Narrative and Digital Media

by Scott Rettberg and Jill Walker Rettberg

A New Cultural Paradigm

We live in an age of ubiquitous digital textuality. We are teaching the first generation of digital-native students, who are more accustomed to writing and reading email than they are to writing and reading letters, more inclined to send an instant message to a classmate than to pass a note, and more likely to read their news online than they are to pick up a newspaper. Yet almost all these students come to our classes having had no specifically literary experience on their computer screens, and they are not accustomed to considering electronic environments as spaces for narrative literature.

A great deal of the work involved in teaching digital narrative is encouraging students to rethink their cultural assumptions about the nature of literary forms on the one hand and the nature of computer programs and network writing on the other. In a course that surveys contemporary digital narrative, we keep several objectives in mind. We need to teach our students to understand digital narratives in formal ways, as text-machines, what Espen Aarseth describes as "cybertexts," but once they have a handle on that, we need to return them to the interpretative mode, to encourage them to read these works in social, ideological, and historical contexts. Digital narratives are both formally innovative literary forms, which necessitate effort on the part of the reader simply to "operate," and literary forms intended to reflect and comment on human

experience in the same manner as other kinds of literature. Digital narratives furthermore require new conceptualizations of the relationships between reader, writer, and media. The reader is often required to participate and make decisions that influence the outcome of the narrative, and the computer itself plays a role that N. Katherine Hayles describes as one of "active cognition" ("Print is Flat," 84), interpreting and processing information in a feedback loop with the reader and with the text.

This chapter presents a rough outline for a course in digital narrative. We provide a brief overview of some important critical activity in electronic literature, introduce some works of electronic literature that have proven fruitful as subjects of classroom discussion, and identify some of the issues that digital narratives raise for our students. While for reasons of space we neglect important theories and entire genres of electronic literature, our hope is that this chapter will guide other teachers towards their own deeper pedagogical experiments with these unruly literary objects. This is a new field, without an established canon. We are not teaching literature that has "stood the test of time" but rather literary experiments of the present and recent past, which may yield a rich harvest of born-digital literature in the future.

Origins and Theories of Digital Narrative

Electronic literature emerges both from the culture of networked computing and from contemporary literary and artistic practices. From the 1960s to the present, there have been a number of experiments with non-linear narratives in print literature. Cortázar's *Rayuela* or *Hopscotch*, Calvino's *If On a Winter's Night a Traveler*, and Nabokov's *Pale Fire* are among the most well known. American literary postmodernism is replete with

examples of works by authors who broke down and reconfigured narrative structures, including Robert Coover, John Barth, Kathy Acker, Ron Sukenick, Carole Maso, and many others. The Paris-centered Oulipo practiced and popularized the idea of writing under constraints, using rule-based processes and combinatorial procedures in the creation of potential literature.

Digital narratives are a form of literature that largely evolved as the personal computer became common in homes from the 1980s and onwards. Early computers used a command line interface, which gave birth to early forms of digital narrative such as the 1960s chatbot ELIZA, a simulated Rogerian psychologist that responds in brief, human-like sentences to words or sentences you type in, or *Adventure* (1976), a text-based adventure game where the reader types instructions such as “go north” or “kill troll” into a parser that responds with descriptions of what happens next. Although these works and many of those that followed are clearly narrative and literary, the genres were rarely considered literary at the time. It was with the introduction of hypertext that explicitly literary works began to be made for the computer. The idea of “trails” connecting different types of knowledge in a “memex” was proposed by Vannevar Bush in 1945, but it was Ted Nelson who coined the term hypertext in the mid-sixties, sketching a vision of a system he called Xanadu that would in many ways have been similar to the World Wide Web today, but that was never completed. Nelson also saw hypertext as a creative, authored form of writing: “Hypertext,” he wrote, “means forms of writing which branch or perform on request; they are best presented on computer screens” (Nelson 19). Hypertext requires a graphical user interface with a

mouse that can be used to click links, and when these features became available on personal computers in the 1980s, authors began to write hypertext literature for the computer.

