



## What Interactive Narratives Do That Print Narratives Cannot

I only wish I could write with both hands so as not to forget  
one thing while I am saying another.

—Saint Teresa, *The Complete Works of St. Teresa of Jesus*

If written language is itself relentlessly linear and sequential,<sup>1</sup> how can hypertext be “nonsequential writing with reader-controlled links,” as Ted Nelson, who both created the concept and coined the term, has argued?<sup>2</sup> How can we read or write nonsequentially, since language, by definition, is sequential? Many definitions of hypertext include this emphasis on nonsequentiality, as does the succinct definition put forward by George Landow and Paul Delany in their introduction to *Hypermedia and Literary Studies*: “Hypertext can be composed, and read, nonsequentially; it is a variable structure, composed of blocks of text . . . and the electronic links that join them.”<sup>3</sup> But these definitions are slightly misleading, since both hypertext fiction and digital narratives enable readers to experience their contents in a variety of sequences—as Nelson himself acknowledges in *Literary Machines*.<sup>4</sup> As definitions go, those that emphasize nonsequentiality are also rather restrictive, since they tend to set hypertext and hypermedia off from print in a kind of binary opposition: if print is both linear and relentlessly sequential, it follows, then, that hypertext and hypermedia must be *nonlinear* and *nonsequential*.

The dilemma in most short, succinct definitions of hypertext lies in the definition of the word *sequence*. As used in the definitions above, *sequence* and *sequential* denote a singular, fixed, continuous, and authoritative order of reading and writing. But *sequence* can also mean “a following of one thing after another; succession; arrangement; a related or continuous series,” according to the likes of the *American Heritage Dictionary*. In this context, it becomes significant that the Latin root of *sequence*, *sequi*, means simply “to follow.” All interactive narratives have sequences—some of them more disorient-

ing than others, granted—making the medium, if anything, polysequential. The process of reading interactive narratives themselves is, as hypertext theorist John Slatin has noted, discontinuous, nonlinear, and often associative—but hardly nonsequential. His interpretation of hypertext accommodates Nelson’s definition of “nonsequential writing” by inferring that Nelson meant “writing in that the logical connections between elements are primarily associative rather than syllogistic, as [they are] in conventional text,” which closely corresponds to Bush’s vision of the original Memex as well as the way in which most readers experience hypertext fiction.<sup>5</sup>

Arriving at brief and succinct definitions of an entire medium in a single sentence or even a mere phrase, at any rate, is more reductive than illuminating, a little like describing a book as “pages containing text that follows a fixed, linear order.” While that might work perfectly well in describing instructions on how to operate your VCR, it doesn’t quite cut it when it comes to nailing down the works of William Burroughs, nor does it account for the chapters on whales in *Moby-Dick* nor the likes of either *Hopscotch* or Barthes’s *The Pleasure of the Text*. Moreover, it is not likely that anyone currently attempting to describe hypertext fiction, a medium that is only beginning to toddle through its infancy, is going to hit on an illuminating or time-resistant definition. Not only are the aesthetics and conventions of the medium evolving, but the technology itself is also still developing, as is its content, which currently borrows from genre and avant-garde print fiction, cinema, *Adventure* and arcade games, and graphic novels like *Maus*.

Further, as we have seen in chapter 1, critics, blinded by the small number of early works, have mistaken the hallmarks of a single type or genre of hypertext fiction for the defining characteristics of all present and future works within the medium.<sup>6</sup> This accounts partly for Birkerts’s and Miller’s flat rejections of hypertext fiction’s aesthetic possibilities—although both critiques were probably also influenced by flawed assumptions about digital narratives threatening to replace print stories and novels. But this tendency to conflate early work and the aesthetic possibilities of the medium also sheds light on the puzzling critiques of hypertext fiction from otherwise insightful theorists like Janet Murray, who equates “literary hypertext” with postmodern narratives that refuse to “‘privilege’ any one order or reading or interpretive framework” and end up “privileging confusion itself.”<sup>7</sup> If the earliest examples of hypertext fiction happen to represent the sophisticated play with chronology, completeness, and closure that draws many of its precedents from avant-garde print genres, it hardly follows

that all hypertext fiction will resist privileging one reading of character or one set of choices for navigation through its network of potential narratives, or even that authors will plump for the conspicuously postmodern over, say, the hallmarks of the mystery, the hard-boiled detective story, or science fiction. Print fiction, after all, is hardly a monolithic entity: for every *Great Expectations* or *Persuasion* that Birkerts and Miller wish to defend from the onslaught of digital narratives, there are scores of Harlequin romances, John Grisham thrillers, and Danielle Steel paperbacks that their readers consume in a matter of hours and scarcely recall a week later. Print fiction means an abundance of genres and categories—*The Crying of Lot 49* existing alongside *Princess Daisy*, *The Bridges of Madison County* outselling *Middlemarch*, just as cinema includes both *The Magnificent Ambersons* and *Dumb and Dumber*, for all it may pain critics to admit it. This much is certain: the examples we have before us are only a beginning, the early efforts of writers who grew up with the singularity, linearity, and fixity of print. Imagine someone supplying an accurate definition of the content and aesthetic possibilities of all television programs once and for all during the Milton Berle era, when television borrowed heavily from vaudeville and theater, and you will have the right idea. For the purposes of investigating how readers experience and interpret interactive narratives in the here and now, it is far better for us to define just what hypertext fiction and digital narratives are and what they can do by examining just what they do that print does not—or cannot—do.

Interactive narratives have no singular,  
definitive beginnings and endings

“Begin at the beginning,” the King said gravely, “then proceed straight through to the end. Then stop.”

—*Alice in Wonderland*

Readers of print narratives generally begin reading where print begins on the first page of the book, story, or article and proceed straight through the text to the end. Although reading print narratives involves readers’ thumbing back through the pages to clarify an impression or recall a name and a continual looking forward or predicting what will happen next, we nonetheless move more or less straightforwardly through *Pride and Prejudice* or *Huckleberry Finn*.<sup>8</sup> That is not to say that it is impossible to begin reading *The Great*

*Gatsby* at the point where Daisy and Gatsby are reunited for the first time in Nick's living room. But the reader who begins reading a print narrative in medias res is placed in a situation somewhat analogous to a filmgoer who has arrived in the darkened cinema forty minutes into a feature. Placed in these circumstances, we struggle merely to establish who is who and understand just what is taking place—and we bring to the text none of the opinions, expectations, conclusions, or, for that matter, pleasures that would otherwise be available to us had we followed the narrative from its beginning. The reader's gradual progression from beginning to end follows a carefully scripted route that ensures "the reader does indeed get from the beginning to the end in the way the writer wants him or her to get there."<sup>9</sup>

