CHAPTER NINE

Hyper-readers and their Reading Engines

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NOT LONG AGO, I SENT A COLLEAGUE AT ANOTHER UNIVERSITY AN ELECTRONIC text of paper that had been posted on a listserv. The next day I received a message from him asking if I could mail him a printed version of the paper because he found reading lengthy texts on a computer screen an unpleasant experience. Though it was inconvenient, I sent him the requested printout. When I began to draft this essay a few days later, I was reminded of how often friends remark to me that they don't like to read from their monitors and I realized how telling an incident this was. Aversions to reading on screen, I suspect, are widespread; few persons of my acquaintance enjoy reading long texts on their monitors. Nonetheless, reading electronic texts on screens is likely to be the predominant mode of reading in the very near future. This essay reflects upon that possibility and the ways in which computer-assisted reading is already beginning to dominate our practices. Future advances in technology are likely to bring us pocket computers with the look and feel of books and to provide for us not only the text but also loads of complementary materials. This technology will probably begin with the conversion of heavy, unportable manuals, encyclopedias, and other reference works into disks which can easily fit into pocket computers not much heavier than most wallets.[1]

Leaving these possibilities aside, however, let us consider the computer-assisted reading we currently do. Most persons who work with word processing software read quite a bit from their computer screens and their reading is often of the book-length variety. Though many persons print out a final draft because they prefer to revise their work in print, they probably have read the texts they print out twenty or thirty times beforehand in the process of composing on the screen. If the trend continues, few persons will print out their own manuscripts in order to revise; but this is only "the tip of the iceberg" of change. There are innumerable other instances of screen-based reading and they are increasing at a rapid rate. Need I mention that the World Wide Web is a vast (hyper)text that we read with such increasing frequency that it has become difficult as the day wears on to dial up one's account in order to access the Web because so many of its readers are already online.

Though at present only a few persons read extensively from computer screens, their number will surely increase. I feel certain that many persons will come to prefer computer-assisted reading (CAR). Not only do I read my own work (this essay for example), but I also read the work of colleagues from my computer screen. Thousands of email messages arrive in my account, some of them papers sent to me from colleagues that I read as word-processing documents downloaded to my hard drive. Though I used to print long documents out, I no longer do so. In fact, I prefer reading them from my word-processing program because I usually am asked to comment on them and I like to insert comments in the file sent to me and return it to its author or editor. For me, computer-assisted reading infuses my work. For example, I wrote an article on the work of the same colleague who asked me for the printout of the paper I had emailed him. It was constructed by searching for "themes" common to his many essays and books which I was able to assemble quite rapidly since I had all of his work scanned into my computer. I used Zyindex, a commercial indexing program, to find everything he had said about the issues I planned to discuss. In this instance, Zyindex was a crucial extension of my reading act. This experience left an indelible and very positive impression on me. It would not be an exaggeration to say that it inspired this essay since my reading was extended by what is commonly known as a "search engine." This seems to be a type of reading which has emerged from our uses of the technologies of reading but little is known about it.

In "The Effect of Hypertext on Processes of Reading and Writing," Davida Charney reviews educational and psychological research on reading that bears on hypertexts, pointing out that "little research has been conducted of the actual effect of hypertext on reading" (250). Most of the research she surveys is based on reading print and she has to draw the implications from it for designers of hypertexts. But even in the research that is available on readers' responses to hypertexts, it should be noted that the research is conducted on hypertexts that are designed to accomplish a particular goal—usually to convey specific information to a target audience. The kind of computer-assisted reading to which I refer goes beyond situations in which persons access a "discrete" hypertext designed with them as a target audience, for instance "expository" hypertexts aimed at upper level college students which feature information related to course materials.[2] The essays published in online journals such as *Kairos* are instances of discrete hypertexts read on screen. I find that my own screen-based, computer-assisted reading practices go beyond these scenarios. Searching the Web is probably the best example. When I employ a search engine to deliver information for me on topics such as "cultural studies," my reading experience, as I visit the sites listed in the search results, is not so well defined as a visit to the *Kairos* or *InfoWorld* sites. The experience is closer to what Johndan Johnson-Eilola cautions us about in *Nostalgic Angels* or to what Geoffrey Sirc articulates in chapter ten of this book.

In Sirc's account, reading a teleintertext is not an event structured by the efforts of hypertext designers who attempt to create appropriate paths for readers.[3] This type of reading "allows for no logic—anything [that] comes across the screen is neutralized into electronic information. We are in a post-exchange-value-apocalypse in which the only value is use-value" (9) In such reading experiences, "Material is chosen not because it's a privileged text, a 'difficult' masterpiece from the "history of writing,' but because it's easily available. It's whatever you notice out of the corner of one's eye from the endlessly-shifting screen in front of you" (9). In "X-Ray Vision and Perpetual Motion: Hypertext as Postmodern Space," chapter five of his *Nostalgic Angels,* Johnson-Eilola describes the textuality of the reading experience to which I refer:

> The normal hierarchical arrangement of reading time regulating spatial movement becomes inverted in this articulation of postmodern space, with space portioning out time, regulating time (the time of the railway passenger). Thinking about hypertext in this way, readers are no longer reliant on the writer to lead them temporally from border to border in the span of a tale (Chaucer's travelers to Canterbury covering space with time); readers walk around, deconstruct and build, move over and under, exterior and interior. [4]

It seems fitting to refer to the practice of reading the postmodern space Sirc terms the "teleintertext" as "hyper-reading," However, we probably should introduce a distinction among hyper-readings that parallels Michael Joyce's distinction between exploratory and constructive hypertexts (41-42). The exploratory (or expository) hypertext is a "delivery or presentational technology" that provides ready access to information. By contrast, constructive hypertexts are "analytic tools" that allow writers to invent and/or map relations among bits of information to suit their own needs. The type of hyper-reading I describe here is "constructive." Understanding that when I use the expression "hyper-reading" in this essay, I refer to its "constructive" aspects, we can say that it differs from reading printed texts or expository hypertexts in several ways. Hyper-reading is characterized by: [5]

1. filtering: a higher degree of selectivity in reading [and therefore]
2. skimming: less text actually read
3. pecking: a less linear sequencing of passages read
4. imposing: less contexualization derived from the text and more from readerly intention
5. filming—the " . . . but I saw the film" response which implies that significant meaning is derived more from graphical elements as from verbal elements of the text
6. trespassing: loosening of textual boundaries
7. de-authorizing: lessening sense of authorship and authorly intention
8. fragmenting: breaking texts into notes rather than regarding them as essays, articles, or books [6]

In many anti-tech quarters, these differences will be perceived as losses. Though I am not of this opinion, I wish to remain alert to the limitations of hyper-reading which can be viewed in a number of contexts (for instance, in teaching research methods) as a loss of authorship, of coherence, of meaning, of depth, of context, and so on. In *Nostalgic Angels* Johndan Johnson-Eilola reminds us that "Dismantling the technology of the print book does not necessarily remove the social forces that articulated the classic book-text. Hypertext might be capable of orchestrating the reader/writer movement more effectively than a print text."[7] In this essay, however, I am concerned with the ways in which hyper-readers can "dismantle the technology of the print book." I subscribe to the notion that we live in a postmodern era and that we cannot operate on the conventions that governed the reading practices of previous generations.[8]

Baudrillard remarks that "We live in a world where there is more and more information, and less and less meaning (79).

> Rather than creating communication, . . . [information] exhausts itself in the act of staging communication. Rather than producing meaning, it exhausts itself in the staging of meaning. A gigantic process of simulation that is very familiar. The nondirective interview, speech, listeners who call in, participation at every level, blackmail through speech: "You are concerned, you are the event, etc." More and more information is invaded by this kind of phantom content, this homeopathic grafting, this awakening dream of communication. A circular arrangement through which one stages the desire of the audience, the antitheater of communication, which as one knows, is never anything but the recycling in the negative of the traditional institution, the integrated circuit of the negative. Immense energies are deployed to hold this simulacrum at bay, to avoid the brutal desimulation that would confront us in the face of the obvious reality of a radical loss of meaning. (80)

Though Baudrillard makes his point in a somewhat hyperbolic manner, it is well taken. For example, presidential debates are no longer meaningful communications; they "stage the desires of their audiences" (e.g., lower taxes). One might add that public listservs more often stage performances of their discussants than meaningfully contribute to our understanding of the issues under discussion. Synchronous "talk" in computer labs, MUDS, MOOS, and interactive Internet games might be described as integrated circuits recycling in the negative of our institutional traditions. And, finally, the World Wide Web may be the ultimate "antitheater of communication." As Baudrillard puts it, "information devours it own content" (80). Because readers characteristically navigate textual landscapes by searching them for key words and thus often omitting passages that do not "match," hyper-reading will be labeled "subjective," "superficial," and "de-contextualized." The changes in academic writing and reading brought about by computing are a minefield for scholars. We need

to locate these traps in order to make our paths navigable. The effort to chart viable routes through the wilderness of information that surrounds us will surely be worth our time and energy.

In what follows, I configure my hyper-reading practices as a way of delineating a new terrain for future investigations. Though I readily acknowledge that many persons do not like to read from their screens at this time, I assume that over a period of time, the practice will become so habitual that it will seem "natural"—just as it now seems customary to use a computer rather than a typewriter. Because I enjoy reading from my screen and prefer it to reading print, in my account, hyper-reading is a rewarding experience because it extends my ability to read. (I might add, for the record, that has not displaced my reading of printed texts.) After delineating the practice of computer-assisted reading, I balance the sunny picture I draw of the hyper-reading horizon by inserting some rain clouds, concluding with reflections on the implications of acquiring new habits of reading. I begin my sketch with the characteristics of constructive hyper-reading I listed above.