In parallel with the development of hypertext fiction and electronic literature in the 1990s, theorists engaged with the new media available to narrative. Early and influential theorists include George Landow and Jay David Bolter, whose book *Writing Spaces* theorized the transition from print to screen in a variety of contexts ranging from word processing to hypertext. Landow's *Hypertext*, originally published in 1992, is heavily influenced by poststructuralism. Landow writes about hypertext being writerly text in Barthes' sense, arguing that the reader participates and almost becomes a co-author. Much poststructuralist theory describes literature in metaphors that Landow argues have become actualized in hypertext and digital narratives. For instance, where intertextuality in print literature is a reference to another text that remains within the writer's and reader's minds, hypertext can include a link that leads the reader straight to the other text.

Espen Aarseth's *Cybertext*, published in 1997, aims to more accurately describe the differences and similarities between digital texts and print texts. Cybertext is a neologism Aarseth takes from the term "cyber," from the Greek, meaning to navigate, control. Aarseth describes cybertexts as ergodic, a word he creates from the greek *ergos*, meaning work. "In ergodic literature," Aarseth writes, "non-trivial effort is required to allow the reader to traverse the text" (Aarseth 1). To clarify what this non-trivial effort might consist of, Aarseth proposes a typology with seven dimensions: dynamics,

determinability, transiency, perspective, access, linking and user functions, arguing that these dimensions can describe all texts, whether digital or print-based. *Cybertext* provides a way of understanding digital texts that builds on the methods of structuralist narratology but that refuses to simply apply narratological tools and terms to new genres. Cybertext is a useful concept in classroom discussion of digital narratives because it provides students with a systematic method of describing the way that a given textual machine works. Advanced students may find Marie-Laure Ryan's extension of and challenge to Aarseth's theory in *Avatars of Story* a useful counterpoint, as Ryan argues that narratology itself is more pliable than Aarseth's theory assumes (Ryan 97).

For her part, N. Katherine Hayles has encouraged a shift in critical attention in electronic literature and other artistic digital artifacts towards a focus on their materiality as digital objects. Hayles elaborates on the idea that while some early dismissals of electronic literature were based on the idea that these texts were ephemeral or immaterial, in fact they are coded objects that result in embodied reading experiences. Hayles encourages critics of electronic literature to engage in "media-specific analysis," to consider each work in the context of the specific affordances of the media in which it is produced, distributed, and read. There are some effects that an author can achieve in a printed book that are impossible in any computer-based medium, and many multimedia effects that are conversely impossible in print. Each type of software used to compose digital narratives furthermore has its own specific constraints and affordances. Just as someone authoring a work intended to be read in a codex book faces different constraints from someone writing a poem for a broadsheet, or

a scroll, or note cards, someone authoring a work in Storyspace software has different opportunities and limitations than someone authoring a work in HTML/XML, Flash, or Inform. Students need to understand how the specific platform a work is created in can have a profound impact on the work.

These historical and theoretical underpinnings help to establish a framework for the course that encourages students to consider which aspects of the digital narratives we study challenge previous understandings of narrative, and which aspects fit within conventional understandings of story. While essential aspects of narrative such as plot, character, and temporality are still important elements of digital narrative, they are often radically reconfigured. Our students are encouraged to critically examine these reconfigurations, and to contemplate the extent to which the nature of narrativity itself might be changing as the nature of storytelling media changes.

Digital Narratives

After giving students an historical and theoretical overview of digital narrative, we move to the genre of interactive fiction because it provides a useful entrance into closely reading digital narratives, particularly given the form's close relationship to computer games, a genre with which most contemporary students are familiar. *Adventure*, the text adventure game mentioned earlier, was the first of a series of popular text-based narrative games in the eighties. While these games disappeared from the commercial market as graphical games took over, interactive fiction has remained a vibrant literary genre sustained by a community of independent writers and programmers. Among the

works that have proven most useful in classroom explorations of the form is Emily Short's *Galatea*, an interactive retelling of the Pygmalion myth, in which the player questions a talking statue to find out about her origins. *Galatea* forces us to reconsider our understanding of how characters can be presented in digital narratives, and also the role of the first-person interactor. The player-character must both work to unveil the non-player-character's story, and to discover his or her own story, as a participant in the narrative. Close readings of interactive fiction can be usefully framed both by Aarseth's conception of the ergodic and by Hayles's description of the computer as an active cognizer ("Print is Flat," 84), and Nick Montfort provides a comprehensive introduction to the history of the form. Unlike hypertext fictions, which require the reader to simply choose links in order to select new portions of the narrative, works of interactive fiction require the reader to type responses into a parser. The text-machine then responds in a feedback loop with the reader/player. The community of interactive fiction developers often uses the words "game" and "interactive fiction" interchangeably, and class discussion of IF inevitably comes around to questions about the relationship between those two general forms.