While many digital narratives begin with a scene or sequence that establishes both the identity of the user as part of an intrigue or quest and the parameters for the plot, most hypertext narratives have no single beginning. In Stuart Moulthrop's *Victory Garden*, readers are confronted with, among a multitude of possible ways of entering the hypertext, three lists that seem to represent a sort of table of contents: "Places to Be," "Paths to Explore," and "Paths to Deplore." Unlike a table of contents, however, these lists do not represent a hierarchical map of the narrative, providing readers with a preview of the topics they will explore during their reading and the order in which they will experience them.<sup>10</sup> The first place or path in the list has no priority over any of the others—readers will not necessarily encounter it first in the course of their reading, and need not encounter it at all. Each of the words or phrases, instead, acts as a contact point for readers entering the narrative. By choosing an intriguing word or particularly interesting phrase, even constructing a sentence out of a set of choices Moulthrop supplies, readers find themselves launched on one of the many paths through the text. In print narratives, reading the table of contents—if there is one—is generally irrelevant to our experience of the narrative itself: our reading experience begins with the first words of the narrative and is completed by the last words on the last page. In *Victory Garden* and most hypertext fiction, however, readers have to begin making choices about their interests and the directions in which they wish to pursue them right from square 1.

More strikingly, interactive narratives have no single "ending." *Victory Garden* has six different points of closure, while Michael Joyce's *afternoon* has five or more—depending on the order in which the reader explores the narrative space—since the sequence in which places are read determines whether or not readers can move beyond certain decision points in the narrative. And though the plot's puzzles,

twists, and challenges in both *Gadget* and Douglas Adams' *Starship Titanic* culminate in a single endgame sequence that ratifies the reader's success in having solved the story's central puzzle, *Obsidian* challenges readers to allow the Conductor to live—resulting in the world as we know it being remade—or to destroy the Conductor and the Ceres Project and save the world. After making one last decision in *Obsidian*, readers still have opportunities to view the outcomes of the alternative scenario. More satisfying still are *Myst*'s three distinct endings that accompany readers' decisions to believe Achenar's, Sirrus's, or Atrus's version of events, and the eight potential endings to *Titanic: Adventure out of Time*. Deciding when the narrative has finished becomes a function of readers deciding when they have had enough, or of understanding the story as a structure that, as Jay Bolter notes, can "embrace contradictory outcomes."<sup>11</sup> Or, as one student reader of interactive narratives realized, as he completed a series of readings of *afternoon*:

We have spent our whole lives reading stories for some kind of end, some sort of completion or goal that is reached by the characters in the story. . . . I realized this goal is not actually reached by the character, rather it is reached by our own selves. . . . [It] occurs when we have decided for ourselves that we can put down the story and be content with our interpretation of it. When we feel satisfied that we have gotten enough from the story, we are complete.<sup>12</sup>

This particular sense of an ending is, however, by no means unique to interactive narratives. Although print narratives physically end, literary conventions dictate that endings satisfy or in some way reply to expectations raised during the course of the narrative. As psycholinguists studying print stories have noted: "episodes end when the desired state of change occurs or clearly fails. In most stories, goals are satisfied and when goal satisfaction occurs, the protagonist engages in no further action."<sup>13</sup> In Stuart Moulthrop's interactive fantasy "Forking Paths," based on the Jorge Luis Borges short story "The Garden of Forking Paths," readers can experience no fewer than twelve separate instances of what we might call "points of closure"—places where the projected goals of the protagonist involved in a particular narrative strand are satisfied, or where the tensions or conflicts that have given rise to the narrative strand are resolved.

The multiplicity of narrative strands, the plethora of points of closure, the increased difficulty of reading interactive narratives—as we

shall discover in the next chapters—can combine to stretch the time required to read an interactive novella like *Victory Garden*, with nearly a thousand segments of text and more than twenty-eight hundred links, to seventy hours. Compare this with the time required for the average reader to consume a three-hundred-page novel, generally anywhere from six to twelve hours.<sup>14</sup> Even a hypertext fiction as brief as Joyce's "Twelve Blue," with ninety-six segments of text bound by 269 links, contains multiple sequences that feed into other strands, crisscross them, loop endlessly, or arrive at points of closure, with no single reading exhausting the branching and combinatory possibilities of the text. Unlike print narratives, where each chapter builds upon the preceding one and leads to a single, determinate conclusion, the narrative strands in hypertexts can lead to numerous points of closure without satisfying the reader. Or the reader can be satisfied without reaching any point of closure at all.

Readers of interactive narratives can proceed  
only on the basis of choices they make

As noted in the previous chapter, in the past twenty years the concept of reading as a passive activity has become theoretically passé, an untenable stance held strictly by the unenlightened. Readers are now seen as breathing life into texts, reifying, or concretizing their possibilities—even receiving the text by creating it, in an effort nearly tantamount to that exerted by the author. As Barthes argues in "The Death of the Author,"

[A] text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, contestation, but there is one place where this multiplicity is focused and that place is the reader, not . . . the author. . . . [T]o give writing its future . . . the birth of the reader must be at the cost of the death of the Author.<sup>15</sup>

Yet reading print narratives is far from being a *literally* interactive activity, if we examine existing definitions of interactivity. Media theorist Andy Lippman of the Massachusetts Institute of Technology's Media Lab has succinctly defined *interactivity* as "mutual and simultaneous activity on the part of two participants, usually working toward some goal, but not necessarily"—a definition that can be met admirably thus far only by something as technologically unremark-

able as human conversation.<sup>16</sup> For this “mutual and simultaneous activity” to be truly interactive, however, it must also, Lippman believes, contain a few other components.

*Interruptibility*: participants should be theoretically able to trade roles during the interaction, as speakers do in conversation, and not simply take turns in occupying the more active or more passive roles in the interaction.

*Fine granularity*: actors should not have to wait for the “end” of something to interact, with true interactivity being interruptible at the granularity level of a single word.

*Graceful degradation*: the parties involved can still continue the interaction without interruption, even if non sequiturs or unanswerable queries or requests enter into it.

*Limited look-ahead*: goals and outcomes in the interaction cannot be completely predetermined at the outset of the activity by either of the two parties, with the interaction created “on the fly,” or coming into being only at the moment gestures, words, or actions are expressed.

*Absence of a single, clear-cut default path or action*: parties in the interaction cannot have definite recourse to a single or “default” path, one available to them throughout the interaction without their having to make any active decisions for interaction.

*The impression of an infinite database*: actors in an interaction need to be able to make decisions and take action from a wide range of seemingly endless possibilities.

