope.

The "metafictional gesture," to borrow Ryan's term, intellectualizes the reading process and returns the reader to an awareness of the artifices of fictional construal. Readers' feelings are engaged, only to be turned aside or thwarted. In contrast, a study of readers' responses to a Virginia Woolf short story that I carried out, showed that when readers found their first assumptions about the story deficient, their feelings in response to passages of foregrounding (stylistically notable phrases) provided a focal point for initiating an alternative conception of the story's meaning (see my "Beyond the Schema"). Such feelings have an anticipatory quality: in the course of a short story (we have no empirical evidence for longer reading processes), a feeling evoked early in the story provides a framework for shaping the reader's understanding of the story as a whole. Feeling locates the reader within an experiential world, with all its bodily and sensory concomitants; in fact, the shape of reading may often be registered within physical tensions, muscular dispositions, and impact the autonomic system, although we tend to remain unaware of this dimension of reading.

It is this interactive process of reading that is systematically disrupted within the hypertext medium. The linking of one text node to another tends to promote superordinate connections and to elicit an analytical response more appropriate to expository prose than to

literary texts. The mechanical invocation of nodes through links will rarely correspond to the process of anticipation that a reader of a novel or poem experiences, since the need to choose from an array of multiple pathways at each step is unlikely to sustain the progressive unfolding of the reader's affective engagement with the text. This suggests, paradoxically, that the fixed form of the printed text may be more liberating for the reader than the constrained process of linking imposed by a hypertext, where the requirement to decide every few sentences which link to follow seems likely to prevent the immersion characteristic of literary reading.

The failure of hypertext theorists to consider the reading process except superficially is apparent in the inconsistent treatment given to non-visual and other components of reading. Bolter, for example, claims the priority of body over mind in hypertext while preserving his post-structuralist view that text is all that the mind is. Thus, thinking of the role of the reader in the 1987 electronic fiction afternoon by Michael Joyce, he observes: "The computer gives the reader the opportunity to touch the text itself, an opportunity never available in print, where the text lies on a plane inaccessible to the reader. Readers of a printed book can write over or deface the text, but they cannot write in it" (144). Touch is, of course, mediated by the mouse cursor, but while contact in this respect activates a link to another node, this form of touch is no more "real" than following a cross-reference in a printed text. It is minimal touch, indeed.

To make his case, Bolter also attempts to attribute disembodiedness to "traditional" literature: "by ensuring that the reader cannot enter into the space that the text occupies, printing encouraged worshipful reading" (152). But Bolter's own model of the reading mind is effectively a disembodied one, despite his interest in touch. When he discusses artificial intelligence as a process of "modeling the mind," it becomes evident that it is a mind without physical connection to the world, and devoid of either senses or feeling: "Every computer program models the mind, as it reflects and reiterates the interplay of writer and writing surface" (175). Such a mind captures only an impoverished fragment of what is included in the experience of reading Wordsworth or Woolf.

If hypertext is the norm of textuality, as Bolter and Landow propose, their discussions show their theory of reading to be founded on a strictly information processing model. Landow's account of reading *Paradise Lost* is typical. Read within a hypertext, he notes, "intratextual and intertextual connections between points of text (lexias, including images) - become equivalent, thus bringing texts closer together and weakening or reconfiguring the boundaries among them" (80). The reader of Milton he has

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in mind is the teacher or the student, whose fully linked electronic version of the poem provides immediate access to the Bible, Homer, Virgil, Dante, and Spenser (279). This reader, to follow the logic of Landow's description, will be able to click on a link every few lines to call up a different text; the text now on screen becomes equivalent to that of Milton and will (presumably) possess its own links to a multitude of further texts. While this may provide an appropriate environment for studying Milton's poem, it fails to capture the significance of reading it. When we read, I would argue, the intertextual connections presupposed by the poem are caught up and transformed by Milton's master discourse. Until we see how Homer or Virgil are appropriated by Paradise Lost, we remain outside the poem as readers. Put another way, Homer is background as I read Paradise Lost, not equivalent, as the network model suggests.

Landow's interlinking model, moreover, can address only the most superficial relationships between texts. If Milton echoes Virgil in a line of Paradise Lost, the meaning of that connection cannot be captured by clicking on a link to the relevant passage in the Aeneid. Understanding the implications of Milton's reference requires an immersion in Roman culture and how Milton reads and appropriates it, for which a reading of a few lines of the Aeneid is only the beginning. A hypertext system is a valuable tool for alerting the student of Milton to the kind of work that needs to be done; but none of the more significant aspects of Milton's text, or any literary text, lies within the representational capacity of hypertext.