1. Filtering

Reading—of whatever sort—is a process of selection. To every text readers bring schema or framing notions that focus their attention on some but not all of the marked features of the text and which also supply non-linguistic clues not marked in the text.[9] If I believe a text is a romance, certain of its features stand out. If I believe it to be a drama, others do. Characters are given different postures in my imagination and certain passages leap up from the page or screen. The impact of such framing on readers is nicely captured in Stanley Fish's justly famous experiment recounted in *Is There a Text in this Class?* As he tells the story, Fish taught two courses back to back in the same classroom. The first was a course in linguistics and the second in 17th century poetry. As the students came into the poetry class, they saw what appeared to be a 17th century emblem poem on the blackboard. In fact, it was a list of linguists which happened accidentally to look like a cross. The inevitable occurred: the poetry class quite successfully read the list of names as if it were a poem providing anecdotal evidence for Fish's theses about reading communities. During this event Fish's students in their efforts to assemble a structure of meaning used a framework which was not "in" the text on the board in order to interpret its features. As inheritors of the work of Fish and other reading theorists, most teachers now readily admit that reading is a highly selective process, one in which the majority of details are forgotten, leaving the reader to be content with plot summaries, thumbnail characterizations, representative scenes, and themes, most of them memorable because they can be assimilated into what Frank Smith taught us to call "cognitive structures" (71).

Hyper-reading of the "constructive" variety is, in my experience, a more selective process than the reading of printed texts customarily allows. No matter where you align yourself in the debate about how much the text influences

the reader over against how much is the text a subject of the reader's imagination, nonetheless the text is usually understood to provoke the selection of its details. In constructive hyper-reading, the selection criteria employed often govern the reader's interest before the texts are even found. Once these criteria are activated, readers can raid the texts uncovered by their search results in order to assemble their details as ANOTHER text which is, so to speak, re-authored by the reader. The extreme instance of such reading is a search engine. This statement requires a commentary before I can continue the argument in which it is embedded, so forgive me for digressing a bit . . . I expect my readers to object to my including a computer program in my description of the process of reading. So, let me offer some reasons why I believe it is necessary to do so.

When I read an encyclopedia, I search through its contents for the information I wish to obtain. If I were teaching someone how to read an encyclopedia, I would surely acquaint them with search techniques and encourage them to attend to the way the book is indexed. Were they not familiar with the roman alphabet, I would invite them to learn it since it is a cognitive map which is essential to reading an encyclopedia. The deployment of the alphabet as a cognitive map is intrinsic to the act of reading an encyclopedia. I mention this trivial matter because many of the cognitive frames we use in reading are so familiar as to appear to be trivial; but situations wherein a reader is not acquainted with them instantly reveal their non-trivial function in acts of reading. If you admit that sorting frameworks like the alphabet are an aspect of the cognitive process we call reading, then you would probably see the justice in saying that the index of a book is a crucial framework for reading it. One has only to attempt to retrieve the information you believe you have learned from a book without an index (and those pre-indexes we call tables of contents) to realize how significant key words are in processing the features of a text.[10] Now, to return to my argument.

Conceptual frameworks are crucial to reading acts because they allow for the selection of relevant textual details. An indexing program speeds up this characteristic reading activity by allowing readers to track the occurrence and reoccurrence of key terms. It's not that an indexing program does something that a person does NOT do; it merely does it faster, more thoroughly, and more systematically. It's a machine that extends our intellectual capacity in way parallel to the way eye glasses extend our sight.[11] The glasses do not see, we see. The index does not read, we read. However, in considering indexing as an extension of our reading acts, we need to acknowledge that we borrow a technique of reading (processing a text) from another reader of similar texts—the person who wrote the indexing program who built into it the principles of selectivity by which we search the text's features. When one thinks of surfing/reading the world-wide text we call the Web, using search engines to do so is indispensable. I believe we need to consider these programs as vital components in the engine of our CAR.

Hoping that you accept my personification of the programs like Zyindex when I describe such programs as the reading techniques of a designer, I'll now offer them as evidence for the claim I was making—that constructive hyper-reading (reader-directed, screen-based, computer-assisted reading) has a higher degree of selectivity than the print based, un-assisted reading we do away from our terminals. This claim can also be restated in a more phenomino-logical manner. Surfers of the Web who read its texts by using search engines like Yahoo select from its world-wide storehouse a very modest sample of texts from those available, albeit ones that are captured by the vested interests of the surfers. With respect to filtering, the scale introduced into our consideration of reading by instancing the Web is inordinate. To keep the issue in perspective, we need to remind ourselves that selectivity corresponds to relevance and therefore to the "reduction of uncertainty" upon which meaning depends (Smith 185).

2. Skimming

This brings me to a correlative aspect of hyper-reading—less of the text is actually read. The proportion of read text to un-read but available text is astronomical. Surfing the Web is "skimming" on a global scale. One might be tempted to think of this as a problem. In print environments there are contexts in which we tend to believe that one SHOULD read ALL of a stretch of text. Some readers (e.g., teachers) worry about other readers (e.g., students) who do not read all of the text. Conversely, some scholars brag that they have read "all" of Shakespeare or Milton or James Joyce. Obversely, persons sometimes confess that they read only the beginning of the book, or worse, only the ending. Yet skimming is an essential reading act.