When we converse, we stop or talk across each other (interruptibility)—often in the midst of a word or phrase (fine granularity)—and ask each other questions to which our partner may not have answers or even introduce non sequiturs into the conversation (graceful degradation). We can refuse to be cast in the role of cynic or idealist as we engage in an informal, conversational debate (no default), change subjects abruptly or follow an unforeseen shift in the direction of the conversation (limited look-ahead). Unless we find ourselves in the company of a true veteran bore, we seldom operate under the impression that our “database,” the store of subjects and material from which we draw the shared opinions, emotions, and ideas that form the basis of the conversation, is anything but unlimited.

But according to this model of interaction, the average reader poring over *Jane Eyre* or *Ulysses* is placed in the position of someone listening to a monologue. We can interrupt only by closing the book or allowing our attention to wander, so the granularity to our interruption is the entire book itself. There is *only* one path through all but the most experimental of print narratives (these exceptions include *The Pleasure of the Text* or Julio Cortázar's *Hopscotch*, as we shall see). And if I try to focus only on the references to material wealth in *The Great Gatsby*—leaping from Daisy's voice sounding "like money" to a street vendor's absurd resemblance to John D. Rockefeller—my interaction with the novel will not simply degrade decidedly ungracefully, it will very likely collapse into mere incomprehension. My look-ahead is also completely determinate and limited. If I become impatient with the unfolding of Agatha Christie's narrative *The Murder of Roger Ackroyd*, I can simply skip forward to the end and find out who bumped off Roger Ackroyd, and no matter where I pause to skip ahead—whether I stop at chapter 4 or 24, the murderer will always be the narrator. And, of course, my "database" will always be confined to the words in print enclosed between two covers, even if the significance of the text and the repertoire of interpretive strategies available to me were to embrace the entire existing literary canon.

Conversely, when readers open most interactive narratives, they can begin making decisions about where to move and what to read right from the outset, even, as in *Victory Garden*, right from the text's title. Most segments feature text that has individual words or phrases linked to other places or icons that act as navigational tools: arrows representing forward and backward movement, a feature of many hypertext narratives; the map of the United States and highway icons in "Trip"; a schematic map that recalls the London Underground journey planner and a map of the passengers in each car in 253; the map of the ship in *Titanic*; a Mood Bar™ in *Midnight Stranger* that invites users to respond to characters by indicating green, amber, or red hues—presumably representing repartee that will push the conversation along, shift it into idle, or halt it in its tracks.<sup>17</sup> Unless segments are chained in a sequence with no options for navigation within each segment, readers can interrupt most interactive narratives within each segment—clicking on a word in *afternoon* or one of the brightly colored threads in "Twelve Blue," wandering up and down the seemingly endless corridors of *Titanic*, twisting doorknobs at random. The words, paths, and actions available as "interruptions," however, are chosen in advance by the author of the interactive narrative and not by the reader—an aspect of hypertext fiction that Espen Aarseth claims



mitigates the medium's possibilities for bona fide interactivity, classifying it, instead, as we saw in chapter 1, as "participation, play, or even use."<sup>18</sup>

Furthermore, interactive narratives typically represent a spectrum of dialogues between reader and author anticipated in advance by the author, eliminating any possibility of graceful degradation. If I ponder the relationship between the unfaithful husbands and wives in *afternoon* and those in *WOE*, neither narrative can answer my query. Even the bots in *Starship Titanic*—ostensibly armed with thousands of lines of dialogue that should, at very least, enable them to respond to the words and sentences typed in by users—respond to lines within highly confined scripts. Insult Nobby, the elevator bot, and he cries, "Wot? Wot?"—the same response he'll also supply to a dozen other queries and statements. Pose a question to the snippy deskbot, and she replies tartly: "I'll ask the questions here," before proceeding with queries that you must answer according to a script; refuse to answer them or supply an answer different from those she obviously seeks, and you are doomed to listening to them repeated over and over again, ad nauseum. For all the developers of *Starship Titanic* may have labored for weeks over the bots' scripts, the main interaction remains between user and the tools necessary to defuse the bomb onboard the ship, replace Titania's head, and route the ship successfully home again, with the bots remaining intermediaries, obstacles, or helpmates in each of these tasks. And, contrary to Murray's belief that devices like *Midnight Stranger's Mood Bar*<sup>TM</sup> make for less obtrusive interfaces for interaction, it can feel downright eerie to have a traveling businesswoman come on to you merely because you answered a seemingly innocuous query with a tap on the green end of the spectrum, particularly when you, the reader, are straight, female, and merely trying to locate the whereabouts of a mysterious intergalactic object.<sup>19</sup> Whenever interactions have been designed, the methods and consequences of interrupting them can feel more than a little limited or contrived.

Still, readers can meander around an interactive narrative in a manner not possible in print or cinema: in both *Titanic* narratives, I can wander around the transatlantic liner or the intergalactic spaceship at my leisure, examining objects, riding the elevators, making small talk with staff. As you amble around exploring, however, you eventually become aware that your actions have become decoupled from all aspects of the plot. Unlike a train jumping the tracks, however, your actions do not bring all potential for interaction with the text to a screeching halt. Your aimless explorations do, however, contain you within a temporal and plotless limbo, where time stands still

and your interactions with bots, crew members, or passengers become severely restricted, if not impossible.<sup>20</sup>

While interactive narratives do not generally reward random explorations of the text—except when they happen to intersect with the plot's challenges and conundrums by pure chance—they offer readers a series of options for experiencing the plot, rather than the singular skein that connects print novels and stories.<sup>21</sup> On the no-default continuum, interactive narratives fall somewhere between the no-default absolute of conversation, where conversationalists may gamely try to answer you or listen even when you suddenly shunt the topic under discussion to something completely different, and the default-only mode of films—even on DVD or videodisc—where viewing segments of narrative in random orders makes a hash equally of plot, characters' motivations, causes, and effects.

In Web- and disk-based hypertext fiction, defaults generally take the form of arrow keys and represent the strongest links between one segment and another, usually tied together causally. In one scene in Carolyn Guyer's *Quibbling*, clicking on the Storyspace path key, an arrow, takes the reader from the segment where one character pries open a cigar box to the next segment in the sequence, where he hesitates as he opens it, and onto the next segment, where he peers inside. These links are called "defaults" in Storyspace terminology because they represent the action taken when readers choose to explore what may "come next," instead of choosing named paths to other segments from a menu or following links between segments connected by words in the text. Web-based hypertexts like "Trip" sometimes use default links to tie together narrative sequences that run to two or three segments so that readers experience and enjoy set pieces and vignettes as unbroken strings. Disk-based hypertexts, depending on the author's particular designs for potential interactions, may feature default links to and from virtually every segment of text, so that when readers reach the place "I call Lolly," in *afternoon* or "The End" in "I Have Said Nothing," the absence of a default can signal a potential ending of the narrative or a spot at which the readers must pause, reconnoiter, and decide whether—and how—to continue reading.