Thus I would argue that the network metaphor that Landow specifies (42-44) cannot account for the transformative effects of literary experience. It may suffice for mapping relationships between texts, or for explaining aspects of the reading experience post hoc, but such a network cannot constitute the reading experience itself. The hypertext which instantiates it is a device for explicating textual connections, not for experiencing them. Perhaps more importantly, hypertext cannot map the textual links that matter the most, where the text links to our existing schemata, feelings, and memories, including echoes of other texts that we have read. Hypertext makes explicit and concrete; in its insistently visual nature, it delimits and specifies. The rich array of resonances of an individual's reading of a literary text thus cannot ever be represented in hypertextual form. This might seem obvious, except that hypertext theorists such as Bolter or Moulthrop insist on representing hypertext as the ideal site of reading.

While neither Landow nor Bolter engage with the experience of reading as I have described it, their theoretical positions claim to embrace all texts, and serve

to turn the encounter with text into sheer information processing. Text is reduced to nodes or lexias, to what Derrida terms *morceaux*, bits or morsels, which are then multiply interlinked. The logical end point, as Landow observes, is that of text as database, where a "search...permits the active reader to enter the author's text at any point and not at the point the author chose as the beginning" (Hypertext 94). While this atomistic view of text may be appropriate for sifting the data of literary (or scientific) scholarship, it cannot account for the act of reading.

The hypertext network model, according to Landow, supports Derrida's notion of textual openness, "the irrelevance of distinctions between inside and outside a particular text" (Hypertext 33), whereby the individual section of text loses its distinctiveness and becomes "dispersed" into other texts. This, he notes, is analogous to the way that "some chemicals destroy the cell membrane of an organism. Destroying the cell membrane destroys the cell; it kills" (65). In an ironic way, the biological analogy is instructive. Whereas in self-sustaining systems the integrity of the different organs, from the cell upwards, is critical to survival, Landow's model of text suggests the metastatic stage of cancer, when individual cells from a given organ disperse and multiply elsewhere in the body. In other words, Landow's process leads to a loss of functionality in the domain of text, and the death of reading.

Landow's argument, however, is derived from a fallacy which is repeated insistently by several writers on hypertext. Hypertext rhetoric is often derived from opposition to the book, seen as a closed, self-sufficient entity that necessarily falsifies the nature of text. The technology of the printed book, says Landow, "engenders certain notions of authorial property, authorial uniqueness, and a physically isolated text that hypertext makes untenable" (Hypertext 31). Thus in hypertext "the notion of an individual, discrete work becomes increasingly undermined and untenable within this form of information technology" (56). But to make his argument, Landow literalizes the book in a way that conflates function with form, or type with token. The instantiation of a text within a book does not determine how it is read. Reading is an interactive process: at any given point during reading a group of readers is likely to bring a varied range of assumptions, experiences, or feelings to the text. At the same time, certain textual devices appear to invite systematic connections and transformations within the reader's experience. These processes are consistent enough, at least within the length of a short story, for them to be statistically measurable.

The transformations that are typical of interactive reading

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are robust, and their occurrence is clearly independent of the medium in which the text is presented. At the same time, they depend on the reader's acceptance of the text as a recognizable and discrete possible world, possessing its own integrity. The transformation processes we observe would almost certainly be aborted if the reader consistently disrupted the engagement with the current text by pursuing links to other texts (the explicit study of a literary text is, of course, another matter). What hypertext cannot do is replicate the pattern of meanings that an individual reader brings to bear on interpreting the text.

A part of the work of interpretation is to make connections across a text, from parallels between plot elements to extended metaphors, as well as beyond the text to other works of literature and beyond that again to the world of the author and history. The defamiliarizing process may impel us to situate a specific text element in relation to other elements that in linear terms are at a distance from it. In this respect the network model of meaning employed by hypertext might be regarded as a formalizing of the reader's understanding, making explicit what might be achieved by a critical analysis of a literary text. The reading process, however, also depends upon the personal resonances of the reader. To attempt to model such connections explicitly in a network for all readers represents a premature formulation of the reading process; in effect, the network displaces the reader's own response. Only the more obvious allusions to other texts, or references to historical facts or concepts will be valid for all readers, but the modeling of these in a hypertext is unlikely to include the most significant aspects of response for the individual reader.