The following anecdote suggests the usefulness of skimming in a print environment. I recall being jealous of a colleague whose questions at the end of every guest lecture implied that he had read the lecturer's most recent books. I never seemed to find the time. Then I realized that he skimmed them. By contrast, I was saddled with readerly guilt when I skimmed a book; I felt that I had not read it, even though when I read the whole book, after a few months I only remembered its bare outlines. I felt less guilty, however, when I was working on an article and found hundreds of potentially relevant essays in innumerable journals and skimmed them to find only the information relevant to the issue I was discussing. Yet, to this day I have a compulsion to read every word of a printed book I begin to read. Perhaps I enjoy the Web because I feel less guilty surfing it for particular topics and reading only "at the surface."

When we consider the popularity of hypertexts, skimming takes on a whole new dimension. Hypertexts are designed for skimmers.[12] If you were to skim a printed book, you would probably look first at its table of contents, then its index and its bibliography, afterward read its introduction and its conclusion, and toward the end turn to an interesting chapter or pursue a conceptual thread or two. Hypertexts, like proposals, are designed so that such intelligent skimming is the norm which helps readers who have too much to read.

Permit me to end this section with another digression: I have always been astonished by the academic task of "keeping up with one's field" associated with the ideal of achieving expertise. One fatal summer when I decided I would not teach but catch up on my reading, I put together a modest reading list of books on literary theory. Anxious to keep up a reading routine that would insure getting through the list, I made the mistake of calculating the number of pages to be read and the number of hours of available reading time. When I matched these calculations to a sensible reading speed, I discovered that I could barely get through half the list and then only if I read at breakneck speed on an uninterrupted schedule. I should have skimmed them but I didn't. When Fall arrived all too soon, I went back to pecking as my customary school year mode of reading.

3. Pecking

Though I can no longer remember when or by whom, sometime during my education I was taught that skimming was bad but that pecking was worse, one a venial and the other a mortal sin on the occasion of reading. If you skimmed a text, you missed its details but followed its structure and at least came away with a sense of how the text cohered, sometimes a more cogent sense of the whole than readers who got lost its details could derive. But, if you pecked at a text, reading randomly, sometimes here, sometimes there in no particular sequence, then you had no hope of discovering the text's coherence.

The coherence of the text is usually regarded as a crucial issue. For persons trained in formalism and for their students, texts are "organic unities." Writers are taught to strive for coherence and readers expect it. If a textual detail does not fit in to the text's semantic network, writers remove it and readers find it a flaw. Good writing is often distinguished from bad writing on the grounds of coherence. Readers rank texts on the criteria of semantic harmony.

For most readers, incoherent texts are unintelligible. But, we might ask, who establishes what coheres with what? The author(s) or the reader(s)? Obviously, not all texts need to be read in the same way. Reading reference works contrasts with reading the single-authored, unified texts whose coherence is deemed to be the consequence of the insightful ordering of a writer's intention. As the research Charney reviews confirms, the more the intended structure can be discerned, the greater the corresponding sense the text makes (238). By comparison, the order of essays in a reference work corresponds to the conventions that facilitate the retrieval of the information desired by the person who consulted it. The coherence of "the text" in constructive hyper-reading—as in the use of reference works—is more the result of the reader than of the writer. As a consequence, pecking is an entirely suitable technique. In constructive hyper-reading the reader governs the reading and imposes coherence by reassembling textual fragments as a newly created text that often displaces the intention the authors of the textual fragments incorporated in it may have had.

4. Imposing

For years, reading theorists argued vehemently about whether the reader or the text played the greater role in determining meaning. The most notorious moment in those debates was the publication of Stanley Fish's essay, "Who's Afraid of Wolfgang Iser?" Fish, the primary advocate of the position that the reader constituted the text challenged Iser's more balanced view—the text guides the reader. Hyper-reading is not likely to renew this debate. In constructive hyper-reading, there is no doubt that the reader is in charge and that the text is subservient to the reader's wish. Such hyper-readers impose their frameworks on the texts they peruse. Yet, this is not the scandal it seemed to be when some reading theorists argued that readers create the literary texts they read. A simple analogy shows why. Hyper-readers of the Web parallel readers of telephone books (as the Internet Yellow Pages CD ROM invites us to believe). Pages on the Web are not held in the high esteem that pages of Shakespeare or Milton have been. Consequently, to regard them as information is quite common and in most cases more than justified. Just as telephone books hold little significance until they are queried for a relevant address, so the information available on the Web holds little significance until a hyper-readers search it for items relevant to their inquiries. Granting that queries impose significance on the pages of the Web, do they impose meaning? Taking a somewhat moderate stance, I would argue that readers do not create the meaning of electronic texts any more than they create the meaning of printed texts but that they do make them significant. By framing texts, readers assimilate them to their interests and hence render them significant in the context of their concerns. The significance of the text, in this sense, is more important than its "meaning." This can be most readily seen when hyper-readers abandon reading book length e-texts or articles from beginning to end and query them for data relevant to their reSEARCH. In this respect, we encounter what Umberto Eco refers to in *The Role of the Reader* as "unlimited semiosis"(193ff). Many academics will regard this as a loss of meaning parallel to seeing the film instead of reading the novel.