Even the presence of clear-cut links between causal sequences—or a single, clear-cut path through an entire narrative—does not provide a singular, authoritative version of the text that maintains priority over others. Defaults in *afternoon*, *WOE*, and *Victory Garden* do not provide a "master" version of the text.<sup>22</sup> Often, defaults deliberately play off readers' expectations, as in *WOE*, where readers using defaults shuttle between places describing passionate lovemaking between

two couples. Because the default seems like the simplest and, therefore, most direct link between places, we assume that the stroking and groaning taking place between an unnamed couple in the first place we encounter belong to the same couple engaging in postcoital talk and smoking in the second. Since default connections do not involve us in the overt, more obtrusive acts of finding links in the text or choosing paths from a menu, hypertext readers may be tempted to see defaults as equivalents to the linear and singular connections characteristic of print. We discover this assumption with a jolt when we find that the couple in the first place consists of husband and wife, and, in the second, of the same husband and his wife's best friend. Default connections can jar readers, leap between narrative strands, and overturn predictions just as often as they can seamlessly move readers from one place to the next.

The impression of an unlimited database is not as impossible to convey as it may at first appear. The interactive narrative and simulation created by Mark Bernstein and Erin Sweeney, *The Election of 1912*, has 169 nodes containing information on the people, issues, and contexts surrounding the election, connected by an average of 4.3 links per node. Because this number of nodes can be comprehensively explored in one or two reading sessions, the database can seem conspicuously limited to readers. Yet, when these links and nodes are explored in the course of the decision making and planning involved in the simulated election of 1912—where readers manage Teddy Roosevelt's third-party campaign and enjoy a shot at changing history—the database seems considerably larger than a book of a comparable number of words. Because the information in each node appears in a dramatically different context, depending on the uses that the actor in the simulation finds for it, the database can appear to be double or triple its actual size.

The size of a database, the amount of information you have to potentially interact with, also depends on the number of pathways you can take through it. If you need to resort to the "back" option every time you want to explore more of a Web-based fiction, for example, your sense of the database can seem every bit as limited as it seems in *Gadget*, a highly atmospheric digital narrative that involves a comet hurtling toward the earth, a clutch of scientists creating retro machines straight out of *Brazil*, and a narrative that seems to lead almost inevitably to train stations regardless of the latest twist in plot. In *Gadget* the master narrative steers your experience ever forward, seamlessly, invisibly, through a world of train stations that recall the Gare du Nord and Waterloo Station—mammoth spaces that dwarf

football fields in which you sometimes discover your only navigational option involves strolling over to a phone booth where your alter ego's detective superior, Slowslop, just happens to be waiting on the other end of the line. If the train pauses at the station before your assigned stop and you do not deign to step down from the car and stroll over to a bystander on the platform—who, not coincidentally, has a tidbit of information about the scientist you are stalking—the narrative stops dead. Most digital narratives are built around a quest, whether for the identity of a killer or artifacts collected on a grown-up version of a treasure hunt, providing a set of purposes that inform the narrative, propelling both it and the reader forward. The quest also, conveniently and not merely incidentally, enables designers to limit the characters, spaces, and scenarios populating the narrative.

Grail-less *Gadget*, which requires its readers merely keep going through the narrative, is, however, more immersive than *Myst* or *Obsidian* because its readers seldom need to pause and think purposefully about the plot, plan some strategic swordplay, or collect the obligatory artifacts that litter so many digital narratives. Ironically, *Gadget* derives its ability to lure readers into the externally oblivious, trancelike state of ludic reading precisely because its database is severely limited: you do not need to poke around the hotel for a map that will let you locate the train station. In fact, if you do not pause for a word with the clerk hovering over the reception desk, you cannot leave the hotel, let alone get to the train station, because the clerk conveniently has your ticket. Pick up the ticket, and the entire scene dissolves gently to the train station, segueing to the spot where a ticket agent retrieves the ticket from you. Likewise, if you attempt to leave the cavernous Museum train station without a second conversation with the distinctly odd-looking character lingering by the steps, your cursor will not turn into the directional arrow enabling you to navigate down the stairs and out of the building. Occasionally, the participatory and immersive aspects of interactivity can become mutually exclusive, one reason a narrative with a small database and virtually illusory choices for navigation should, nonetheless, seem peculiarly compelling, even entrancing.

What is striking about narratives like *Gadget* is that too much participation, too many gadgets to collect and assignments to keep and bad guys to sock, detracts from the immersiveness of digital environments, the very feature that Murray believes represents their single most valuable aspect. Constant demands for input or inputs that are frustrated—as when, for example, players thrash around *Myst's* landscape, clicking wildly and randomly in the fervent hope the shape of

their cursors will change and permit them to move forward in the narrative—can remind readers that they are grappling with a narrative designed by others, disrupting their suspension of disbelief in the same way that difficult texts do: requiring frequent pauses, reflection, even regressing over pages already read.

Paradoxically, genre fiction and interactive narratives like *Gadget* that are not terribly interactive fill readers' cognitive capacities more completely than difficult texts; familiar plot conventions and characters considerably speed the pace of reading and absorption, placing a far heavier continuous load on readers' attention.<sup>23</sup> Authors may use default options to privilege some linkings in the text over others, saving the fates, for example, of characters until readers know them sufficiently well for their victories or deaths to matter. Authors may use defaults to remove readers' concerns about actions and paths taken, thereby deepening their immersion in the narrative. And sometimes they use defaults to limit the amount of sheer data any interactive narrative must include to produce even a small simulacrum of a mere wedge of the world.

Finally, interactive narratives offer a very tangible sense of limited look-ahead, because navigational choices always depend on where you are and where you have already been. Occasionally, since connections between places can crisscross each other in a truly tangled skein, readers attempting to re-create an earlier reading exactly, by using, say, the "back" option on their Web browser, can find it well-nigh impossible without following a list of their previous navigational choices. You cannot be entirely certain, either, that your carefully considered choice has not triggered a connection randomly—as it can in Story-space narratives when the author creates more than one default branching out from a single place—so that the same answer to the same question does not yield the same reply. This makes your reading of hypertext fiction a far less predictable matter than conversation with most people, even those you know only slenderly, since most of us exchange words according to highly structured conventions that extend from gripes about the weather to a confession of the strangers-on-a-train variety made aboard the Twentieth Century Limited. That means that, while our look-ahead in conversation is limited—even if I have already agreed with my partner not to mention the Clintons, the stock market, or whether the Rolling Stones should throw in the towel and retire—I also cannot begin to see what is coming next when, for example, you start talking about the War of Jenkins' Ear. When I read *afternoon*, though, I have no way of knowing where the narrative may branch next, where any of the connections I choose may take me,

or how long my reading of the text will take (which can last as long as my eyes hold up). As far as the limited look-ahead corollary goes, where interactive narratives are concerned, you *can* have too much of a good thing.

