



The Intentional Network

[Open works] are, therefore, still a form of communication, a passage from intention to reception. And even if the reception is left open—because the intention itself was open, aiming at plural communication—it is nevertheless the end of an act of communication which, like every act of information, depends on the disposition and the organization of a certain form.

—Umberto Eco, *The Open Work* (1962)

If we follow the thinking of theorists like Wolfgang Iser, aren't all works more or less open, in that they invite readers to complete them, to breathe life into the cluster of signs on the page that make up characters like Raskolnikov? Not really, Eco argues, since Dostoyevsky, like the creators of most conventional works, has merely arranged a "sequence of communicative effects" so that each reader "can refashion the original composition devised by the author."¹ No matter how much hatred I donate to Raskolnikov, how many memories of corrupt cops and lousy officials I pump into my interpretation of him, I am more or less falling into the lockstep Dostoyevsky has envisioned for me. All my flights of imagination, all the remembered slights I dredge up from my past to animate minute ciphers on the page go into fulfilling a scheme already envisioned by a now-dead author. My belief that I am creating something anew when I read *Crime and Punishment* is as wrongheaded as the protagonist in E. T. A. Hoffman's "The Sandman," who mistakes an automaton for a living woman, believing that motion and animation are tantamount to life. I may be performing a fair number of operations as I read, as we have already seen, but I am not, when I read conventional texts, so much bringing into being a new version of the text as I am running through the paces dictated by its blueprint.

However, the creators of modernist works such as *Finnegans Wake* or Boulez's Third Sonata for Piano, Eco notes, did not construct

determinate sequences that would prompt readers or auditors to search for singular, definite meanings in them. To interact with these works, you simply plant your feet in the thick of what Eco sees as “an inexhaustible network of relationships,” taking advantage of your freedom to choose points of reference, of entry, and of exit into the text.² When I dip into *Finnegans Wake* and tackle its layers of allusion, I fully realize that I might very well interpret the same passages in an entirely different way next Tuesday or next year. The text itself is littered with neologisms forged from as many as ten different etymological roots, each touching on a network of often highly divergent submeanings, which, in turn, allude to other words and other submeanings scattered throughout the book. Depending upon which meanings and submeanings I choose to focus on, the content of *Finnegans Wake* can appear to change each time I delve into it. My interpretation is merely one among many possible performances of its multifold meanings. Yet the book itself is still the same; what changes is my focus.

Compare this, however, with the eponymous book in the Borges short story “The Book of Sand.” Swapped for a rare first edition of the English Bible, the Book of Sand is a nightmare of infinitude—it never offers the same page to any reader more than once. Not only do the words and pages themselves change, the hapless narrator discovers, as he opens, closes, and riffles through the book, but the very folio numbers change. No matter how many times he turns the pages, he recognizes nothing. No matter how far forward or how far back he pages, he can never quite grasp the pages that begin or end the thing between his trembling fingers. Finally, feverish from weeks of sleepless nights spent attempting to chart the book’s limits, the narrator, hoping to be rid of the infernal book forever, sneaks it in among the nine hundred thousand dusty volumes of the Argentine National Library. Ever changing and physically inexhaustible, Borges’s fictional Book of Sand represents the quintessential open work. Each part of the Book of Sand serves to reorient its readers as it reveals yet another virgin page for examination, the appearance of each fresh page altering their conceptions of the whole, and, consequently, of the role played by the contents of the page in the entire schema.

On the continuum between open print narratives like *Finnegans Wake* and the fictive, limitless Book of Sand, hypertext narratives float somewhere between the limits: physically multiple, unlike Joyce’s novel, yet also physically limited, unlike Borges’s fictitious book. As we have seen, the space lurking between segments of text—which requires readers to project links and connections into them—

the heightened indeterminacy of hypertexts, and their lack of singular, determinate closure make the likes of *afternoon* and *WOE* much more open than many of their modernist counterparts. On the other hand, when I page through *Ulysses*, I do not need to arrive at an interpretation of James Joyce's work to keep reading. Even if I haven't a clue what is going on or what on earth I have been reading, I can still push valiantly on ahead—unlike the readers of "Forking Paths," who, because they couldn't quite latch onto the key words Moulthrop had used to link segments, were stalled, unable to continue their reading. Their ability to make any headway into Moulthrop's text stemmed from their discovery of a set of navigation commands the author himself had forgotten existed, tools that enabled them to skip outside the network of scripted encounters with the text Moulthrop had envisioned. In one sense, "Forking Paths" is an open work in that the hypertext has nothing remotely resembling a set of "necessary or foreseeable conclusions," and its structure of the text is certainly, even literally, dynamic—both integral to Eco's definition of openness. No matter how many times I open *Finnegans Wake*, page 16 will not change, but each time I read through *afternoon*, the sixteenth place I encounter, not to mention my entire reading, can be different.

Yet, neither "Forking Paths" nor its more accessible counterparts *afternoon* and *WOE* fulfills Eco's vision of a text that represents the "devolution of intellectual authority to personal decision, choice, and social context."³ As a reader of *afternoon* or *WOE*, I can end up at the mercy of the tangled skein of hot words and invisible defaults—where even my choice of paths can be contingent on just how well I have fulfilled Joyce's blueprint for realizing his text. Unless the author chooses to flag the hot words in each place so that I know these are gateways to other, related spots in the hypertext, I may not even know the difference between when I have moved by choosing the "right" words and when I have simply moved along a default path (which I can determine only by backtracking and checking out what the default option looks like). Defaults, usually the most straightforward connections between segments, can also be the most slippery, the most elusive, since they are invisible and can also remain inert and resist me until I complete all the right moves, choose all the right words, trace the proper pathway through the network.

Of course, we are also dealing with a fledgling, perhaps even embryonic, form of an emerging technology, a medium lacking stable conventions to curb its creators and guide its consumers. Like so many extensions of our sensibilities, hypertext is an odd creature, one that simultaneously promises more autonomy for its readers while

offering authors a degree of control unthinkable with more conventional materials—seemingly as two-faced as any politician's promises. For example, Storyspace, the same hypertext software that provides writers with the capacity to attach guardfield conditions to segments of text, enabling them to dictate more or less fixed orders in which texts can be read, also features three interfaces offering readers incredibly varied degrees of autonomy. One restricts readers to navigating via default connections or hot words (see fig. 3). A second lets readers choose between defaults, paths, or hot words (see fig. 4). The third (see fig. 5), complete with a cognitive map, frees its readers to do all of the above—as well as to wander blithely through the hypertext via the map, completely disregarding every connection its author has so painstakingly crafted.

