The Electronic Writing and Reading Interface:  
Gateway to the Mainstream for Digital Born Fiction  
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This paper will explore the digital born novel as a viable genre of electronic literature that incorporates traditional narrative features of the novel with electronic writing and reading technologies. If the novel as a medium for exploring self and society can survive intact as a genre, even as its production and performance is transformed by technology, electronic writing and reading systems that preserve traditions of storytelling and authorial intent while allowing for literary interfaces that engage readers and afford them the flexibility of innovative alternative strategies for reading must continue to be developed, thereby presenting a form deserving of validation through increased readership and more in-depth critical attention.

The paper will proceed as follows: First the terminology to be used will be defined. Next, electronic literature will be considered in the context of the publishing industry, market trends, and availability. The novel as a popular mainstream genre will be considered, followed by a look at critical response to digital born literature. Reading dynamics will be discussed in the context of electronic interfaces. Five network novels will be discussed in the context of network fiction interfaces: CD-ROM based Storyspace and Internet based interfaces.

Terminology

In his 2007 book *Reading Network Fiction*, David Ciccoricco asserts that the term hypertext has “expired in its capacity to stand as metonym for the diverse field of digital literature” (Ciccoricco 1). Rather, hypertext is a technology for creating network fiction, in which “narrative emerges gradually through a recombination of elements” (6). Earlier, in her book, *The End of Books—or Books without End?* (2000), Jane Yellowlees Douglas uses the term interactive narrative. Both authors are describing digital literature that is written and read on a computer screen, or digital born (as distinct from print literature reproduced in electronic form).

Hypertext drives the recombination of elements in a network fiction by enabling user navigation. For purposes of this paper, the term will refer to the technology and network fiction or network novel will refer to digital born fiction.

The block of text presented on a screen that is a destination of links in a network novel will be referred to as a node.

Market trends

Electronic reading devices constitute a small niche market, but their rate of sales is increasing, and the publishing industry is looking toward electronic literature as an opportunity for growth. According to the Association of American Publishers, sales of e-books in February 2011 increased by 202.3 percent over sales during the same month in 2010, attributable in large part to the sales of e-readers during the holiday gift giving season (Sporkin). Year-to-date figures for the January/February 2010 to January/February 2011 period show an overall increase in e-book sales of 169.4 percent. In contrast, sales of print books decreased by 24.8
percent (Sporkin). These trends are significant to a discussion about digital born literature because they indicate that the reading public is embracing the e-book, which is blazing a trail for digital born literature—literature written on a computer specifically for electronic presentation using hypertext technology.

A recent online news release announced a new digital born novel that targets “next generation e-reader capable devices,” including e-readers, smart phones, tablets and personal computers (Callahan). According to the author, “In my book, readers link to relevant YouTube videos, or explore with hypertext links to history, biographies…. It's a deeper experience." This is not a surprising development considering the rapid advances made in electronic publishing technologies. (This digital novel sells on Amazon for about $2.99.)

**Availability of network fiction**

Critically significant works of hypertext fiction are not widely available. Shelley Jackson’s *Patchwork Girl* and Michael Joyce’s *afternoon, a story*, two “classic” network novels, are available in CD-ROM format on the publisher’s website for about $30 and on Amazon.com from $18, used, to $30, new. They are not distributed through the large chain book stores in the New York Metropolitan area. An interlibrary loan request through the NJIT library yielded *afternoon* and Stuart Moulthrop’s *Victory Garden* on two old 3.5 inch diskettes that are incompatible with current generation computers. They arrived in about two weeks from distant university libraries. A visit to the research branch of the New York Public Library yielded the same result for *Patchwork Girl*. In this case the disk was immediately available, but the public computers at the library do not have diskette drives, only CD-ROM. This is to say that hypertext fiction “classics” have not yet attracted “mainstream” attention in over twenty years since the publication of *afternoon*. This paper discusses a few works of network fiction (two of which are considered classics in the form), but there is a growing body of novels, short stories, poetry, etc. extant. In time they will permeate their *avant garde* niche and enter the mainstream electronic literature market.

**The novel**

Some conditions during the 18th century that made the novel possible include the invention of movable type, which increased the production of books; the expansion of readership to a middle class with leisure time; the introduction of the “round” character in parallel with depth psychology (Ong 154); and the mode of “realism”—

...a literary form that places recognizable characters in recognizable settings in a time frame that attempts to approximate real time. The characters are dealing with real-life dilemmas. Surveys indicate that this is the literary mode which most appeals to readers even now. Readers seem to like to be able to recognize themselves in the characters of novels, to feel the emotions they are feeling and watch them as they deal with dilemmas that may be close to dilemmas they themselves are dealing with (Alther).