Michael Joyce's *afternoon, a story* is one of the first hypertext fictions and also one of the most critically examined digital narratives. This pre-web work was written in Storyspace software and must be installed on the computer from a disk or CD-ROM. *Afternoon* is told in paragraph-length screens of text connected by hyperlinks, but these links are more complicated than most web links are: they are unmarked, and some links are conditional, so that clicking a particular word may lead to a different place if you

have already read another part of the work than if you have not yet read that node. Peter, the narrator of *afternoon*, has driven past an accident on his way to work, and he is worried that his ex-wife and son were involved in the accident. He attempts to find out whether this is so by calling his son's school and the hospital, but also avoids thinking about the accident by calling other people and drinking coffee with a colleague. As you read on and return to certain scenes, you begin to wonder whether Peter himself may have been more involved in the accident than first seemed the case. The most common interpretation of *afternoon* is that the digressive structure of the nodes, forcing the reader through detours without coming to a clear end, mirrors the way that Peter himself attempts to avoid looking the truth in the face (Douglas 105). Of course, the digressive structure of the work is also the root of much student frustration.

While students tend to accept that it takes time to read novels, it can be difficult to coax them into realizing that reading a hypertext fiction like *afternoon* requires more sustained effort than surfing Facebook. One strategy is to read the work aloud together, discussing how we accrue layers of meaning differently when reading a nonlinear hypertext than we do reading a linear print narrative. Another is to instruct students to read for a specific measure of time (an hour) rather than simply to "read *afternoon*." Then, when students have all read some of the work, ask them to begin again at the beginning and consider how a second reading changes their experience. Scholars have noted the importance of rereading to understanding hypertext fiction (Joyce, "Nonce Upon Some Times"; Walker, "Piecing Together"), and *afternoon* is an excellent example of a work that needs to be reread and that thematizes recursivity.

While *afternoon* serves as a kind of narrative shock therapy, forcing students to consider how they might go about piecing together a story from a scattered field of narrative shards the author has left them with, Shelley Jackson's 1995 Storyspace hypertext novel *Patchwork Girl* is intimately tied to print culture and in particular to the Mary Shelley's classic novel *Frankenstein*. Jackson's novel thus provides an opportunity to reground students' assumptions about narrative structures in hypertext. One good approach to teaching *Patchwork Girl* is to begin by closely reading Shelley's novel. Without this context, many students have a culturally received notion of Frankenstein as a grunting green monster with bolts in his head rather than the eloquent Promethean figure of Shelley's novel. The complex nested narrative structure of *Frankenstein* serves as a good starting point to discuss how authors can manipulate chronology and use multiple points of view to demonstrate how different subject positions can frame the same series of events in radically different ways. The textual history of Mary Shelley's writing of *Frankenstein*, including Percy Shelley's revision of the novel, is also important in building an understanding of *Patchwork Girl*. Among the topics of *Frankenstein* that are important to discuss in setting up a reading of *Patchwork Girl* are the abuse and objectification of women throughout the novel, the portrayal of the creative act as destructive hubris, and the idea that texts actively shape identities. While the body of *Frankenstein's* monster is pieced together from body parts stolen from a graveyard, the books that he reads in his abandoned isolation, a list of which the author provides, form the monster's worldview. In *Frankenstein*, Shelley gives us the monster as an intertextual identity. In the absence of the human contact

that he craves, the monster develops an ethical system based primarily on the texts he has read.