There is, of course, a problem with choosing this last and most autonomous route through the text: reading a narrative in a nearly random order can considerably narrow the distinction between fiction and life. Whereas fiction pleases us with its consonances, its patterns and gestalts, its symmetry and predictability, life can be chaotic and unpredictable, all sense of orderliness or pattern possible only at the distance conferred by retrospection after the passage of years. To encounter fiction outside any established order is to enjoy a dubious bit of freedom, less like an aesthetic experience and more like dicing with life itself. It can prove challenging, frustrating, puzzling, even occasionally utterly defeating—as the readers of "Forking Paths" discovered when they glided straight through what should have been points of closure and found a character who had just taken a bullet between the eyes conversing quite comprehensibly in the very "next" segment of text. Order gives us some of the delight we take in fiction, the comforting sense that things are predictable, stable, and knowable, that effects always have causes that can be traced, and causes effects that can be discovered, the sense that everyone murdered, mugged, arrested, or convicted merely receives what he or she has coming to them. While it is theoretically possible to create a text that could be read more or less randomly, most likely the readers who could take pleasure in it would need to have evolved a set of entirely different aesthetic expectations, satisfactions, and objectives than those of us accustomed to print and its literary conventions currently possess. Ultimately, the Book of Sand, that unfathomable treasure for which Borges's narrator swaps a rare, black-letter Wiclif Bible, becomes a horror, a nightmare of infinitude that seems to exceed even the boundaries of life itself.

Hell, we were weaned on the economics of death according to Hollywood. On the four o'clock movies wedged in between school and dinner, on the early evening and late Saturday films that kicked around on the UHF stations, you'd witnessed maybe eighteen thousand deaths. Shit, maybe thirty thousand: it depended on how many times you'd watched *The Wild Bunch*.

Fig. 3. If you rely on the Storyspace Easy Reader, you can navigate through a hypertext like "I Have Said Nothing" via only default connections and linked words.

Conventional print fiction can seem everything life is not: it is fixed, it has a definite (and finite) form, and it resists the ravages of time far better than most of us ever will. Entering these miniature constructed worlds can seem like assembling a jigsaw puzzle. No matter how creatively you juggle the pieces, you are obliged to put the thing back together exactly as its creators intended, the same way Rhett Butler inevitably walks out on Scarlett O'Hara in *Gone with the Wind* no matter how you had wanted the story to turn out. Even when it is neither directly retrievable or verifiable, authorial intention, at a certain level, is inescapable. That intention, nonetheless, cannot dictate our every movement through any text, not simply because language is hopelessly slippery and fundamentally indeterminate but because, as readers, we inevitably bring a vast arsenal of tools to bear on anything we read—a world bulging with literary conventions, modern novels, B movies, snippets of psychology, plus all the wisdom and knotted scars of lived experience. And, perhaps more important, the majority of that experience is shared with the writers we read.

But still you knew

But still, you knew, as every kid did, that there was a definite, comforting order at work somewhere behind the scenes. The people you knew well, the ones whose names headed the rolling credits, the ones who had weeks named in their honor on the late-night movie slot, the ones who were important, they stuck around for the action.

The ones you barely knew or the ones you disliked—the spurned suitors and jealous deputies and cattle thieves, the Elisha Cooks and the ones without names, with forgettable faces or lousy teeth—they were thrown to death as a sop, something to stop the hunger pangs until the main course rolled around.

There was a neatness to death there, an admirable economy to it. Principals lingered like the sun at a summer evening's end. Character and supporting actors fell like dusk around the winter solstice, their lives running out in a shot or two. Extras snuffed it, their goings as brief and unremarkable as fruit flies'. They dropped two or three to a frame, and we thought nothing of it. It was natural; it was expected; it came with the territory.



Fig. 4. Readers relying on the Page Reader may move through hypertexts by defaults and linked words or browse the paths branching out from each segment of text.

Schooled in the same literary conventions that authors either obey or violate, it is a relative rarity for us to brush up against anything remotely unexpected, let alone startling or disorienting. Even if Ford intended us to construct a vast and intricate set of chronologies in our heads as we wend our way through *The Good Soldier*, his grand scheme does not condemn me to tracing maps of the novel's layers of time with every paragraph that I consume. I can just go ahead and read the book in a highly conventional way, since Ford has provided an abundance of clear-cut cues that tell me exactly when and where each segment of text falls in both narrative- and story-time. Likewise, I can read *The Alexandria Quartet* without picturing the narrative as a vast spiral that tunnels through representations of reality from the most superficial to the most fully informed. Understanding that the four

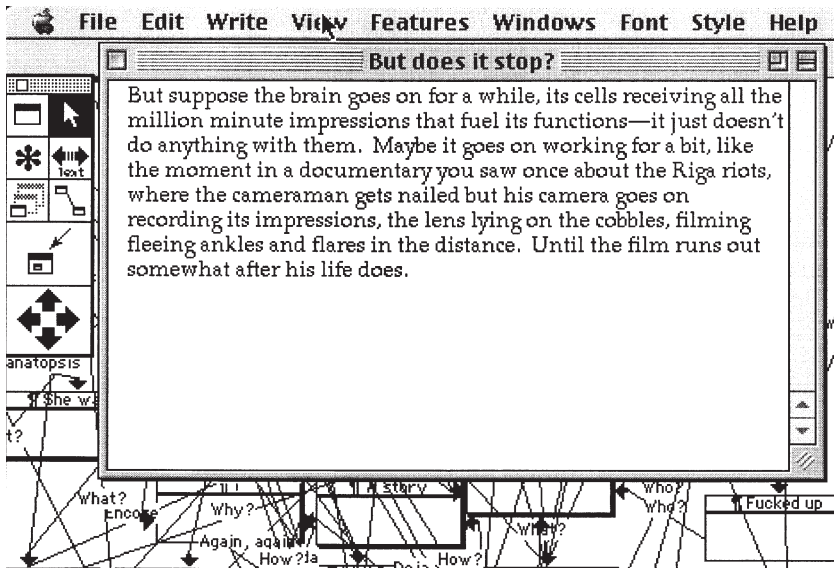


Fig. 5. With the Storyspace Reader, you can also use one further means of navigation: the cognitive map enables you to explore the hypertext independent of any links or connections its author may have forged.

books conform to this overall structure might help me interpret more quickly and easily the events I read, but since the tetralogy adheres reasonably closely to literary conventions, even a far from ideal reader who has hitherto neither heard of nor experienced spatial form could probably comprehend it just as well.