Novels also afford readers the opportunity to immerse themselves in realities other than their own to explore their personal subjectivity to events, thoughts and emotions that would not be triggered in their own milieus. The subjects and themes in popular film, fiction
and games attest to the reading public’s continuing appetite for fictional realism. Although computing is changing the way literature is written and read, it will not necessarily change the reasons why we read novels, just the way we read them and the devices we use.

The printed book is a discrete and portable structure that serves to store its content when closed and perform the text when open (Hayles). Although the text is performed linearly, the reader is free to roam the book in a non-linear fashion. A hypertext novel is also a closed structure, but here the reader, enabled by hyperlinks, can roam about associatively as well as randomly, by pursuing particular paths. Readers can experience different readings and achieve closure at different points, but they are operating within a closed matrix of finite predetermined text—a metaphor for a printed book. Interactive narratives that invite the reader to participate in the writing and add text of their own are not novels; they are something else.

**Criticism**

The development of a normative body of criticism of digital-born literature, which is still in a nascent phase compared with 550 years of print, will depend upon bridging gaps among critical camps. As discussed later in this paper, entering a hypertext work requires a period of adjustment to the interface and to the non-linear performance of the text before a reader can settle in and experience the narrative. This period of adjustment can preclude a deeper probing of a work. In her book, *The End of Books—or Books without End?* Jane Yellowlees Douglas makes the point that some critics assessing hypertext literature for the first time do not do the medium justice, because they make judgments based on only cursory readings or no reading at all of actual hypertext works—often without benefit of familiarizing themselves with authors, titles and artistic goals specific to the medium (3).

Another issue among critics is the resistance of some to what they perceive is an imperialistic push by proponents of network fiction. In his essay, “Trivializing or Liberating? The Limitations of Hypertext Theorizing,” David S. Miall takes issue with some theorists’ view that hypertext remediates text. Rather, he argues that “literary reading, that is, reading of imaginative texts such as novels or poetry, is rendered incomprehensible by the model of reading put forward in hypertext theory.” For Miall, the central issue of the debate is what it means to read and to what extent hypertext will change reading practices (Miall).

According to Molly Abel Travis in her essay, “Cybernetic Esthetics, Hypertext and the Future of Literature,” reading necessarily will change, not so much as a result of hypertext technology *per se*, but because of an overall lifeworld inculcation of electronic media. She writes,

The ideal reader for hypertext has been/is being constructed through sustained exposure to the intertextualities and virtualities of mass media and information technologies. This is a reader whose experience includes exposure to cinematic fast cuts..., ever more extraordinary visual images and effects, information as sound bites..., game systems, computer video games and interactive fantasy-adventure games in a computer network. This is also a reader who has become
Reading

Reading is a creative act. The author lays down the words, either as pixels on a device screen or ink on paper, and the reader builds the meaning by interpreting the words through the lens of personal experience and concepts learned from reading other texts and experiencing various media. The indeterminate quality of text as spatially rendered characters requires readers to make assumptions, fill in the gaps, and infer causes and effects as they read (Douglas 29). Reading response and literary theorist Wolfgang Iser elucidates the concept.

Guided by the signs of the text, the reader is induced to construct the imaginary object. It follows that the involvement of the reader is essential to the fulfillment of the text, for materially speaking this exists only as a potential reality—it requires a “subject” (i.e., a reader) for the potential to be actualized. The literary text, then, exists primarily as a means of communication, while the process of reading is basically a kind of dyadic interaction (Douglas 31).

Douglas goes on to describe “dyadic interaction” as that between two parties who play more or less equal roles, which is in line with one of two core concepts of transactional theory—“meaning is viewed as an event or process that requires simultaneous attention to both reader and text” (McEneaney et al.). For this reason the design of a network novel interface must be user-centered and based on knowledge of reading dynamics and reader goals.

Transactional theory of reading distinguishes between two reader goals or “stances”. Efferent stance refers to the reader’s goal of acquiring information (a user’s manual, or scholarly text, for example), and aesthetic stance refers to the experience the reader seeks while reading the text (a novel or poem, for example) (McEneaney et al).

The 2009 article, “Stance, Navigation, and Reader Response in Expository Hypertext,” (McEneaney et al) reports on findings of researchers who conducted two studies sampling 216 adult readers. The studies indicate that usability for aesthetic readers may be enhanced if stance and interface design are taken into account. The researchers found that aesthetic readers are more likely than efferent readers to rely on built-in reading paths that are part of the hypertext interface (default paths). Another finding of the studies speaks to Douglas’s observation that critics of hypertext literature make judgments after only a cursory reading and sometimes without reading at all. The researchers’ findings suggest that users will read more rapidly and linearly (identifying and following paths) after spending time becoming familiar with the navigation elements of a work of hypertext literature. This kind of effort on the part of critics might promote a more thorough assessment of network fiction works instead of a reactionary response to an unfamiliar interface.