Electronic media, as most critics agree, modify subjectivity and generate previously unrealized cultural formations. My argument against hypertext rhetoric is not intended to deny this but rather to make two primary points: first, that hypertext as a mode of reading does indeed change the nature of the reading process, but does so in ways that appear to be antipathetic to literary response; second, that it is fallacious to claim that hypertext instantiates the "real" nature of reading by liberating it from the constraints of linearity. Cyberspace is a significant and powerful new medium, and one which our literary and academic culture must learn to accept and control. But resistance to the imperializing claims made on its behalf will be equally significant. The experience of reading is too important for us to allow its fate to be decided by hypertext theorists.

WORKS CITED

Barthes, Roland. S/Z. Trans. Richard Miller. London: Cape, 1975.

Birkerts, Sven. *The Gutenberg Elegies: The Fate of Reading in an Electronic Age*. New York: Fawcett, 1994.

Bolter, Jay David. *Writing Space: The Computer, Hypertext, and the History of Writing*. Hillsdale, NJ: Erlbaum, 1991.

Burke, Edmund. *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and the Beautiful*. Ed. Adam Phillips. Oxford: Oxford UP, 1990.

Dillon, Andrew. "Myths, Misconceptions, and an Alternative Perspective on Information Usage and the Electronic Medium." *Hypertext and Cognition*. Ed. Jean-Francois Rouet, Jarmo I. Levonen, Andrew Dillon, and Rand J. Spiro. Mahwah, NJ: Erlbaum, 1996. 25-42.

Douglas, J. Yellowlees. "Gaps, Maps and Perception: What Hypertext Readers (Don't) Do." *Perforations* 2.3 (1992). 13 May 1999
<http://noel.pd.org/topos/perforations/perf3/douglas_p3.html>.

Gilbert, Pamela. "On Space, Sex and Stalkers." *Women and Performance 17: Sexuality and Cyberspace*. 13 May 1999
<<http://www.echonyc.com/~women/Issue17/art-gilbert.html>>.

Grusin, Richard. "What Is an Electronic Author? Theory and the Technological Fallacy." *Virtual Realities and Their Discontents*. Ed. Robert Markley. Baltimore: Johns Hopkins UP, 1996. 39-53.

Joyce, Michael. *afternoon, a story*. Electronic text. Cambridge, MA: Eastgate Systems, 1987.

Landow, George. *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology*. Baltimore: Johns Hopkins UP, 1997.

----- . "The Rhetoric of Hypermedia: Some Rules for Authors." *Hypermedia and Literary Studies*. Ed. George P. Landow. Cambridge: MIT P, 1991. 81-103.

Miall, David S. "Beyond the Schema Given: Affective Comprehension of Literary Narratives." *Cognition and Emotion* 3.1 (1989): 55-78.

Miall, David S., and Don Kuiken. "Beyond Text Theory: Understanding Literary Response." *Discourse Processes* 17.3 (1994): 337-52.

Moulthrop, Stuart. *Getting over the Edge*. 13 May 1999
<<http://raven.ubalt.edu/staff/moulthrop/essays/edge.html>>.

----- . "Traveling in the Breakdown Lane: A Principle of

Trivializing or liberating? The limitations of hypertext theorizing.

Resistance for Hypertext." Media Matters: Technologies of Literary Production. Special issue of Mosaic 28.4 (1995): 55-77.

Rosenberg, Martin E. "Physics and Hypertext: Liberation and Complicity in Art and Pedagogy." Hyper / Text / Theory. Ed. George P. Landow. Baltimore: Johns Hopkins UP, 1994. 268-98.

Rouet, Jean-Francois, and Jarmo J. Levonen. "Studying and Learning with Hypertext: Empirical Studies and Their Implications." Hypertext and Cognition. Ed. Jean-Francois Rouet, Jarmo J. Levonen, Andrew Dillon, and Rand J. Spiro. Mahwah, NJ: Erlbaum, 1996. 9-23.

Ryan, Marie-Laure. "Immersion vs. Interactivity: Virtual Reality and Literary Theory." Postmodern Culture 5.1 (1994). 13 May 1999
<http://muse.jhu.edu/journals/postmodern_culture/v005/5.1ryan.html>.

Stillinger, Jack. Coleridge and Textual Instability: The Multiple Versions of the Major Poems. New York: Oxford UP, 1994.

Tolva, John. Ut Pictura Hyperpoesis: Spatial Form, Visuality, and the Digital Word. 13 May 1999
<<http://www.cs.unc.edu/~barman/HT96/P43/pictura.htm>>.

Tuman, Myron C. Word Perfect: Literacy in the Computer Age. Pittsburgh: U of Pittsburgh P, 1992.

Van Peer, Willie. "Quantitative Studies of Literature. A Critique and an Outlook." Computers and the Humanities 23.4-5 (1989): 301-07.

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