5. Filming—" . . . but I saw the film"

In his history of film, Kracauer comes close to arguing that superior films have more images than words. In instances where films are made from novels or plays, pictures translate many of their words. The ratio of image to word is, of course, quite different in novels and films. A similar remark can be made about hyper-reading. In the construction of hyper(media)texts—regardless of their significance—graphics often play a more meaningful role than words. Hyper-readers turn the graphics on web pages into virtual montages using conventions similar to cinematic ones (probably learned from countless hours of watching TV and film). And, as the Internet expands, graphical elements will be constructed with such hyper-readers in mind just as good photographers compose their pictures with specific viewers in mind (see Bernhardt on "graphically rich" hypertexts, 168-170). As I mentioned above, some persons

will regard the tendency in hyper-readers to prefer graphical to verbal elements when deriving meaning or significance from web pages as a loss of conceptual depth. Nor is it surprising that persons weaned on literature should find texts with fewer words than pictures less likely to contain "serious" ideas. This, I believe, is a prejudice.

At this juncture, I should note that in the next three sections the act of hyper-reading becomes almost indistinguishable from the act of writing. Constructive hyper-readers are de-facto hyper-writers because they tend to assemble the texts they read. This qualifies, I suspect, as trespassing the boundaries we usually assign to the categories "literature" (reading) and "composition" (writing).

6. Trespassing

From my childhood, I remember Halloween as a night of trespass—of wrongful entry into the lands of another—because in the coal mining town where I grew up, trick or treaters who were not treated often went around to alley behind the offending house, entered the back yard and dumped the garbage can over, spilling the trash on the rear garage driveways. But probably the most familiar instance of trespass is burglary—the felony of breaking into and entering the house, office, etc., of another with the intent to steal. Hyper-readers are textual burglars. They break into electronic texts and once they have found the source codes hidden from sight, steal them away with their cut&paste tools and reassemble them (minus the serial numbers so to speak) in their own home pages. As Sirc implies in his chapter, hyper-readers are ardent plagiarists. The situation is so bad among hyper-readers that copyright lawyers have been called in to adjudicate the boundaries of texts.

7. De-authorizing

Many authors believe that they own their texts, that texts should rightfully be considered their intellectual property. For them, it probably seems sinful that constructive hyper-readers tend to dismiss such rights and regard texts as belonging to the public but hyper-readers sin even more grievously. By virtually reassembling texts, they dismiss the authors' intentions by replacing them with their own, thus de-authorizing texts altogether. This phenomenon can be seen on most websites. Every link to another person's page is an implicit act of de-authorization.[13] As hyper-readers read these linked pages, they cannot keep in their minds who authored which pages. It's like reading a Russian novel with a cast of thousands and not being able to remember which character is which. It is difficult in hyper-reading to attribute authorship to the pages being read. When hyper-readers arrive at websites, they often have no idea who may have authored the pages and in many cases the pages have no signatures and no imprimaturs.

If style is the hallmark of the writer's personality and a signature the legal bond of identity, then hyper-reading undercuts the personal aspects of

authorship. Hypertexts are not given the same authority as printed ones because textual signatures become blurred in the unending surge of inter-textuality called the World Wide Web. The authority of a text usually depends upon the certification of its "signatured" authorship. It is assumed that a particular publisher certifies the authority of its authors on the basis of its standing (identity) in the reading community it serves. ("This must be a good book as it was published by Oxford University Press.") As self-publishers in the world-wide vanity press known as the Web, hyper-readers publish innumerable un-authorized intertexts. Because hyper-readers are invariantly hyper-writers of one type or another, they de-author the texts they read in the process of re-authoring them. The certification process is bypassed partly because the imprimatur controlled by institutions of publication can no longer easily be bestowed on the writer's signature. What is worse, books and essays are being torn to bits.

8. Fragmenting

For many years, the format of academic inquiry in the humanities has been the article. New forms of academic writing are clearly emerging, and they are tied to hyper-reading. If hyper-reading were not a way to manage the information glut, then collaborative hypertexts would not dominate the reading scene on the Web. Considering that HTML or SGML code can reproduce printed texts in formats identical to printed essays and considering that it is easier to reproduce a printed text in its native format than to convert it to a hypertext, one probably should conclude that the labor-intensive efforts of web-spinners to change printed texts into hypertexts is a response to hyper-reading practices and that the persons who read the Web prefer to read hypertexts. In other words, hyper-readers, especially constructive ones, may prefer fragmented texts to lengthy linear ones. But there is more to this issue than meets the eye.

If the developers of Storyspace, Jay Bolter, Michael Joyce, John Smith, and Mark Bernstein, are correct in believing that "fragments of text" or "notes" arranged by associative patterns correspond to the cognitive structures readers habitually use (Joyce 31ff.), then the conventional ways of structuring essays are likely to give way to more cognitively resonant ways of reading.[14] In other words, many hyper-readers may be more comfortable selecting textual details and reassembling them in their own virtual frameworks than using the frameworks imposed upon them. If we consider the structure of an argument from the viewpoint of Toulminian informal logic (Given X, if Y, then Z), it appears to be a way of forcing a reader to link specific items of information as an inferential chain (data > warrant > claim). We can consider such inference patterns to be mechanisms of selection in the sense that the data becomes relevant (is selected as evidence) in light of the warrant. In other words, warrants get the reader to select certain textual details as relevant to a thesis. From this point of view, one might argue that the traditional modes of organizing essays are devices to get readers to combine particular textual details

into memorable patterns (see Charney, 242ff.). In this context, essays are written to satisfy readers' cognitive structures and to make the ideas of their author's memorable. It should not surprise us, then, if hyper-readers feel liberated from the constraints of such textual guidelines and feel that they are now free to organize textual features in patterns relevant to their own concerns whether logical, topological, or associative. Such textual flexibility is valuable and hypertexts tend to provide it. Hyper-readers, if they are of the constructive variety like me, tend to fragment the texts they read so that they can reassemble them virtually (or actually) in order to satisfy motives germane to their reading activities.