In many respects, the book represents a highly sophisticated use of a relatively primitive tool, the printed word, where every piece of information, regardless of weight, nuance, and complexity, is relegated to the same physical level, our only alternative to linearity the footnote or endnote clumsily worked into the margins. The physical contents of any book are the same for an expert as for a neophyte—one might sweep over the same ground more rapidly and efficiently than the other, but the sheer number of words to be skimmed, digested,

and, perhaps, assimilated remains constant regardless of the identity of the reader. And, spatial form notwithstanding, the machinations authors wreak on novels, the hoops they oblige their readers to prance through, are all right there, naked, in the text for anyone to see, even when the intentions that may have prompted Cortázar to set up *Hopscotch* in the order he has are veiled and irretrievable. There is no hidden technology that makes the pages turn, no need for me to mull over the process Cortázar or Borges or Ford might have used to spin their stories, and the setting of type—hot or cool—has nothing to do with the reading, meaning, or experience of the book.

On the other hand, hypertext fiction, we should never forget, is digital. There are always at least two other texts lurking beneath whatever we read, both of them like palimpsests, medieval parchment painted over for reuse where the topmost text was superimposed on whatever had existed beneath it. Like a palimpsest, most of these other texts are secret, hidden, even invisible. Most of us never glimpse the code that enables hypertext software to run—an environment that itself already determines how authoritarian, how automatous the fiction may seem to its readers—just as few of us can do more than guess at the scripts hypertext authors generate in the creation of a network that will act as choreographer to its readers' realizations of the text. We might be able to guess, as the readers of "Forking Paths" did, that the hypertext has used hot words to connect segments of texts once we have tried every other navigation strategy and come up empty-handed. But I cannot know for certain that I have hit on the "right" words when I can also move by default, as readers can in *afternoon*—particularly since I know that authors can attach guardfields enabling the text to change, even to generate a different default if I back up to verify why I have moved from one place to another.

To make my guesses about the author's script still more difficult, there are no fewer than three different kinds of possible hypertext connections—defaults, paths, and links using hot words or images—which are inherently different, although all can appear on a map as ties between segments. The distinction between navigating by default and navigating by hot words is a little like the distance between channel surfing your way through cable TV and surfing your way through the Internet: one takes a good deal more interaction, dexterity, and thoughtfulness than the other. If I spend, say, five minutes carefully scrutinizing the text of a segment in *afternoon*, trying to figure out what might fit Joyce's concept of "words with texture" to trigger a hot-word link, I might not know whether I have moved because I have succeeded in matching my preferences to Joyce's particulars or because

Joyce designed the text so I could move from one place to another by default. Even choices that appear on the Path menu might appear in one context but not in another, according to whether I have or have not met certain conditions. Hypertext is language on top of author-generated scripts on top of codes written by programmers. Although the scripting may be as artful as the prose—and its creation more arduous and time-consuming than the writing of *Moby-Dick*—these are entirely invisible strata of text, levels that manipulate us but, if the author chooses, we can never see.

Reading, Navigation, and Intention

It is only because an artifact works that we infer the intention of an artificer. . . . Poetry succeeds because all or most of what is said or implied is relevant. . . . In this respect poetry differs from practical messages, which are successful if and only if we correctly infer the intention.

—W. K. Wimsatt and Monroe C. Beardsley, "The Intentional Fallacy" (1954)

If [the reader's] claim to validity is to hold, he must be willing to measure his interpretation against a genuinely discriminating norm, and the only compelling normative principle that has ever been brought forward is the old-fashioned ideal of rightly understanding what the author meant.

—E. D. Hirsch Jr., *Validity in Interpretation* (1967)

To utter the word "intention" today in conjunction with authors, meaning, or interpretation is to invite anything from a sneer to out-and-out castigation in academic circles. With the publication of "The Intentional Fallacy," Wimsatt and Beardsley followed up on the New Critical separation of author and text by arguing persuasively that a grasp of authorial intention was irrelevant to the interpretation of texts. The poem either works or it does not, the argument runs, and if the poem is successful, authors' intentions are embodied in their works—we have no need of extratextual information about what they had in mind in the design of their texts.⁴

With the appearance of psychoanalytic criticism, such as Lionel Trilling's "Freud and Literature," the concept of intention as a critical category was tarnished still further, as Trilling and others like him argued that intentions are usually unconscious, generally irretriev-

able, often completely unknown to even authors themselves, and relatively useless when it comes to finally determining the meaning of a work.⁵ Arguably, the reappearance of intention as the much-valued keystone of E. D. Hirsch's solution to indeterminacy in interpretation was the final nail in the coffin. In treatises such as *Validity in Interpretation*, Hirsch has repeatedly argued for the central role the category of intention plays not in enabling interpretation but in anchoring it, stabilizing it, and removing it entirely from the hurly-burly of indeterminacy, intertextuality, and what for Hirsch can only be the horror of postmodern claims heralding the Death of the Author. By insisting that the author's original, intended meaning represents the most valid interpretation of any text, he shores up the text amid shifting postmodern sands and makes its meaning both determinate and singular. Where the category of original intent can still be seen as central to enabling interpretation—as in the rules of baseball and the United States Constitution—in the hands of both Hirsch and lawmakers it is patently used as a tool to defend and sanctify certain interpretations and to limit others, a Fort Apache throwing up walls against the slings and arrows of indeterminacy.

In any case, few theorists or readers would care to claim that we need concern ourselves with authorial intention when we read: the narrative either works or it does not, and if it works, everything we need is in the text. But this is accurate only when we refer to print narratives. After all, in order to continue reading, I do not need to decide whether Iris Murdoch's *The Unicorn* is a Gothic novel, an extended conceit about the relationship between authors, readers, and texts, or a fable about Christ-figures and scapegoats. I can simply continue reading, oscillate between interpretations, waver between all three—or lose myself for the space of a few hours in what seems like a good Gothic revel, thick with wrecked romances, drugged heroines, and even contemporary damsels in distress, without knowing that any other ways of reading the novel exist. Of course, I need to arrive at some conclusion as to what the narrative is about, or else I will not be able to even unconsciously form predictions as I read. In fact, I will not, by definition, be able to read at all. But I do not need to satisfy some unseen author's conditions about what my predictions should—or even must—look like, unlike the frustrated readers struggling in their various ways through "Forking Paths."