On the other hand, some hypertext fiction provides readers with the kind of overview impossible in a face-to-face exchange, via functions like the cognitive maps in *Storyspace* that act as schematic drawings of all possible versions of the text you might experience if you persevere long enough. As I pursue a narrative strand in *WOE* concerning the couplings and uncouplings of the adulterous foursome, I discover that all are connected by a single path named "Relic" and that, by selecting "Relic" from the Path menu each time it appears, I can watch the four come together in various combinations throughout their daily lives. When I encounter the place called "We," I stumble across a concluding sentence that reads "a happy ending," something that seems entirely at odds with the heavy sense of foreboding that seems to hang over the characters. When my desperate search for any further places on the "Relic" strand proves fruitless and subsequent browsing through a succession of nodes yields no further trace of the "Relic" foursome, I quickly switch to the *Storyspace* cognitive map and find "Relic" at last: a chain of places tidily laid out within a single, confining space and connected by path arrows labeled "a story" that ends with the place "We." The "happy ending," it turns out in this version, really was an ending, which makes me reconsider if the adjective, then, should be read ironically after all—an interpretation possible only through my using the map of the text to gain an Olympian perspective over the entire thing, what Jay Bolter has called a "structure of possible structures."<sup>24</sup> Like a topographic map of an unfamiliar island, the cognitive map of *WOE* eases the limitations of my look-ahead, providing me with vague suggestions about which directions might prove the most fruitful for further, dedicated exploration.

Interactive narrative segments exist in a network of interconnections mapped in virtual, three-dimensional space

It is not necessary to pore over cognitive maps, or any map at all, to encounter interactive narratives as structures suspended in virtual, three-dimensional space. In a look at the interpretive strategies used by readers of his own "Forking Paths," Moulthrop discovered that maps are not essential to navigation through hypertext space but that

readers of hypertext fiction seldom read without an awareness of the virtual, three-dimensional arrangement of the places they read. Back when he was still adapting the hypertext to the fledgling Storyspace interface, Moulthrop casually provided me a copy of "Forking Paths"—which I took straight into a freshmen expository writing workshop I was then teaching at New York University. Dividing the class in half, I asked students to retell what they thought happened in the texts they read, then handed out photocopies of Borges's short story "The Garden of Forking Paths," and diskettes with copies of Moulthrop's hypertext. Still unpublished, "Forking Paths" is a hypertext fantasy built around a skeletal arrangement of the Borges short story, with fully fledged narratives branching off from each of the episodes and scenarios depicted in the original print fiction. Intending to invite readers to become coauthors of "Forking Paths," Moulthrop had omitted default connections and relied entirely on links, joining places through words or phrases in the text of each place. This, he explains, seemed logical to him, because "stories are a dialectic of continuity and closure, each fragmentary unit of the text (word, sentence, page, scene) yielding to the next in a chain of substitutions or metonymies that builds toward a final realization of the narrative as a whole, or a metaphor."<sup>25</sup> Although he acknowledges that the readers may have been somewhat disabled by the lack of instructions (which were still being written for "Forking Paths"), when he read their written responses to his hypertext he discovered the antithesis of what he had anticipated. Instead of engaging the text at the local level and reaching what critic Peter Brooks has described as a metaphor for the text through following a chain of metonymies, my students gave up attempting to discover matches between their choices of words to form likely links between places and the words Moulthrop used to link them.<sup>26</sup> Amid all the complaints, however, one enterprising reader hit on navigation buttons that enabled him to move up, down, left, or right from the place he was stuck in. Others followed suit, exploring the hypertext outside the connections Moulthrop had mapped for them. As a result, their discussions of the narrative strands and the narrative as a structural whole reflected their awareness of moving through this virtual space, much as Greek and Roman rhetoricians once mentally strolled through their elaborate memory palaces. Inverting the relationship between metonymy and metaphor implicit in conventional print narratives, my students

were plotting their own readings through a cartographic space, hoping to discover a design which, though it was in no way

“promised,” might prove to be buried or scattered in the text. The map, which represents the text as totality or metaphor, was not something to be reached through the devious paths of discursive metonymy, rather it was a primary conceptual framework, providing the essential categories of “right,” “left,” “up,” and “down” by which these readers oriented themselves.<sup>27</sup>

As Jay Bolter argues, “topographic” writers in print—Sterne, Joyce, Borges, and Cortázar, who have created narratives that explore, exploit, and chafe at the confines of printed space—are “difficult” writers.<sup>28</sup> What makes them difficult is their self-conscious absorption with the act of writing itself and the problematic relationship among narrator, text, and reader, since their print texts work strenuously—and ultimately unsuccessfully—against the medium in which they were conceived. This is largely because spatial relations in print narratives—or the “spatial form” lauded by Joseph Frank and his critical successors—are very much like spatial relations in the cinema, where we see three dimensions represented and projected on a flat, two-dimensional plane.<sup>29</sup> We understand that the placement of the objects, characters, and events represented in print narratives has significance in terms of our understanding of the entire work, but this understanding is not necessary to our ability to proceed through the text itself (although, upon seeing his first film, an actor once reported, he and the other children watching it in the humid island cinema ran out into the alleyway behind the screen in search of the police car that had raced from one side of the screen to the other). Our awareness of print space, containing two potential dimensions, and of cinema, three dimensions projected onto two, is intrinsic to our reading experiences of both media.<sup>30</sup> In hypertext narratives, however, this awareness is inextricably wedded to our “reading” of the text itself, because the burden of interactivity and the continual necessity to choose directions for movement never allows us to forget that we are reading by navigating through virtual, three-dimensional space.