While *afternoon* is a modernist hypertext, *Patchwork Girl* has more in common with postmodernist metafiction. *Patchwork Girl* is an acutely self-conscious text, which includes five subsections: the journal, story, graveyard, crazy quilt, and the body of the text. The story section includes an only slightly nonlinear narrative of the monster's creation, her escape to America on a ship, relationship with another woman, and eventual dissolution. The graveyard section of the hypertext includes image-maps of different parts of the body. When the reader selects each individual body part, she learns the story of the woman from whom the part came. Each donor has some strong defining character trait. Jackson uses this patchworked body as a metaphor for the idea that women's identities are always multiple, and personalities are always pastiches of multiple and sometimes conflicting drives. The crazy quilt section of the hypertext takes this notion of pastiche further still, stitching together quotations from Jacques Derrida's *Disseminations*, Donna Haraway's “A Cyborg Manifesto,” Mary Shelley's *Frankenstein*, L. Frank Baum's The *Patchwork Girl of Oz*, Barbara Maria Stafford's *Body Criticism*, and the Storyspace user's manual, creating mashed-up quotations that comment on the text itself. The journal section of the hypertext focuses on the monster's relationship with her author, Mary Shelley, by stringing together appropriated bits of *Frankenstein* with responses from the monster herself. The body of text section is the most explicitly metafictional part of the novel, including a variety of authorial asides on the writing process and on the nature of authorship. *Patchwork Girl* is a rich teaching text both

because it is so intimately thematically related to several canonical works of print literature and because each of its sections is a formally distinct narrative experiment in its own right.

Patchwork Girl is a much more spatially oriented hypertext than *afternoon*. While Joyce's work presents us with single screens of text with “words that yield” (hidden links), Jackson presents the reader with the same boxes-and-lines interface as the one that authors write Storyspace hypertexts in. *Patchwork Girl* is not intended to look like or to be read in the same manner as a codex book, but is instead a textual landscape the reader navigates through. The work was also innovative at the time for its integration of images into the text. An important aspect of teaching this work in the same course as *afternoon* is that students become very aware of the media-specific properties of Storyspace software in comparison to other reading technologies they are generally more familiar with, such as the codex book or the web browser. By reading the two texts together, students also see how authors can exploit the technical affordances of the same software platform in radically different ways.

Our study of digital narrative turns after addressing the important early work in hypertext fiction towards the more contemporary digital narratives found on the Web. With the Web’s development in the early 1990s and its subsequent adoption by people worldwide, there was also a shift in electronic literature towards network-based narratives, including networked hypertext novels. In this part of the course, instructors can further sensitize students to the different constraints and affordances associated with various kinds of computer-mediated narratives, and “defamiliarize” reading

practices that may have become more or less automatic. The Web differs in some fundamental ways from the Storyspace platform in which the earliest hypertext fictions were produced and distributed. While the Storyspace Reader, like the book, is a single-use technology, intended for reading, a contemporary web browser is a multiple-use technology, which readers use for activities ranging from socializing in online communities, to trading stocks, to purchasing collectibles, to checking news. The Web is a fundamentally distractive reading environment. While Storyspace politely tracked our reading, keeping our place and showing us where we had been in a given text, links on the Web go one direction: forward. We always have hundreds, if not infinite, numbers of options at our disposal, and as readers we have an expectation that we will be able to progress interactively through webtexts, not by turning pages, but by choosing links. Web reading behaviors tend towards skimming and fragmentation. The Web is extensible, so authors can integrate a variety of other platforms and multimedia artifacts into an HTML document. While the early hypertext fictions were distributed by publisher Eastgate Systems on floppy disk or CD-ROM, and were thus fixed "editions" in the same manner as any printed text, network narratives are available on the internet, accessible anywhere. Network documents are also tranformational in ways that books or hypertexts distributed on discs are not. When an author makes a change in a network document, the change is made across the entire network simultaneously. Every network copy is an exact replication of a dynamic original.

Robert Arellano’s 1996 network hypertext *Sunshine ’69* is a novel about the 1960s that centers on the Rolling Stone's Altamont Free Concert held in December 1969. The

novel serves well as a case study that students can use to compare and contrast networked digital narratives with their standalone precursors. In comparison to the austere interfaces of Storyspace hypertexts, *Sunshine '69* is a positively psychedelic mess of a novel, full of color and interactive choices everywhere the reader turns. In focusing on Altamont, Arellano presents the reader with a transition from idealism to cynicism. The main characters of the novel are either archetypes, such as the Glimmer Twins (The Rolling Stones) or Tim (Timothy Leary), or stereotypes such as Norm (a veteran returned from Vietnam) or Ali (a CIA infiltrator). Arellano presents the reader with multiple means of navigating the text, including links within the text, a calendar allowing the reader to navigate through the novel chronologically, a map which the reader can use to navigate the novel geographically, and a people index that allows the reader to take the story one character at a time by following links to objects in their pockets. Presented with this array of choices, many readers first attempt to navigate the novel via the calendar, reasoning that chronological narration usually works best for print novels. Ultimately however the calendar method is less effective at accomplishing a sensible arrangement of episodes than reading through each character's pockets one at a time. Arellano's novel provides a useful example of how authors deal with the problem of presenting characters and a plot within a hypertext novel that the reader can read in any order. Arellano avoids the problem of character development by using stereotypes and archetypes, and "flat" postmodern characterization. Characters are not presented as "fully rounded" psychological entities in the Jamesian sense, but as stand-ins for cultural types. By presenting the story in an episodic, picaresque style, Arellano