In hypertext fiction, unlike its print counterpart, authorial intention is palpable. Although my intentions in writing the words you read might put a certain topspin on them, might try to persuade you to assume my viewpoint on hypertext fiction, you do not need to intuit

the shape of my intentions, let alone share them, to make sense of what I read. But if you were to read my hypertext fiction "I Have Said Nothing," the satisfaction you might derive from reading it is contingent to a large extent on your ability to replicate a certain approach to the text, to reach certain conclusions about the relationship between the stories it relates and the ties that bind them. The very cues you need to proceed from one segment to another have nothing to do with the words of the text you read and everything to do with the script of that other text, the author's script, the one you can intuit and certainly feel but never quite see. As you read *afternoon* or Stuart Moulthrop's *Victory Garden*, for example, you might scrutinize the names of places and paths, ponder the patterns behind the default connections or the logic that unites certain hot words and the destinations to which they are linked. You might mull over the relationship between the name of a path and the title of a destination, or the way a cognitive map might provide some hint about the shape of the narrative. It is not a case of your being a terribly analytical reader or one unduly concerned with how hypertext narratives work at some deep level. It is a matter, more often than not, of your being able to evolve a strategy for understanding and manipulating (or, probably more accurately, being satisfactorily manipulated by) a palpable, omnipresent subtext that is actually a distinct, discrete text in itself. If I read this authorial text incorrectly, refuse to deal with the intentions it represents, the hypertext can freeze me out, petrify my reading, imprison me within a single segment of text until I behave, satisfy all the right conditions. Perhaps Barthes—who met his untimely end before the advent of HyperCard and the World Wide Web bestowed on *hypertext* the status of popular buzzword—was a tad premature: the Author, it would seem, is far from dead. Within hypertexts, he or she can be kept more omnipotent and omnipresent than in print (and perhaps even in life), embodied as ghosts in the machine, authors of what I will call the "intentional network."

In one sense, by introducing virtual layers into texts, hypertexts leave spaces into which authors can insinuate their expectations for the variety of ways readers might interact with their trace, the text they leave behind. In print fiction a text is all surface. Intention there can be visibly embodied in all the puns, twists, and spins an author can wreak on literary conventions, like Sterne's blank pages, Cortázar's two different versions of *Hopscotch*, and the mutually exclusive versions of the eponymous babysitter's evening in Coover's short story. In hypertext fiction, the author both tells a story and designs an experience that unfolds in time—not the fixed and

immutable narrative a writer might create in print, but a series of potential interactions that span both time and space. The intentional network—all the structures in the hypertext that either aid or restrict my navigating through it—shapes my experience of not only *how* I read but also *what* I read: providing me with paths to follow or words to choose, enabling me to view certain choices and not others. If I am in hot pursuit of the answer to a question, confirmation of a hunch, or the opportunity to end my reading, I need to be at least as concerned with interpreting the structural details and nuances of the hypertext as I do its content. Even when I am reading casually, the intentional network—made up of guardfields and defaults, link labels or icons and window titles, hot words and cognitive maps—shapes the options I can choose and the trajectory of my reading. In any case, my awareness that they exist, that they have been designed by an author and integrated into the text I read makes it difficult for me to see these features as insignificant, even if I could navigate through a hypertext easily without paying any attention to them:

It must be emphasized that intention alone is enough to give noise the value of a signal: a frame suffices to turn a piece of sackcloth into an artifact. This intention can, of course, assume all sorts of different forms: our present task is to consider how persuasive they must be in order to give a direction to the freedom of the viewer.⁶

The structures in the intentional network can operate nearly invisibly, seeming neither to conspicuously guide my reading nor to frustrate it. In these instances, where the design of its structure seems so intuitive, the content so self-evident, I need only wonder about the text as an intentional object when I seek a fresh reading of it, or when I feel puzzled by, say, a character's reasons for revealing to us what she does. But "persuasive," in the context of hypertext narratives, does not seem entirely accurate; *informative* would, perhaps, better describe the accouterments that make up the intentional network. In order to provide readers with a sense of what Eco sees as an oxymoronic "directed freedom," authors of hypertext narratives may use names, recurrent words, or phrases, puns, and allusions to draw attention to the frames through which readers might fruitfully encounter their work—providing information sufficient to enable readers to realize its possibilities, bridge its indeterminacies, and, of course, return for another stab at the whole process.

Of course, it is hardly surprising that we should also encounter insistent and even virulent versions of the intentional network. All hypertext narratives currently in circulation (and probably every one that will be written well into the twenty-first century) were created far beyond the boundaries of literary conventions, the very signs that enable us to make sense of *In the Labyrinth* as well as this month's *Reader's Digest*. A hefty part of the lure for writers working with hypertext lies in its invitation to what is, in a sense, lawlessness, the freedom to evade all the usual rules, as well as to revel in the glorious freedom to invent, to endow things like maps and paths with the power to signify. On the other hand, convention is, as we have seen, a great enabler: it provides us with schemata that enable us to perceive what would otherwise remain insignificant and, thus, all but invisible. Convention, or at least its long shadow, is also inescapable. We cannot help but lean on conventions and all the old, familiar schemata regardless of how alien, how high-tech the environment—witness the store of literary expectations, readerly strategies, recollections of canonized texts and pulpy novels, as well as psychological rationale gleaned from movies, brought to bear on my interpretations of *afternoon*. Hypertext has, ineluctably, inherited a number of print conventions that have trailed into the medium on the lengthy coattails of print literature. The difficulty—and what makes the intentional network so obtrusive at the moment—is that literary conventions have, not surprisingly, been hurled willy-nilly into the breach, used tactically where we are accustomed to dealing with them strategically in print. Evolved over centuries and hordes of works, print literary conventions have long been part of a code shared by authors and readers, a set of writerly rules and readerly expectations that meant that even wildly inventive texts like *Ulysses* could be understood, absorbed, and even enjoyed by readers. When hypertext authors import conventions from the world of print, however, they have used them to explore and evolve an aesthetics of hypertext fiction. As a result, every effect aimed at is strictly experimental, and literary conventions are wielded in whatever way suits local tactics, so that, for example, the role or significance of default connections can vary between authors, between works by an author, even wildly within a single text. Sometimes, as we saw in *WOE*, this lends itself to a particularly rich playing off of expectations you never knew you had, as when I discover the same “he” sleeping with two entirely different “she”s in two continuous places joined by a single default.