### Interactive narratives have many orders in which they can be read coherently

As Richard Lanham has observed, digital media—such as digitized films and interactive narratives—have no “final cut.”<sup>31</sup> This means they have no singular, definitive beginnings, middles, or endings, but



also that no single, definite order of reading is given priority over the others that exist alongside it. There is also no single story, and, contrary to our expectations based on reading print narratives, readings do not simply provide varying versions of this story or collection of stories. As Jay Bolter has argued, each reading generates or determines the story as it proceeds: "[T]here is no story at all; there are only readings. . . . [T]he story is the sum of all its readings. . . . Each reading is a different turning within a universe of paths set up by the author."<sup>32</sup>

In *afternoon*, some readings represent alternative voices or perspectives on the narrative, with the changes in narrative perspective made separate and discrete by electronic space. The narrative strands in *Victory Garden* involve political developments during the Nixon, Reagan, and Bush eras, paralleling and crisscrossing each other as they follow a few weeks in the lives of nine characters. In "Twelve Blue," narrative strands represent the perspectives and experience of each character, each strand corresponding to the brightly colored threads that cross, arch, and dip across a blue field, a visual corollary to the voices and stories contained in the narrative that touch each other when stories meet or fray at the ends as stories begin to wind down. In some instances, the readings themselves may constitute mutually exclusive representations of the same set of circumstances with radically different outcomes, as readers can discover in both *afternoon* and "I Have Said Nothing." Like these hypertext writers, Faulkner once attempted in print to separate the different perspectives in *The Sound and the Fury* with something more than the conventional options of white space or discrete chapters. When, however, he indicated to his publisher that he wanted each represented by different colors of ink, Random House shuddered at the cost and refused.<sup>33</sup>

When you read hypertext narratives, you also have the option of limiting your experience of the text to the pursuit of narrative strands that you find particularly intriguing. If I want to trot after the romance burgeoning between Nick Carraway and Jordan Baker in *The Great Gatsby*, I have to read, or browse through, or skim the entire novel in order to pursue the romance that mirrors Gatsby's involvement with Daisy. And, of course, this narrative strand, like the episode narrated by Jordan, is but a fragment of the total novel—a particle that is comprehensible and meaningful only in the context of the novel as a whole. Yet I can simply pursue the tortuous relationships between the unfaithful wives and husbands of *WOE* or focus my readings on the relationships between Emily, Victor, and Jude as I make my way through *Victory Garden*. In some instances, focusing on the stories and strands of particular interest may be relatively easy, with the

options for navigation through the narrative made accessible through lists, as in *Victory Garden*, or by way of cognitive maps that enable readers to arrive at a place by pointing at it with a cursor. At other times, however, following a single narrative strand can involve a complicated process of selecting paths by trial and error, or determining which path or place names document certain narrative episodes and strands. Regardless of whether the process of following the chosen narrative strand is easy or incredibly difficult, readers of hypertext narratives can coherently experience these texts in a variety of different orders and sequences without doing violence to the narratives, stories, or meaning of the hypertext as a whole.

The language in interactive narratives appears less determinate than the language present in print pages

Most obviously, interactive narratives embrace a far wider and less determinate spectrum of meanings than print narratives because few readers will experience identical readings of texts that can have thousands of connections between thousands of segments of text, which can be as brief as a single word or as long as pages of print text. The more links, or decision-points, each reader must confront in the course of navigating through the narrative, the less singular and determinate the meaning of the hypertext narrative as a whole, because no single path through the text has priority over all others.

Yet the indeterminacy of interactive narratives also exists in a far more fundamental sense than this. In most hypertexts, a majority of the nodes will appear in more than one context as a point along two, three, or more paths. The metaphor for hypertext is, after all, not a flowchart but a web that acknowledges the myriad of associative, syllogistic, sequential, and metatextual connections between words, phrases, paragraphs, and episodes. To be comprehensible, print paragraphs need only to build off the paragraphs that have preceded them and prepare the reader for what is yet to come. Print narratives can use paragraphs and transitions toward creating a sequence that both directs the reader's experience of the material forward and seems like the most authoritative, and even the only possible, sequence for structuring the material.<sup>34</sup> But hypertext fiction seems to work in the opposite direction. Ideally, print paragraphs and transitions close off alternative directions and work to eliminate any suggestion of other potential sequences that might have been created from the same material—so that readers do not end up stopping in the middle of a para-

graph like this one to reflect on all the other ways these same details might be construed. But nodes or windows in hypertext fiction must, by their very nature, prove comprehensible in more than one sequence or order. Instead of closing off any suggestion of alternative orders or perspectives, the text contained in each segment must appear sufficiently open-ended to provide links to other segments in the narrative. This, de facto, fosters an additional level of indeterminacy generally rare in print narratives—although it does appear in avant-garde and experimental forms of print narratives like *The Alexandria Quartet*, *Hopscotch* and *The Pleasure of the Text*.

### *Print Precursors and Hypertext Fiction*

At present, existing hypertext fiction resembles two of the divergent modes explored in avant-garde or experimental fiction: what we might call “narratives of multiplicity” and “mosaic narratives.” Mosaic print narratives, such as Lawrence Durrell’s *Alexandria Quartet*, Julio Cortázar’s *Hopscotch*, and Barthes’s *Pleasure of the Text* consist of narrative fragments, conflicting perspectives, interruptions, and ellipses that impel readers to painstakingly piece together a sense of the narrative, with its full meaning apparent only when viewed as an assembled mosaic, a structure embracing all its fragments.

At a local level, a mosaic narrative such as *The Alexandria Quartet* presents its readers with more determinacy than *The Pleasure of the Text*. That is, Durrell’s novel consists of a set of four novels each of which can stand as a discrete, independent text on its own, and each seems perfectly conventional and self-contained when read separately. Unlike trilogies or tetraologies that merely feature the same bit of geographic territory or the same cast of characters, *The Alexandria Quartet* novels relate the same set of events from the perspective of the different players involved. Even readers of *Justine*, the version of events narrated by the naive Darley, can feel their experience of the novel is perfectly complete when they reach the ending. Yet, as you move from *Justine* to the last of the novels, *Clea*, your view of events begins to burrow beneath the skin of the world according to Darley and the worlds known by Balthazar, Mountolive, and Clea, the most informed of the four narrators. By the time you reach the end of *Clea*, the observations made by Darley in *Justine* that had seemed so straightforward and reliable can end up seeming a little like Benjy’s in *The Sound and the Fury*. What had appeared perfectly accurate in even *Balthazar* and *Mountolive*, when read against Clea’s supplementary version of events, brims with ambiguities, ellipses, and unanswered questions, making you wonder how you had ever accepted it as a fully fledged

account in the first place. Balthazar's story points up how hopelessly uninformed Darley's grasp of reality is and positions itself as an authoritative supplement to it. Balthazar's representation of Nessim's proposal to Justine, meant to provide us with insight into their relationship, insists that Nessim is hopelessly infatuated and Justine ruthlessly pragmatic:

After a long moment of thought, he picked up the polished telephone and dialled Capodistria's number. "Da Capo," he said quietly. "You remember my plans for marrying Justine? All is well." He replaced the receiver slowly, as if it weighed a ton, and sat staring at his own reflection in the polished desk.<sup>35</sup>

Hundreds of pages later, in *Mountolive*, you may find yourself wondering just how penetrating Balthazar's insight was when you encounter the same scene again:

[A]fter a long moment of thought, [he] picked up the polished telephone and dialled Capodistria's number. "Da Capo," he said quietly, "you remember my plans for marrying Justine? All is well. We have a new ally. I want you to be the first to announce it to the committee. I think now they will show no more reservation about my not being a Jew—since I am to be married to one."<sup>36</sup>

Plainly, Balthazar's story about the personal relationship between Nessim and Justine cannot do full justice to the complexity of their passionate political and strategic alliance, and our understanding of the entire world of *The Alexandria Quartet* shifts dramatically from the inclusion of a mere three sentences. Our faith in the accuracy and authenticity of Balthazar's account, which presented itself as more complete than Darley's, is tattered well before the close of *Mountolive*, just as the value of the *Mountolive* section declines seriously the further we proceed through Clea's. You could not, however, save yourself the effort of reading all four novels simply by beginning with Clea's account—that would be rather like chipping a diamond apart so you could admire the slender sliver of its face and lose the pleasure of peering beyond it into depths emphasized by precisely cut facets.

The pleasure of reading Durrell's tetraology is not unlike the pleasure in listening to Bach's *Goldberg Variations*, where you are dazzled by just how richly evocative a few seemingly simple phrases can be—

here sequence is everything. In Barthes's *Pleasure of the Text*, sequence apparently means nothing: the book itself is a succession of fragments, ordered alphabetically. While the segments are tagged with titles in the book's table of contents, the reader in the throes of absorbing the text has no such assistance, only a scattering of typographical marks and white space to indicate the division between fragments. Together these pieces represent Barthes's erotics of the text, yet no single fragment maintains priority over the others, and even the most vigilant readers will not find any transitions to transport them easily and painlessly into the next segment. As Barthes notes in one such segment, "[A]ll the logical small change is in the interstices. . . . [T]he narrative is dismantled yet the story is still readable."<sup>37</sup>

*The Pleasure of the Text* offers the same lack of definitive beginnings, middles, and endings, and singular, definitive paths through the narrative you would discover in hypertext narratives. Likewise, Durrell's *Alexandria Quartet* presents readers with the discrete, separate, and entirely self-contained narrative perspectives that you could encounter in the likes of Moulthrop's *Victory Garden* or Joyce's *WOE* or *afternoon*. Yet each of Barthes's segments and Durrell's chapters builds off the others in a highly determinate way impossible in hypertext fiction. Read in a random, reverse-alphabetic order, Barthes's meditations on the act of reading do not bear upon one another any differently than they might if you were to explore the text from front to back, or to weave your own path through the book. If there are alternative ways of assembling Barthes's erotics of text, other orders awaiting liberation from the linearity of conventional print, they do not crowd the surface of the text or shout at you from its pages, which are, after all, still relentlessly linear. Similarly, Durrell's presentation of four sequential narratives trace and retrace the same events in a chronological order that removes any ambiguity from your immediate experience of the narrative. As you ponder the entire construction in retrospect in light of what you have learned by the end of *Clea*, what is striking is not how ambiguous or incomplete events seem (since the version presented in *Clea* fills in any last vestiges of ambiguity or openness) but how obtuse or slender a grasp any of the observers have on the complexity of the whole. At no point in the throes of peering over Darley's shoulder, though, or reading Balthazar's notes, are you invited to mull over what might be missing from their depictions of events: ambiguity here is something you are free to realize had been present only after a fully informed, detailed account has banished it forever.

Just as you are not aware, the first time you happen upon Nessim's

telephone conversation, that you are not getting the whole picture (nor that you are going to see it replayed again somewhat differently), you probably would not find one particular passage in *afternoon* remarkable the first time you run across it. In it, the protagonist and sometime narrator, Peter, shares lunch with his employer, Wert. There is a bit of badinage, some sexual innuendo reserved for the waitress, and then Wert springs a question on Peter:

He asks slowly, savoring the question, dragging it out devilishly, meeting my eyes.

<How . . . would you feel if I slept with your ex-wife?>

It is foolish. She detests young men.<sup>38</sup>

The second time you read this, however, you might be convinced that you had read a different passage, and, by the third or fourth time, you might find yourself trying desperately to locate these different spots that sound awfully similar but seem to mean entirely different things. In one narrative strand, this segment crops up amid Wert's clowning around over lunch, emphasizing his immaturity around women. In another, Wert poses the question to Peter playfully, to distract him from his concern over the whereabouts of his missing son and estranged wife, whom he believes may have been injured in a car accident earlier that day. Encountered in yet another context, the passage occurs in the context of Peter's fling with a fellow employee, Nausicaa, and Peter sees Wert's question as evidence of his boss's jealousy over their involvement. Later, the lunch date and conversation reappear after a narrative strand couched in Nausicaa's own perspective, which reveals that she is sleeping with *both* Wert and Peter, making Wert's query something of a game of cat's-paw. "I'm sleeping with your lover," Wert seems to be thinking, so he follows the line of thought to a position he perceives as more daring: "What if I were sleeping with your ex-wife?" But if you reach a segment called "white afternoon," having visited a fairly detailed series of places, you will discover that Wert and Peter's ex-wife, Lisa, have been seen together by Peter himself, although Peter cannot be certain that they are involved with each other. When the lunch time conversation reappears, after this last revelation, Wert's query is a very real question indeed.

What is striking about the way *afternoon* works is that there is only one passage involved here—and the language within it is as fixed as on any printed page. Although the contexts may alter its meaning drastically with each new appearance, the language itself stays the

same, unlike Durrell's quartet of novels, where he can manipulate our perspective on events only by a combination of ellipsis and supplement. Yet the language itself is not indeterminate: readers seeking a precedent for the "he," "my," and "she" that occur in the text need look no further than the preceding or succeeding segments. In all the contexts in which this place appears, it is clear that the "he" posing the question is Wert, the ex-wife or "she" in question is Lisa, and the "you" who thinks the question is foolish is Peter.

In *WOE* Joyce further capitalizes on the indeterminacy of hypertext narratives to induce a reading experience that approximates a *trompe l'oeil*, where your interpretation of what is happening in a narrative sequence disintegrates just as you finish reading it. It would not normally occur to you to wonder if the "he" you have been reading about is the self-same "he" a few paragraphs later, but *WOE* springs its surprises on you by switching the identities of pronoun precedents in midstream. You can never be certain who the "he" and "she" are in a particular passage—to brilliant effect, since several of the narrative strands in *WOE* involve romantic attachments between two couples closely allied by both friendship and infidelity.