presents a work that can be read in short bursts, suitable to the attention-deficient internet reader. By providing the reader with character and geography-based systems of navigation, Arellano points beyond chronological plot development, representing characters and events according to other types of logic.

While interactive fiction and hypertexts are narrative forms that are native to the digital environment, sometimes students wonder at the gap between these forms and the types of writing and reading they regularly engage in on the Web, in email, chat rooms, and social networks. Contemporary authors of digital narratives have begun to incorporate network-specific communication technologies into their work, both formally and thematically. If most contemporary readers spend more time writing and reading email, for example, than they do writing and reading traditional mail, doesn't it make sense to write fiction that explores the styles and narrative potentialities of email? Rob Wittig's 2001 *Blue Company* is one example of this genre of email fiction. Readers subscribed to Wittig's novel, and dispatches from the narrator, "Berto Alto," appeared in their inboxes daily or sometimes multiple times a day, as the narrative unfolded. The premise of the work was that a marketing executive had been sent back through space and time to Renaissance Italy, and was using a smuggled laptop to send messages back to the present, to a woman he admired, quite literally, from afar. Wittig plays with conventions of courtier poetry, the 19th Century epistolary novel, and the graphic novel in telling this distinctly 21st Century tale. Although the work is now archived on the Web in a version that readers can tackle in one sitting, original subscribers had the sense of experiencing the events of the novel as they were unfolding, reading the emails in the

same inbox as they received their regular business and personal correspondence. *Blue Company* demonstrates how authors on the network can use serial publishing differently than they can in print. While many of Dickens's novels were published in monthly installments in magazines, Wittig was able, for instance, to send hourly updates on a joust tournament as it occurred, in the time scale of the novel. Further, whereas the reader of a hypertext narrative has to engage in a good deal of ergodic activity to piece the bits of narrative into a coherent fiction, readers of email novels find themselves reading in a state of anticipation, wondering when the next letter will arrive and what it will contain. In its nature as a time-based art form, email narrative is a kind of performance art—as is evidenced in the work of Alan Sondheim, who publishes the vast majority of his work in daily postings on email lists.

Rob Bevan and Tim Wright's *Online Caroline* combines email narrative with other popular genres like the personal homepage, the online diary, and the webcam. The reader of *Online Caroline* takes the role of Caroline's online friend, who looks through Caroline's photos, watches her daily pre-recorded webcam sequences, advises her on what clothes to wear or whether or not to leave her boyfriend, and answers questions Caroline asks: "What's your favorite color? Do you have children? Have you ever been unfaithful?" Caroline then sends the reader emails customized according to the reader's responses, but always sticking to a clear plot line that develops in twenty-four short episodes, one episode every day. As the narrative progresses, through the emails and the changing website, the relationship between Caroline and her boyfriend David becomes more and more disturbing, and as David begins to take over Caroline's life, he also takes

over her website, so that finally he has taken over as the narrator. Although the reader has no real influence over the storyline, she becomes a character in the story, and thus feels a strong sense of immersion and even guilt when things begin to go badly for Caroline. Indeed, many readers believed that *Online Caroline* was real, and were furious when they found out that she was fictional.

Classroom discussions of *Online Caroline* and *Blue Company* frequently turn on issues related to the distinction between fiction and reality. Because these narratives mimic non-fictional self-representational writing, the distance between the actual reader and the fictional narratee tends to collapse, leading to a sense of immersion, another concept frequently discussed in relation to digital narratives. Concluding the course with these types of network narratives, which focus on "network styles" of writing, brings our focus back around to the world of digital textuality our students are immersed in on an everyday basis. These texts help us encourage our students to question how the very changes they have experienced in their own everyday textual practices are beginning to influence the ways that we will tell stories and contextualize narrative in the near future.