Of course, I can detect the logic ticking away behind some of the

elements of the intentional network. In *afternoon*, for example, a sequence of places narrated by Peter's ex-wife, Lisa, is connected by a path called "Hidden Wren," an image Lisa includes in her musings:

I do know what you feel. You make some choices, you begin to see a pattern emerging, you want to give yourself to believing despite the machine. You think you've found something. (It's a beautiful image, really, the hidden wren—I told you I thought he was a genius . . .) I think he means it to be the clitoris, all nervous and yet somehow self-contained—a bird's perfect, really (although I'm being too literal I suppose, it's all images, isn't it?) That's why I'm sorry I have to end it for you so soon.⁷

When I locate the path name "Hidden Wren," in the Path menu, I know that choosing it will route me into the strand involving Lisa's voice—a string of places ending with what may be her suicide ("I'm sorry I have to end it for you so soon") or perhaps simply her exit from a brief, puckish, and definitely uninvited intrusion into what she sees as Peter's narrative structure. When I select the words "hidden wren" in the segment of text cited above, though, believing them to fit Joyce's description of "words with texture," I do not move further along the "Hidden Wren" sequence. It is only when I hit on choosing just "wren" that I move directly into the next segment of the sequence (which I can verify by backing up, or by fudging a bit and using the Storyspace program to crank open *afternoon* and check out its guardfields). As anyone with the slenderest experience of computers doubtless knows, even moderately sophisticated programs can seem to manipulate information less adroitly than five-year-olds who can match a word or phrase to one that more or less resembles it. Many applications can only distinguish the difference between a direct hit—the selection of "wren"—and a miss, making my choice of "hidden wren" a miss. Although I believe both "wren" and "hidden wren" should trigger a link and probably Joyce would have agreed had he been peering over my shoulder, the logic governing guardfields and their Boolean strings cannot match my near miss with its specified hit—a situation that will probably be rectified with the introduction of more sophisticated devices like fuzzy logic that can identify similarities between words.

More often than not, hypertext narratives defy rather than correspond to our expectations, staking out our trails through the text not with helpful bread crumbs or bowed branches but with dense thickets

of puns and allusions, jokes and rapid reversals of expectation. In *Victory Garden*, an accessible congregation of narratives about the lives of friends that come together during the Gulf War, an intricate network of associations, allusions, and submeanings becomes itself a palpable part of the reading, a rich text brimming with double entendres, timely cracks, and puns. In one segment, the link word “you” in the text propels us straight to the place “Dear You,” and a text that includes the contents of a letter addressed to a character named Urquhart, who goes by the nickname “U.” Elsewhere, choosing the link words “what we don’t see” directs me to a segment where one of the characters juggles her attention between flickering images on the TV in front of her and snippets of conversation with whoever is sitting alongside her—only we, the readers, do not “see” either: neither the television program nor the other body shunting words back and forth is identified. In the same vein, when I choose “male faces” in the text of the place “Where Are You,” I arrive at the beginning of a narrative strand about the narrative’s ardent feminist-activist as she battles the patriarchy—not exactly what you would have expected to find at the end of that particular link.

Sometimes, almost perversely, the connections in *Victory Garden* eschew associations or allusions, as if trying to keep me on my toes, to caution me not to lean too heavily on my expectations. When I embark on the path called “Memories,” I expect the word “remember” in the text of one place on the path to keep me steaming ahead through “Memories,” since the verb and the noun are related by more or less the same etymological root. For all this, the word “remember” has nothing to do with the path “Memories,” leaving me to cast around for other ways of sticking to the same path. Even the default connections here frequently upset my readerly expectations, providing nothing resembling an orderly, accessible, single path through the narrative—not coincidentally, exactly the absence of a master narrative, the no-default condition, central to the definition of interactivity in chapter 3. Instead, the logic behind the defaults keeps changing, chameleon-like, as I plow ahead, forcing me to keep revising my predictions about where the next default may take me. In the midst of a strand about the Runebird family—two college-age women, one stationed on the Desert Storm front in Saudi Arabia—I discover that I have moved by default to a place called “Bird-Fiver-Two.” Because the context of the preceding place concerns the history of Emily Runebird, I assume that the default will transport me to Emily and the throes of Desert Storm, since Emily’s family name contains the name “Bird” and the B-52 (itself a kind of “bird”) was the Air Force workhorse ply-

ing the skies above Iraq. Instead the contents of "Bird-Fiver-Two" are merely a paean of sorts by a nameless first-person narrator on the sturdiness of the B-52 construction. While a "You" may sometimes yield a "U," occasionally in *Victory Garden* a "Bird-Fiver-Two" is just a Bird-Fiver-Two.

Just How Open Is the Open Work?

Certainly, this palpable and often intricate network of jokes, puns, and allusions seems a far cry from Eco's vision of the complete "devolution of intellectual authority to personal decision, choice, and social context."⁸ Or is it? Near the beginning of *The Open Work*, Eco meditates on the nature of what he terms "the work in movement":

We can say that the "work in movement" is a possibility of numerous different personal interventions, but it is not an amorphous invitation to indiscriminate participation. The invitation offers the performer *the opportunity for an oriented insertion into something which always remains the world intended by the author.*

In other words, the author offers the interpreter, the performer, the addressee a work *to be completed*. He does not know the exact fashion in which his work will be concluded, but he is aware that once completed, the work in question will still be his own. It will not be a different work, and, at the end of the interpretative dialogue, it may have been assembled by an outside party in a particular way that he could not have foreseen. The author is the one who proposed a number of possibilities which had already been rationally organized, oriented and endowed with specifications for *proper* development. (19; emphasis added)

A last turn of the screw and we seem to have been cast back, once more, onto Plato's disparaging assessment of writing—with the text not only scurrying back to its parent but also always saying, fundamentally, the same old thing. You can fill in the details and emotions, even choose the order in which you prefer to realize the thing, but the text is ultimately someone else's commodity, and all the sweat, toil, and tears we loan the text are simply the lubricants that grease the wheels of an already complete mechanism. Ultimately, as far as Eco is concerned, the liberty we enjoy as we explore the open work is simply

a set of oxymoronic, circumscribed freedoms the creator intended us to realize right from the outset, nothing more. Just when theory encourages us to believe the line between author and reader is never as definite or as impenetrable as the old Berlin Wall used to seem, the physical hallmarks of analog media intrude to reassert all the old distinctions—and we are left with the original triumvirate of author, text, and reader, ranked in order of descending importance. Our first impulse might be to ascribe Eco's still fairly traditional take on the open work to the fledgling state of hypertext systems and their ilk at the time he was busy putting the finishing touches on his theory. In 1962, when Eco published *The Open Work*, hypertext was, after all, just an abstract concept still being fleshed out by Douglas Engelbart in the paper he would publish later that year, "Augmenting Human Intellect: A Conceptual Framework."⁹

The experience of readers struggling with "Forking Paths," as well as my own experiences in reading and navigating through the secondary, intentional network of defaults, paths, and links, however, might also encourage us to look favorably on Eco's insistence that my experience of reading interactive narratives represents simply an opportunity for an oriented insertion into something that always remains the universe intended by the author. In this view, the author is not only *not* dead, the author is deathless as well as inescapable. The very act of reading is predicated on his or her existence, and in interactive narratives as in print stories, we can never truly banish this given from our reading experiences. So the interactive narrative remains the paradigm of Eco's open work because the work of art is still, as Eco notes elsewhere, "a form of communication, a passage from intention to reception. And even if the reception is left open—because the intention itself was open, aiming at plural communication—it is nevertheless the end of an act of communication which, like every act of information, depends on the disposition and the organization of a certain form."¹⁰

Even though we receive the work by completing it, even if the "words that yield" in *afternoon* have been chosen to invite us into the role of cocreator of the narrative, our readings still constitute the reception of an intention. *Afternoon*, after all, will not miraculously yield up links when I select words that Joyce has found uninteresting and has excluded from his link-default-path structure. At the same time, the hypertext may well resolve into unimagined combinations and sequences during any single reading, since hundreds and even thousands of possible versions of the text exist—many of which Joyce has, doubtless, never so much as envisioned.