The other form of print narrative that thrives on indeterminacy, the narrative of multiplicity, is produced by writers who have chafed at the way confines of printed space preclude multiple, mutually exclusive representations of a single set of events. Robert Coover's "Babysitter," and "The Elevator" from *Pricksongs and Descants*, Borges's "The Garden of Forking Paths," and Fowles's *French Lieutenant's Woman*, all engaging and entirely successful works of fiction when read at face value, are also as much about the experience of multiplicity and simultaneity and the way these are represented in print as they are about their ostensible subjects.

Fowles's *French Lieutenant's Woman*, for example, features three endings: a parody of the tidy-but-breathless tying up of loose ends so characteristic of the Victorian novel; a happy but conventional resolution of the tortured relationship between Charles and Sarah; and a more complex, "modern" resolution that serves to deconstruct the paternalistic perspective of the traditional Victorian novel of love and marriage. Not surprisingly, none of the three endings is compatible with another. Tellingly, the modern, deconstructive episode comes last in print—which can be said to provide this last "ending" with priority over those preceding it—just as the "ending" that occurs midway through the book has its authoritativeness somewhat undermined by the bulging stack of unread pages remaining after it.

More radically, Coover's "The Babysitter" features 105 narrative

segments that begin as nine separate and distinct narrative strands framed from nine different perspectives, becoming less distinguishable from one another as the narrative proceeds. Mutually exclusive versions of events begin unfolding one after the other, sometimes feeding clearly into each other. The passages depicting husband Harry's first sexual musings on the babysitter and wife Dolly's bitter thoughts about marriage occur sequentially in time, united by Dolly's question, "What do you think of our babysitter?" which appears in both segments. By the time the reader has reached a section where the babysitter screams after discovering herself watched from a window, however, it is not clear whether the perspective originates in her boyfriend's fantasies about her or in Harry's idylls of seducing her. In the segment that immediately follows it, the babysitter's scream metamorphoses into an indignant shriek as the children she is supposed to be supervising whisk the bath towel away from her wet body after she leaves the bathtub to answer a phone call. The phrase "she screams" is identical in both passages, but the context and narrative strands in which it is embedded are mutually exclusive representations of a single moment in time. In the narrative universe of "The Babysitter," all possibilities are realized, with actions, thoughts, idylls, and snatches of television programs offering an equal, textual tangibility. In the end, however, all this burgeoning and splintering of perspectives converges in two episodes. One neatly resolves the wild and mutually exclusive seduction, rape, and murder scenes by depicting the babysitter waking up from a dream amid a setting so orderly that even the Tucker family dishes have been washed and put away. The other represents a conflation of all the narrative strands in a single, final, wild conclusion: the Tucker children are dead; the babysitter is a drowned corpse in the bathtub; Mr. Tucker has fled the scene; and Dolly cannot get out of her girdle.<sup>39</sup> The wild improbability and satirical tone of the last segment and the suggestion, in the passage that precedes it, that everything in the narrative belonged to one vast, distended dream, also tends to undermine the "reality" and priority of any single narrative segment or sequence.

When print narratives attempt to resist the physicality of print by increasing the number of stories, narrative strands, and potential points of closure—as is the case with the likes of "The Babysitter," Sterne's *Tristram Shandy*, or Borges's "The Garden of Forking Paths"—the medium inevitably resists, making the reading experience and the significance of the narrative itself a meditation on the confines of print space. In "The Garden of Forking Paths," for example, master spy Yu Tsun is introduced by Sinologist Stephen Albert to



the concept of the labyrinth, once discovered by his illustrious grandfather Ts'ui Pên. The embodiment of an "infinite series of times . . . a network of diverging, converging and parallel times . . . [that] embraces every possibility,"<sup>40</sup> the labyrinth represents an alternative universe where mutually exclusive possibilities exist alongside one another, producing a space in which, as Albert himself notes, Yu and Albert can simultaneously be both friends and mortal enemies. Yu is, of course, both to Albert. As the grandson of Ts'ui Pên, he shares Albert's most valued interests; as a German spy who must kill Albert to signal the location of a British armaments site in France, he is also his most deadly enemy. With the arrival of the British captain pursuing Yu, however, the German spy shoots Albert and the infinite possibilities hinted at in the story are, ironically, reduced to a single, sordid conclusion—death.

Seeing the story as an example of topographic writing struggling against the confines of print, Stuart Moulthrop sought to liberate the Borges story by splitting the original story into hypertext nodes, then grafting onto each node a series of narrative strands.<sup>41</sup> Following certain links introduces you to a narrative involving Stephen Albert's former lover or thrusts you onto the trail of Yu's German intelligence chief, Viktor Runeberg. You might follow Yu, Captain Richard Madden, and Albert through the labyrinth in the garden and experience no fewer than twelve separate permutations on the ending to the original Borges tale. Or you might explore retellings of narrative events plucked from the original story from entirely new points of view, unexpected reversals in character traits and motives, and even playful, metatextual commentary on interactivity itself. In Moulthrop's garden, Yu Tsun murders Stephen Albert; Albert and Yu stroll peaceably into the labyrinth together; Yu disappears from pursuer Richard Madden in the midst of the labyrinth; and Albert garrotes Yu—a true realization of the "infinite but limited" labyrinth of possibilities that exist in the heap of contradictory drafts that constituted the Garden of Forking Paths created by Ts'ui Pên.

Similarly, in Michael Joyce's *afternoon*, car accidents occur, seem to have occurred, may possibly have occurred, and never occurred. The narrator, Peter, has an affair with Nausicaa but also does not have an affair. His employer, Wert, is faithful to his wife, is having an affair with Nausicaa, and may well have had an affair with Peter's ex-wife, Lisa—or none of the above. Peter loses his son, fears him dead or seriously injured, and begins a frenetic search for him in some readings of *afternoon*. In others, he simply goes about his daily business. "The story," Jay Bolter has noted, "does and does not end."<sup>42</sup> There is a chal-

lenge implicit in any reading of these highly indeterminate narratives that embody a dense thicket of possibilities without giving priority to any one of them, a requirement that we learn to read “multiply,” as Bolter insists (144), aware that a single perspective on any set of circumstances can never do full justice to the complexity and contingency of even a fictional world dreamed up by a single author.

All right, you may be wondering, so interactive narratives do not have singular or definite beginnings or endings, and readers can proceed through them only by making choices about what they have read or what they would like to read . . . but how on earth do you know when the story is over? How do you know when it is finished, when you are finished? Most of us have, at one time or another, flinched at the credits scrolling up the screen, wondering how the story could be over when so many loose ends were left dangling so teasingly. We are accustomed to dealing with texts that end more prematurely than their stories would seem to, but what do we do with a text that, a bit like a book made of sand, has pages we cannot properly count and nothing like end titles or hard covers to contain it? And, when you stop reading, what is really finished: the stories—or you?