I hope you can discern in my account of these eight traits of hyper-reading specific advantages for readers of all sorts. When construed apocalyptically as "the end of reading as we know it," hyper-reading may appear likely to replace reading printed texts. I believe that a more sensible view sees hyper-reading, whether exploratory or constructive, as another way of reading (and writing) which is not likely to supplant the ones we already have since they accomplish different objectives. At this historical juncture, we need to remind ourselves of the gloomy forecasts of the end of the novel that came with the advent of film, the end of radio with advent of television, the end of bookstores with the advent of electronic texts. Though I welcome the advent of hyper-reading, I do see some rain clouds on its horizon.

RAIN CLOUDS ON THE HORIZON

What I see as a likely rain cloud is a conflict over how we theorize hyper-reading. In English departments, almost from the outset, work in electronic environments followed the fault lines of the old division between "lit/comp" as contrasting listservs, forums, and electronic journals began to spring up. One of the first major listservs where pedagogy was discussed was Megabyte University, which stood somewhat in contrast to another popular listserv at that time, TechnoCulture, where postmodern literary theory was invoked. I believe this pattern has continued. Two contrasting styles of theorizing seem to dominate considerations of cyberspace—a contrast I would name "pedagogical" and "postmodern." I do not believe that the concerns that provoke such contrasting theoretical styles are as yet well integrated. Theorists like Baudrillard are too speculative to be used as the basis of an electronic pedagogy and thus stand out as a "literary" interpretation of the World Wide Web as a "media" phenomenon. At the time I am writing, the circumstance that postmodern and pedagogical concerns are not well integrated in views of cyberspace as a "work environment" is not a problem, but it could become one.

Were proponents of electronic environments to use speculative theorems to evaluate hyper-reading practices—for example, postmodern conceptions of cyberspace that can be derived from the work of Baudrillard, I believe that hyper-reading would appear to imply the destruction of scholarly reading

practices. Speculative theories about cyberspace and virtuality such as Baudrillard's tend to suggest more radical departures from our current norms than seem, at least to me, warranted. If we discussed hyper-reading in such terms, it would, I believe, have consequences in our academic forums not unlike the consequences deconstructive theorems have had subsequent to the 1966 Hopkins Symposium—scholars quickly divided institutionally into orthodox and heterodox groups. This led to the theory wars—to my mind one of the least productive periods in the history of English departments. Given the comp/lit split in many departments, it seems predictable that, as hyper-reading becomes a more significant feature of the work that goes on in English departments, clashes over its value will surely force realignments (but, in the last analysis, largely renew old hostilities). I do not mean to suggest that literature faculties will on the whole become proponents of postmodern views such as Baudrillard's and composition faculties will refuse such postmodern assumptions as incompatible with their pedagogies. On the contrary, I believe—as I mentioned in the beginning of this essay—that phenomenon such as hyper-reading will be perceived by anti-cybernauts as a loss of coherence, substance, and depth. Postmodern speculations about cyberspace can easily become rebuttal targets in arguments against practices such as hyper-reading by advocates of textual coherence, unity, and structure. In this scenario, my guess is that the pedagogical theorizing about electronic environments will, for the most part, be ignored and the battles will be fought over the potential loss of "norms" that provide "discipline."

So, how should we theorize hyper-reading?

CONCLUSION

I do not believe we need a "THEORY" of hyper-reading, even one that has a nice balance between speculation and pedagogy. This does not mean that we do not need to theorize hyper-reading. Quite the contrary. As Gail Hawisher suggested to me in her comments on an earlier draft of this essay, we need a *praxis* for hyper-reading. Relying on James Porter's *Internetworked Writing* she writes:

> I envision "praxis" as being somewhere between practice and theory—actually a thought-ful form of practice. Let me quote Porter here. He writes, "Praxis is more than a simple addition of or compromise between theory and practice; it represents a new kind of critical positioning. It is a practice, conscious of itself, that calls upon 'prudential reasoning' for the sake not only of production but for 'right conduct' as well. It is informed action, as well as politically and ethically conscious action that in its functioning overlaps practical and productive knowledge."