That leaves us with a very real conundrum. In one sense, we are faced with a medium that promises to increase the dynamic nature of reading exponentially with texts that actually change from reading to reading, with a range of choices and reading decisions that seem to offer readers an autonomy undreamed of in their experiences of print narratives. Readers engaging hypertext narratives, as we have discovered, can evade authorial control, rely on maps to create metaphors of their reading experiences, and decide when and how their readings are truly “finished”—just when and where the narrative for them comes to a form of closure. In liberating all the richly associative links between segments of text by lifting them out of the linear and syllogistic order endemic to print narratives, hypertext narratives invite readers to bridge the gaps between textual spaces, to leap into the breach with the same perceptions of connectedness, the same predictions that characterize our dealings with both the world around us and with print narratives.

But at the same time, hypertext fiction also presents its readers with an intentional network, an additional discursive structure that thrusts itself between text and reader, obliging the reader to engage in an already scripted interaction foreseen by an author who has fictionalized an audience for it. If I supersede this network and navigate by the map or by relying on directional arrows, I run the risk of being overwhelmed by the resulting cognitive overload—and of finding the narrative largely incomprehensible. Of course, the topographic map of narratives such as *afternoon* and *WOE* is itself an intentional structure—a schematic representation illustrating relationships between places and the paths connecting them, all quantities envisioned by the author. Even when I gaze on places such as the “Relic” strand in *WOE* and make decisions for further exploration, my choices are, to a large extent, guided as much by the names of paths and places as they are by the visible shape of the places and paths in the hypertext.

Where, you are doubtless tempted to ask, is the radical reconfiguring of author and reader that hypertext has ostensibly promised since the days when the technology was little more than Vannevar Bush’s sketches of microfilm and illuminated desktops? Where is the genre that promises, as I suggested in chapter 2, to alter the way we think about books as intellectual property, to blur the lines between author and reader? We need look no further than the same medium that has given us the intentional network. Like any hybrid, hypertext has some of the characteristics of one parent, print, and some of the other, digital technology. If, at the moment, its phenotype seems to have more of the look of print than it does of digital flexibility, we can put it down

to our peering so closely at something barely in its infancy. For all this, there are already signs of the old order whirling around on its foundations. In Deena Larsen's *Marble Springs*, readers can traverse a map of a frontier town, explore the biographies of its inhabitants, read poems describing events or characters in the town's history, and, most radically, add to the whole thing. In fact, you can write in nearly any portion of *Marble Springs*, as well as dream up new characters and fresh scenes. "By its very nature, *Marble Springs* can never be complete," Larsen writes. "Characters lead to other characters; connections lead to more connections until memory breaks under the strain of the web. The characters and connections you create become intertwined within the web of *Marble Springs*."

Unlike the comments that litter the margins of the books I own, my additions to Deena Larsen's hypertext are all but indistinguishable from her text: only the two of us will ever know where her text begins and mine ends. But other readers will not—the writing instructions in *Marble Springs* invite readers to send their additions and new versions of it to its publisher, where they can be added to the growing hypertext. This, moreover, is no rhetorical invitation: new versions of *Marble Springs* have already debuted, a text where reading is not merely tantamount to the creative effort of the author but is essentially the same animal.

With hypertext, the whole notion of the author-ized text is, as Jay Bolter warns us, a suspect commodity. While few of us could lay hands on the paper, printers, and bindings to produce alternative, subversive versions of, say, *The Closing of the American Mind* or *Cultural Literacy* (and it would, in any case, take a good bit of scheming to insinuate them onto library shelves or into book stores), many of us can find ways of imperceptibly altering digital information. After all, hypertext is native to an environment where an original is indistinguishable from a potentially infinite number of copies, and where an entire economy of exchanges, downloading, sampling, and altering has made reinforcing notions of copyright tantamount to holding back an unruly sea with a child's finger stuck into a crumbling dyke—a situation heightened almost immeasurably by the possibilities for uploading, downloading, and linking represented by the World Wide Web.

In *Writing Space: A Hypertext*, Bolter reminds us of the peculiarly dated and print-bound notions of both copyright and author-ized texts in a brilliant riff on the standard (and usually unread) copyright notice that prefaces the contents of every book. Since he has full control over the electronic rights to *Writing Space*, Bolter can invite us to do whatever we want with it (see fig. 6), including take the money and run.

The publisher of Bolter's book of 1991, *Writing Space*, however, still retains all rights to the print versions, so Bolter reminds us that the rights are ours to play with only as long as the text is merely virtual, or at any rate, encased in hard plastic and not laid out on paper sheets (fig. 7). Yet, as we keep clicking through this seemingly endless copyright notice, the contradictory images multiply, a little like Rita Hayworth multiplied in the funhouse mirror in *The Lady from Shanghai*, where you cannot be exactly certain which lady wielding the gun is the one capable of pumping you full of holes. Perhaps this third addition (fig. 8) to the copyright notice has been tacked on by somebody with a sense of fun. Maybe, even, the entire sequence of notices has been cooked up by some puckish reader who has merely preceded you, and the real notice should just read the way these warnings always read (fig. 9). If you make it this far and still know who the "author" is, perhaps you have confused the hypertext author with the print Author—or maybe it is because you bought your particular copy of *Writing Space* direct from the publisher and have the Visa debit slip to prove it.

Interactive Stories—Who Needs Them?

The tale goes that Benjamin Franklin and a friend saw the ascension of a balloon in Paris and the friend after the show remarked something like, "What good is that?" Franklin answered "And what good is a newborn babe?"