Conclusion

The course we have outlined here sketches but one of many paths to the study of contemporary digital narrative. As literature and language programs increasingly include the study of electronic literature within their curriculum, more scholarly work is being published on the topic. The Electronic Literature Organization's website (http://www.eliterature.org) is another good source of material. The first volume of the

Electronic Literature Collection, published in 2006, contains sixty works that might work well in the classroom to present the breadth and diversity of contemporary approaches to digital narrative.

While our culture's immersion in the global network might seem pervasive, we're still only at the beginning of the second decade of our engagement with the Web. Today's experiments in creating literature for the computer and for the network are but harbingers of things to come. English programs have traditionally served as a repository of cultural memory, preserving and teaching literary works that have marked periods of cultural change. While English may be a field unaccustomed to dealing with the present, one can argue that just such a conservatorial role is necessary now as we begin to frame an understanding of how digital textuality will shape the way we tell stories in the future. Furthermore, one aspect of our courses that we have not addressed here is that after our students develop an understanding of the specificities of digital narrative, they then go on to create their own digital narratives in further courses. It is our hope that, if digital narrative has yet to find its first Chaucer and Shakespeare, they might well be waiting in the wings, or perhaps hunched over in the back row of our classrooms, sending text messages from their mobile phones, notes to a dynamic future of electronic literature yet to be fulfilled.

Works Cited

Aarseth, Espen. *Cybertext: Perspectives on Ergodic Literature*. Baltimore and London: Johns Hopkins UP, 1997.

Arellano, Robert. *Sunshine '69.* 1996. <http://www.sunshine69.com>

Bevan, Rob and Tim Wright. *Online Caroline*. 2000. <http://onlinecaroline.com>

Bolter, Jay David. *Writing Space: Computers, Hypertext, and the Remediation of Print.* Second ed. Mahwah, NJ: Lawrence Erlbaum Associates, 2001.

Bush, Vannevar. "As We May Think." *Atlantic Monthly* 176.1 (1945): 85-110.

Douglas, J. Yellowlees. *The End of Books or Books without End? Reading Interactive Narratives*. Ann Arbor: University of Michigan Press, 2000.

Hayles, N. Katherine, Nick Montfort, Scott Rettberg, and Stephanie Strickland, eds. *Electronic Literature Collection* 1 (2006). <http://collection.eliterature.org/1>

Hayles, N. Katherine. *My Mother Was a Computer: Digital Subjects and Literary Texts*. Chicago: University of Chicago Press, 2005.

---. "Print is Flat, Code is Deep: The Importance of Media-Specific Analysis." *Poetics Today* 25.1 (2004): 67-90.

---. *Writing Machines*. Cambridge, MA: MIT Press, 2002.

Joyce, Michael. *afternoon, a story*. Watertown, MA: Eastgate Systems, 1990.

Joyce, Michael. "Nonce Upon Some Times: Rereading Hypertext Fiction." *Othermindedness: The Emergence of Network Culture*. Ann Arbor: The University of Michigan Press, 2000. 131-49.

Landow, George P. *Hypertext: The Convergence of Contemporary Critical Theory and Technology*. Baltimore: Johns Hopkins University Press, 1992.

Montfort, Nick. *Twisty Little Passages*. Cambridge, MA: MIT Press, 2003.

Murray, Janet. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge, MA: MIT Press, 1997.

Nelson, Ted. "Dream Machine: New Freedoms Through Computer Screens: A Minority Report." *Computer Lib/Dream Machine*. Self-published, 1974.

Ryan, Marie-Laure. *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*. Baltimore: Johns Hopkins University Press, 2001.

Ryan, Marie-Laure. *Avatars of Story*. Minneapolis: University of Minnesota Press, 2006.

Walker, Jill. "Piecing Together and Tearing Apart: Finding the Story in '*Afternoon*'." Hypertext '99. Eds. Klaus Tochtermann, et al. Darmstadt, Germany: ACM Press, 1999. 111–17.

Walker, Jill. "How I Was Played by Online Caroline.*" First Person: New Media as Story, Performance and Game*, eds. Noah Wardrip Fruin and Pat Harrigan. Cambridge, MA: MIT Press, 2004. 302-309.