Hyper-reading, as I've characterized it, is an ongoing practice. To develop a theory of hyper-reading—meaning an integrated set of concepts that describe

it—seems to me to be a trap. It would commit the persons with academic investments in the subject to an effort similar to the one both compositions and literary critics have made to articulate a "paradigm" of writing or reading. Paradigmatic theories no longer seem viable. One of the difficulties scholars of reading and writing face in their work that surfaced as a result of the explosion of theories about these practices is that no theory emerged as the "victor." This is indeed quite perplexing. Nor does there seem to be any convenient way to stop the flood of available theories unless one adopts the somewhat nihilistic view of postmodern thinkers like Baudrillard. Yet alternatives to such nihilism can be sought.

There seems to be an emerging network of teachers and scholars who work in educational electronic environments. They have been trained in both literature and composition programs and share with each other an interest in the technologies of reading and writing as teachers. Thus, persons interested in hyper-reading (or the reading/writing process for that matter) might find solace in pedagogical praxis. We could focus our energies on teaching others how to be hyper-readers. This can be done without recourse to a "general field theory" of hyper-reading since it only commits us to "thoughtfully" showing others how we do what we do. The test of our teaching practices would simply be whether our students could learn to hyper-read in the ways we do but as a "politically and ethically conscious action." Such an endeavor would change as the technology changes but this is a situation already familiar to any hyper-reader. Yet this tactic leaves a huge question open. Why hyper-read? The answer to this question is tied to another—what work are you doing? Doing one's work well, I believe, involves the praxis Porter advocates but does not require a generalized filed theory of an institutionalized subject matter.

I began this essay with an anecdote about a colleague who found reading from his computer screen to be a disagreeable experience and preferred to read printed materials. Though this essay has focused on what can be accomplished by the hyper-reading we already do (however reluctantly), I do not believe that the constructive hyper-reading experiences I have described will displace reading print. Nor do I believe they will replace the more structured reading we do of hypertexts designed to make context specific information available to us. I am inclined to predict that the sort of enjoyment I experience in hyper-reading will become common. The pleasure of reading is often associated with aesthetic experiences—the look and feel of a well made book, the comfort of a favorite chair, the crackle of a fire on a winter night as one reads a novel. Such aesthetic dimensions are not yet easily available in computer assisted reading. However, I notice some striking (though local) changes in the reading practices of at least one of my colleagues that make me confident in my prediction. Five or six years ago, I sat in my favorite reading chair in my book lined study comfortably reading from my portable computer. My friends and family were amazed. This winter I notice that my wife now often reads her own writing in bed while revising on her Thinkpad whose "awakening music" she "just loves."

NOTES

I thank Gail Hawisher for reading this manuscript in an earlier draft. Her suggestions have led to substantial improvements in this essay.

1. As Davida Charney notes in "The Effect of Hypertext on Processes of Reading and Writing," "Thus far, the most common application of hypertext has been for computer manuals, encyclopedias, or guide books, providing readers with immediate access to definitions of key terms, cross-references, graphic illustrations, or commentary from previous readers" (239). Since such texts have already proved most suitable to hypertextual formatting, it seems likely that they will also be among the first to made available for pocket sized computer books which are still in the experimental stage.
2. Most of the studies Charney reviews feature such expository hypertexts (252-255).
3. Charney's research concern in "The Effect of Hypertext on Processes of Reading and Writing"is captured in one of her subtitles: "Can Hyertext Designers Create Appropriate Paths for Readers?" The research she cites hinges upon this possibility and the effort is to discover which cognitive structures are "appropriate" to specific materials and identifiable audiences. The reading experience with which I am concerned in this essay is one in which readers use the cognitive frameworks or schema which they bring to the reading experience in place of the ones provided for them. In such reading experiences, readers assimilate bits of information into the schema which pertains to their own worldviews. Examples of such reading would be: reading word processing files with the aid of searching, indexing, outlining, bookmarking, and linking tools; reading a database through boolean search techniques; browsing randomly through a hypermedia text; reading electronic mail or notes; reading while randomly surfing the World Wide Web. In each of these instances, the reader's motives provide the "structure" of the reading acts rather than the writer's or designer's motive.
4. The text I have quoted is gleaned from Johndan Johnson-Eilola's website featuring *Nostalgic Angels* <http://tempest.english.purdue.edu/NA/na.html>. It seems "appropriate" to mention that I was not able to obtain a printed copy of *Nostalgic Angels* from Von's, the beloved Purdue bookstore, and had to have recourse to Johndan's website.
5. The argument of this essay (that constructive hyper-reading can be described in the terms listed) should be understood as a configuration, that is, as a phenominological description of my experience, generalized in a manner that invites concurrence. In effect, I am asking the readers of this essay if my description of hyper-reading matches their experience. If it does, then our concurrence becomes a basis for the articulation of a problematics of hyper-reading. See "Configuring" in *Token Professionals and Master Critics* and "Explaining, Justifying, and Configuring" in *Modern Skeletons in Postmodern Closets.*
6. In "The Shape of Text on Screen" (CCC 44, 151), Stephen Bernhardt suggests ten features of texts constructed to be read online: situationally embedded, interactive, functionally mapped, modular, navigable, hierarchically embedded, spacious, graphically rich, customizable, and publishable. These features correspond roughly to the aspects of hyper-reading I delineate. Although Bernhardt focuses on the online text rather than the reader, it is useful to note that his delineation

of hypertextual features parallels my experience of hyper-reading, especially since I did not employ his categories as the basis of my descriptors.