—David Freeman Hawke, *Nuts and Bolts of the Past: A History of American Technology, 1776–1860* (1988)

Now we arrive at last at the big question, the one that has haunted many of us the way it did a member of the audience at a lecture I gave on hypertext who pursued me timidly into the street: "I was embarrassed to ask such a silly question in there," she said, catching up with me, "but I just can't help myself. Why would any of us want things to be interactive?" Of course, it is the question nearly all of us pose, sometimes scoffingly, when we hear about the latest innovation, some invention aimed at enabling us to accomplish things we never dreamed of doing in the first place. Probably no one conceived of a need for a device like the telephone when they could communicate perfectly well by an efficient postal system—which, in Victorian London, featured as many as six deliveries a day. Or who could imagine that television, with its initial minute, fuzzy, flickering picture could

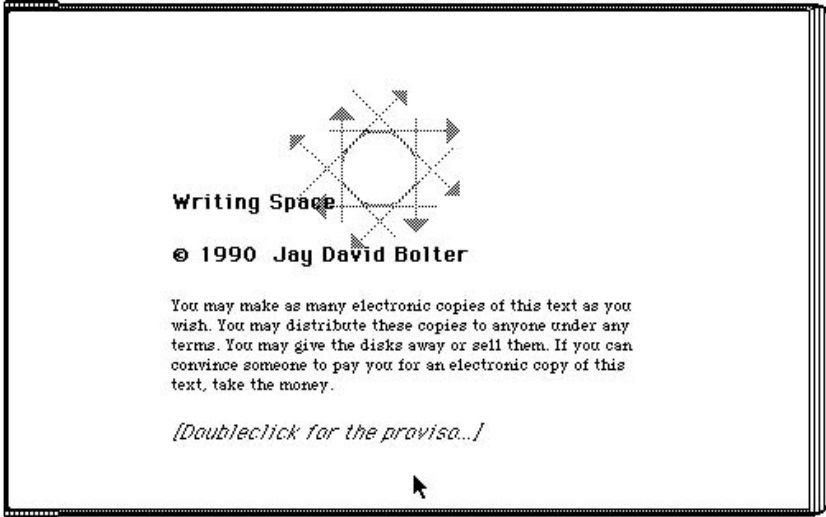


Fig. 6. The opening to the copyright sequence in Jay Bolter's *Writing Space: A Hypertext*. A twist on the familiar copyright, "look but don't touch" warning. The sky appears to be the limit, as far as what you are authorized to do with this text: if you can actually manage to sell electronic copies of this text—take the money and run.

one day temporarily flatten the booming film industry as quickly and efficiently as any blitz? Most of us tend to think of technology as merely satisfying pressing needs, helping us to delegate most of life's pure drudgery to machines, freeing our hands so we can use our heads more effectively.

Actually, however, technologies just as frequently foster new demands, stimulate new industries, provoke us to discover new ways of enjoying ancient arts. Consider, for example, the way in which the development of the motion picture, on the face of it, answered no apparent pressing need: for entertainment, people could always crank open a cheap novel, slip into a seat at the vaudeville, theater, or opera. Yet, even during the silent era, filmmakers like George Méliès were already experimenting with the special effects that were to become the staple of genres like horror and science fiction that, although popular in book form, had no close counterparts in the theater. And vast film sets, as well as heavy editing, enabled D. W. Griffith in *Intolerance* to tie together four stories separated by thousands of miles and

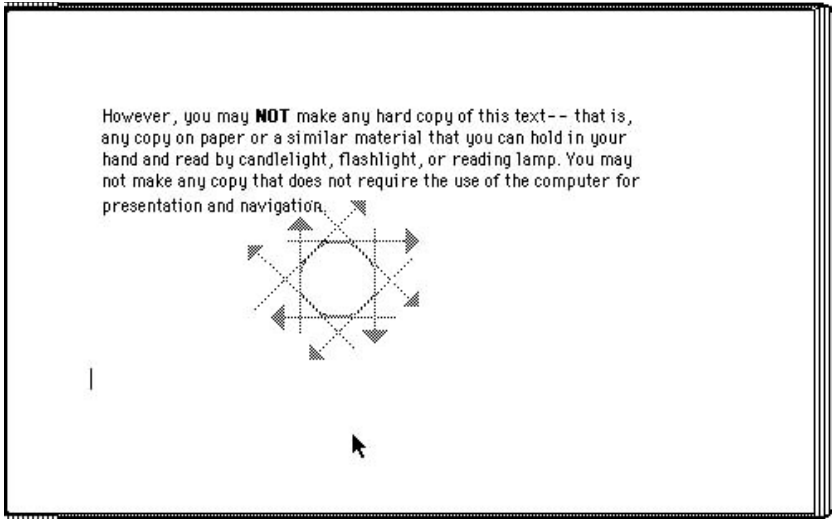


Fig. 7. Just when you think you know exactly what is permissible and what is verboten, the notice pops up again, telling you now just what you *can't* do with *Writing Space*.

hundreds of years against a background far beyond the realism possible on the stage—just as storytellers like Ford, Woolf, and Joyce can mimic the intricate tangles of memory, evoke the richness of associative thought, and remind us of the essential malleability of language in a way impossible with the spoken word alone.

Even in its present, primitive, ice box incarnation—the thing that keeps food cool but still requires daily deliveries of ice—hypertext and hypermedia encourage us to find new ways of satisfying the same old cravings that storytellers have both sharpened and sated for millennia. If part of the pleasure we take in stories lies in the ways they differ from life, in their orderliness, symmetry, even predictability, why should we be satisfied if they share one of their most important limitations—their singular endings—with life? Digital narrative mysteries could confer on us the chance to play out our ten or fifteen hunches and toy with contingency and probability in a safely enclosed little world where, one can imagine, you could utterly screw up, perhaps even get killed for your pains, and still bounce back on Tuesday to learn from your mistakes. Just as film genres were based on already existing types of novels and plays, we do not need to rack our brains to

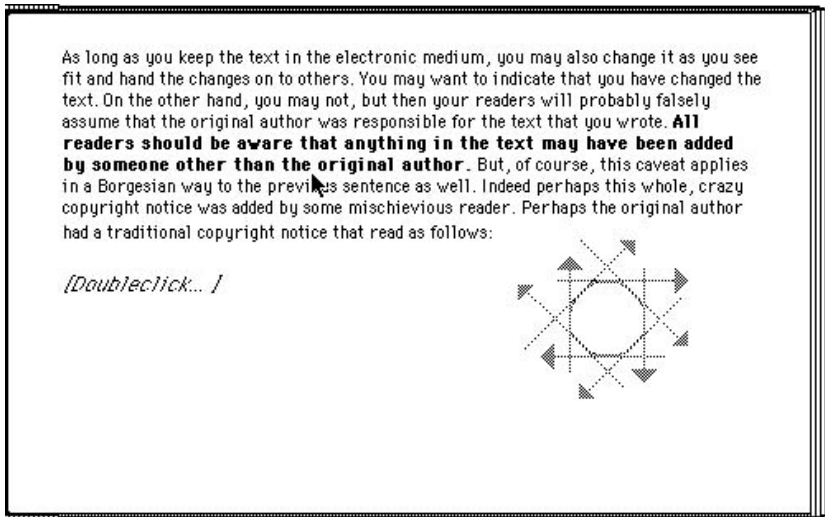


Fig. 8. None of this exactly comfortably fits anyone's expectations of your standard copyright notice. Maybe it isn't—what guarantee do I have that some other reader hasn't tossed this entire sequence (or even just part of it) into Bolter's hypertext?

wonder what interactive narratives might look like as the technology grows more sophisticated. It is hardly difficult to imagine that writers working in print genres already based on predictions, contingencies, and premises—like mysteries, thrillers, horror, historical, and science fiction—would, in the future, want to capitalize on the mutability and multiplicity hypertext and hypermedia offer.