Additionally, the researchers concluded that node size in hypertext narratives influences reader response and should be considered when designing reading interfaces. They found that readers provided with small nodes read more of them than readers provided with large nodes (McEneaney et al).
“... [W]e have only the slenderest knowledge of what is, quite possibly, the most important component of the medium: the way in which readers interact with it” (Douglas 73). If the novel as a medium for exploring self and society can survive intact in digital born form, reading interfaces must evolve to satisfy the goals of readers as well as writers. As stated by Travis, above, “The ideal reader for hypertext has been/is being constructed through sustained exposure to the intertextualities and virtualities of mass media and information technologies.” This means a perpetually rising bar for authors to attract and engage their readers.

This paper will discuss five network novels in terms of their interfaces. Two, published on CD-ROM, are written and read in the Storyspace system, described by David Joyce in his preface to *afternoon* as “a hypertext program that is both an author’s tool and a reader’s medium.” The others are internet based works in HTML, or XHTML, two featuring Flash animation technology.

*afternoon, a story*, published in 1990, is one of the earliest network novels, often referred to as the first. Each screen features a toolbar at the top and bottom of a white screen. The overall look is that of a word processing application. The reader has several options for advancing through the text, the easiest being the “enter” key, which produces a new node and may or not follow the narrative thread of the previous node. Choosing “Y” or “N” on the bottom toolbar will also lead to a default path. And selecting the “navigate” button on the top toolbar will pull down a history of nodes visited as hyperlinks, a previous page option, and a return to home option. Sometimes there is a query to be answered “yes” or “no” to proceed; otherwise the “Y” or “N” icons will simply lead to a default path. Actually, a reader can click just about anywhere on the screen to advance.

At first the narrative defies immersion, because the act of clicking from place to place and the experience of discontinuity of the narrative are off-putting when one is accustomed to the linear unfolding of a narrative that does not require physical actions on the part of the reader other than turning a page. As the reader experiments with the interface, nodes will randomly repeat, and this repetition is what eventually grounds the reader in the narrative and causes the interface to recede a bit from the reader’s attention. Still, reading hypertext literature is work. And in addition to unconsciously filling in the gaps between words on the reading surface in order to interpret text, the reader is interrupted with a palpable spatial and temporal gap in movement from one node to the next—having to select elements on the screen, waiting for the screen to change, not always landing where desired, and having to readjust to an entirely different thread of thought. This is not to say that *afternoon’s* reading environment is a bad thing. It is a different way of reading that requires an adjustment that may lead to a new and satisfying way of experiencing the novel. The interaction with the interface through the keyboard and mouse adds a physical experience that promotes a sense of agency (Douglas 5), which stimulates exploration.

Ciccoricco classifies hypertext narrative as follows:

“Hypertext documents fall into three basic categories: axial, arborescent, and networked...axial denotes a structure situated along an axis; arborescent
Morris 6

denotes a branching structure resembling a tree; and networked denotes an interconnected system of nodes in which there is no dominant axis of orientation” (Ciccoricco 5).

I stated above that repetition of nodes grounds the reader in the narrative. In a network hypertext work, which afternoon is, the repetition of nodes serves as mechanisms for orientation in the absence of an axis to which to tether. Returning to specific nodes then jumping off again in other directions helps the reader to make connections among diverse threads, thereby enabling the construction of new meanings (recombination). Sometimes the revisited node will be interpreted differently depending on the particular path the reader is on. Some of the nodes in afternoon seem to be repeated at first, but prove to be slightly different, inviting more interpretation.

Repetition then is necessary to network fiction. According to Ciccoricco, “The themes and structure of a network fiction become visible through narrative returns. Such recurrences are elemental in network fiction in that they constitute shared and stable components of an otherwise mutable text” (Ciccoricco 126).

Patchwork Girl, another Storyspace work, presents a more complex presentation than afternoon but operates essentially the same. The interface is an intense metaphor for a workspace, replete with menus, outline, chart, maps, flow chart, icons, directional arrows, radio buttons, etc. It is simultaneously busy and sleek. As with afternoon, clicking anywhere or using the “enter” key will take the reader along a default path, again a good way to get a feel for the interface and enter Jackson’s interconnected stories without too much decision making. As with afternoon the reader will encounter node repetition, more so at first.