7. <http://tempest.english.purdue.edu/NA/na.html>

8. In the research that Charney reviews, for example, the questions posed are variants of: "Can readers make appropriate selections of what and how much to read? Can readers create appropriate sequences of textual material? If readers are unable to navigate a hypertext effectively, can hypertext designer-writers reasonably anticipate readers' various needs and create appropriate paths to satisfy them?" (250). At the same time, she acknowledges the limitations of these queries when she writes: "I am skeptical that a hypertext designer, even under ideal conditions, can anticipate all the paths that readers may wish to create within and between texts. As we have seen, a wide range of factors influence the appropriateness of a sequence for a given reader, including the reader's prior knowledge of the domain, the reader's task or purpose for reading, the reader's learning style, and the nature of the information itself. Because of the huge number of possible combinations of such factors, the array of alternative paths that a designer might create becomes a practical impossibility and there still remains the problem of directing the right readers to the right paths." (258) Notice the assumption that there are "right" paths. This assumption privileges the writer's motives in creating the text over the reader's motives for reading it because it is the writers or designers who finally decide what readers need to obtain the meaning offered by them. Though these assumptions are efficacious in studying reading for information, they do not correspond well to the sort of reading Sirc describes, in which the material is chosen because it is easily available and suits the motive of the reader which may be simply to be entertained. Charney tends to see designers of hypertexts that allow for the free play of the readerly imagination as "romantic." Yet, "serious" readers may dismantle texts organized to obtain specific arrays of information (which are therefore arranged in semantic hierarchies) for motives that belong only to them (which do not correspond to the hierarchies inscribed in the text). In a print environment, for example, a Foucault scholar may wish to read the text's "margins." In either environment, a scholar may be interested in articulations of a particular concept removed from its contexts. In this case, the reader could use the entire corpus of a particular writer AS IF it were a dictionary, that is, a source of definitions. In such cases, texts become information in the radical sense—discrete bits of meaning unrelated to each other—which readers RE-write, that is, re-assemble into schema of their own. This type of reading—searching for the articulation of a particular concept—is facilitated by reading machines such as search engines and disregards the textual structures provided by the writer or designer.

9. Charney writes "Many cognitive theories assume that much of the knowledge in long-term memory is organized around such hierarchical frameworks (referred to in various theories as schemes, frames, or scripts) that capture familiar patterns among elements. There may be schemes for events, for genres of text, for characteristics of a species, for the elements in a system." Though some psychologists, she notes, "reject the schema as a cognitive mechanism, that is, as a way to formalize or model the way in which encountering a familiar proposition reliably evokes a pattern of related propositions. Neither Kintsch nor other psychologists, however, will dispute the consistently observed behaviors that schemes are

meant to capture. Regardless of what cognitive mechanism is ultimately selected as the best formalism for the phenomenon, the concept of a script or schema remains a useful one" (246).

10. Charney notes that many researches find that "it is easier to read comprehend, and remember a text if it contains an informative title headings, overviews, and topic sentences introducing key concepts that are repeated and developed in successive portions of text" (245).
11. Johndan Johnson-Eilola reminds us in *Nostalgic Angels* that books are machines for transmitting authority and that technology often performs the same social function. In my example, authority can be transmitted more systematically and thoroughly and the technology in this case may simply automate authorization in ways that are hardly liberating.
12. Issues of text embedding, navigability, hierarchy discussed by hypertext theories like Stephen Bernhardt's ("The Shape of Text on Screen") assume that hyper-readers skim electronic texts.
13. My view on this matter clashes somewhat with Johndan Johnson-Eilola's, who cites Eagleton, Baudrillard, and Moulthrop to the effect that "In this apparent subversion of print, the fluid, open nature of hypertext (the attributes that seem the most in opposition to print text) may actually be even more conservative than other media, which can not as easily subsume critique and resistance. By partly naming its inadequacies, an ideology may be able to "tighten rather than loosen its grip" with a self-deprecating honesty that appears to acknowledge its own flaws by showing a "limited degree of ironic self-awareness" that can mask and/or subvert important struggles." I suspect that in the question of academic authorization, the Web diminishes authorial authority. On the Web it is often impossible to tell whose "work" is on the page you are reading. At least at this moment, academic work on the Web is not entirely governed by institutional practices. At the Crossroads Conference in the summer of 1996, there was considerable discussion about the scholarly merits of any given web resource, making it clear that the sort of authorization that exists for publications in print environments does not translate easily to electronic ones. Until copyright issues are settled, if that is ever to be possible, the author's authority will probably not be entirely creditable.
14. This view has been challenged. See Charney, 240ff. However, there seems to be abundant evidence that hypertexts are growing in popularity and scope—e.g., the increase in websites that are not designed by professionals. This certainly suggests some correlation between reader's cognitive makeup and a less "linear" linkage between textual components, which is not to say that structured ("expository") hypertexts do NOT suit our cognitive makeup. The question this debate raises for me is whether, since logical formalities do not match the cognitive sequences that generate them, any essayistic formalities correspond (in a phenomenological sense) to cognitive activity.