Digital narratives, as we will see in chapter 7, can marry fictive fantasies with graphic tangibility, as in a hypermedia narrative like *Who Killed Sam Rupert?* (1992), which equips you with a helpful and voluble assistant, a copy of the coroner's report, a crime scene, and a virtual stiff—and asks you to get to work on rounding up the culprit from a complex and colorful network of suspects. As Joyce and Moulthrop have already discovered, there are whole new aesthetic realms to be explored, mapped, and tamed—following on the first forays we have explored here: on the way *afternoon* explores the poetics of hypertext space, "Forking Paths," the pleasures of plots and their conclusions, and *Victory Garden*, the richness of a text made up of link words, place names, and default options.

At the same time, looking at the rudimentary workings of the

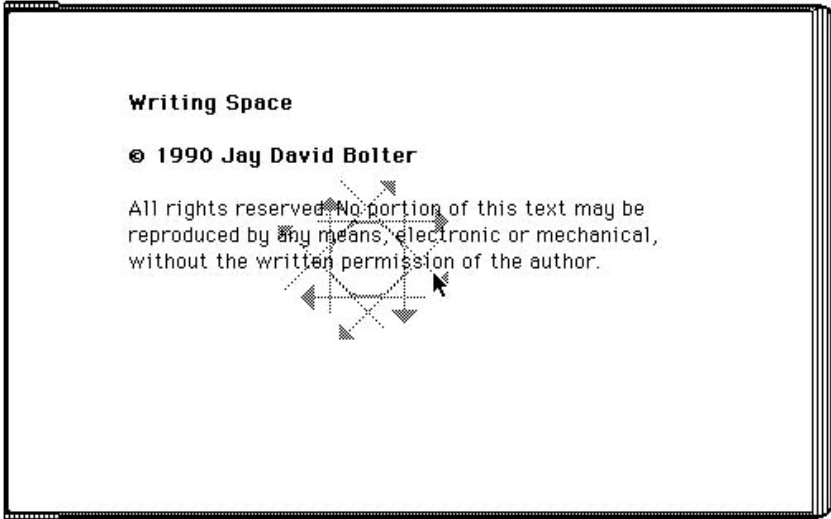


Fig. 9. What do you believe? Your Visa debit slip that proves you received this direct from the publisher? But some disgruntled hacker toiling away somewhere in the bowels of the company could have spiked Bolter's copyright message this way. So could another reader with a good sense of humor, contempt for copyright laws, and just about anything with plastic keys on it. Is this the true Death of the Author, or just the expiration of the Author-ized Text?

hypertext and hypermedia narratives currently in circulation, it is also difficult to predict what the medium, let alone its genres, might look like given a generation or two. Think of the set of wings the Wright brothers coaxed into flying at Kitty Hawk. That first airplane was able to take flight, all right, but you were not going to find anybody but a handful of reckless enthusiasts who could have foreseen its enormous utility, its vast role in shaping the world. You certainly could not have predicted the future of flight from the flimsy craft that barely made it off the ground, let alone envisioned jumbo jets trundling down runways in a hundred airports—much less an invention that could shrink the traversing of the globe from a feat that absorbed weeks and months into the length of a single day, giving us a world where a vacationing New Yorker can go sightseeing on Tierra del Fuego and Marshall Islanders jet to Las Vegas to play craps around the clock. We build technologies according to our desire to extend the repertoire of the

human body and mind, and we can end up reconfiguring our lives and our ambitions around the new worlds they eventually open to us.

Technologies with vastly different capacities enable us to do radically different things with them. Yet, as we have seen, hypertext is not inherently democratic or liberating or egalitarian any more than it is implicitly more limiting, more authoritarian than print.¹¹ It can enable authors to create texts where readers experience information precisely as they want them to perceive it—no skipping ahead permitted, no skimming allowed, strictly no cheating possible. And yet the same technology also allows readers to potentially traipse all over a text, chop it to pieces, reassemble it, even circulate versions of the text that merge readers' contributions seamlessly, invisibly, undetectably, with the author-ized version. It is infinitely more open, more radical than print; it is unimaginably more controlling, potentially infinitely more restrictive than anything possible in print. Hypertext could lead to, say, an interactive textbook on English grammar that would not let you stray past a loathsome set of exercises until you managed to prove by getting every answer straight that you knew the subjunctive mood from the past imperfect tense. At the same time, the technology could just as easily lead to nonfiction texts where authors eschew championing a single point of view, and where, perhaps, collaboration between writers results in a reading experience akin to listening to jazz musicians jam, with each voice heard distinctly in a work of multiple facets and perspectives on a single subject. A hypertext like Christiane Paul's *Unreal City: A Hypertext Guide to T. S. Eliot's The Waste Land* or George Landow's *The Dickens Web* can have a paradoxical way of seeming more of a unity than a print collection of essays because the lines of thought, choices of subject, and points of view clearly and tangibly make contact throughout your experience of reading. At the same time, the voices within each place, even when segments follow one another on a designated pathway, can preserve their particular flavor, their tone, since each segment of text is distinct from those around it.

The characteristics of hypertext and hypermedia are, as yet, largely undefined, and, at any rate, predicting their potential from any current and primitive incarnations would be a feat on par with forecasting the emergence of fiction like "The Babysitter" after taking a peek at Gutenberg's modified wine-cum-printing press. At the moment, though, even in its rudimentary form, hypertext has the undeniable utility of providing us with a medium, a platform, that enables us to formulate questions we could not pose given our experiences with analog media. It may well represent a shift akin to that wit-

nessed and bemoaned by Plato in his *Phaedrus*—a change that may alter not merely the way we represent our stories but also the stories we can tell. Like Plato, we can see enough of the new medium to realize that it has the potential to transform the way we think, what we say, even what counts as knowledge and information. Like him, we also know, essentially, mere glimmerings of the changes to come: it is a long road from *Phaedrus* to *Finnegans Wake*. It may well be a still further stretch from *afternoon* to the apotheosis of interactivity.