Reading afternoon and Patchwork Girl has a quest-like quality that is characteristic of a game. The workspace metaphor in Patchwork Girl can be likened to playing environment as well, inviting the reader to jump among the myriad graphic navigation elements grabbing pieces of meaning and taking them to the next landing to see what happens. Jumping among the diverse navigation platforms brings Nintendo’s Mario Brothers video game to mind. afternoon’s interface feels like another kind of quest—If I select this link, where will it take me, will I be able to continue along this narrative thread? Or will I be deposited somewhere else. How do I to get back to Nausicaa? Nausicaa is intriguing. This quest is similar to that in reading Twelve Blue, a different kind if interface.

Michael Joyce’s Twelve Blue is mounted on an HTML based hyperlink interface that can be read on the Internet. It is far less busy than the Storyspace examples above. This narrative blends the simpler visual presentation of a printed book with graphic imagery and hypertext technology. The background is dark blue, punctuated only occasionally with a graphic image. The overall impression is almost static, belying its hypertext engine. The opening page presents a rectangular frame containing randomly crossing colored threads and serving as a quasi navigation map (the threads represent the story’s narrative threads, which intersect at various points). Each node contains one or two linked words, or the user can click on the threads that reside in a narrow left pane once reading begins. Reading Twelve Blue is a very different experience than reading in Storyspace; there is less “work” for the reader here. The interface focuses more on the story and less on itself. Where Storyspace broke ground by self-
consciously pushing its workspace metaphor to the fore to herald “interactivity,” Twelve Blue displays a medium that is maturing confidently and regrounding itself in the art of writing and reading.

Another HTML network novel is The Jew’s Daughter, by Judd Morrisey in technical collaboration with Lori Talley. Here is Morrisey’s description of his work: “The Jew’s Daughter is an interactive, non-linear, multi-valent narrative, a storyspace that is unstable but nonetheless remains organically intact, progressively weaving itself together by way of subtle transformations on a single virtual page” (Morrisey). This interface employs Flash technology to animate a single white, justified page that completely fills the computer screen; the interface is not transparent here as in Storyspace. Rolling over a highlighted word causes portions of the text on the page to change, which imparts a sense of linearity because the reader remains on the “page” instead of “going” to another node. At the top right of the page is the other navigation element, a small unobtrusive icon for a little dialog box where the reader can type in a page number (there are over 200) to go to it. Because only a portion of the page changes when a word is rolled over, the repetition element operates here as well in the portions of text that do not change when a page is reconfigured.

A reader can relax with this interface, which seems like what a “magic” book might be like. This interface brings to mind the main character in Ray Bradbury’s Illustrated Man, whose individual tattoos come to life when focused on.

The examples of Storyspace interfaces described above demonstrate a need for improvements in reader accessibility. There is no mechanism for enlarging the small text for the “reading glasses” set of readers. Also, Times Roman is not an ideal font for computer screens, especially when rendered in a small size. The font disappoints as the product of the modern, bright, sans serif Storyspace interface. However, Times Roman does work in The Jew’s Daughter, because the screen, although dynamic, is a metaphor for a printed book, and the text is large enough for comfortable reading.

Inanimate Alice is a multi-media network novel tracing the experiences of an eight year old girl as she matures in the beginning of the 21st century. Currently, there are four “episodes” of this work-in-progress, each a self-contained narrative unit. The work as a whole reflects on the experience of coming of age in an environment dominated by internet and telecommunication technology. The XHTML platform employs Flash technology for a rich interplay of text, sound, music, video, images and games. Interactivity consists of selecting the graphic icon for advancing, or selecting icons that emerge on the right when a scene is viewed. Selecting one of these icons will return the reader to a particular scene that has already been viewed.

Inanimate Alice employs multimedia elements that young people have come to expect in computational entertainment, and this work comes with a teachers’ edition, which bodes well for the future of network fiction. While the market for network stories and novels is gradually gaining ground, this growth will increase exponentially if young people embrace it.
Conclusion

Digital born literature is evolving as writers mine its technical possibilities for creative literary expression. Already, some early works of digital born novels are referred to as “classics,” and scholars have identified two phases in the continuum (Ciccoricco 2, Hayles 7). The medium is still relatively unknown and not widely available, but that can change as a body of informed criticism grows. Limited availability and the high cost of CD-ROM networked fiction will probably be mitigated as internet-based works attract more readers and critics, thereby paving the way for expansion for the medium through the proven market viability of electronic reading devices. Attention to usability as well as entertainment will be key to the success of network fiction as a mainstream art. All current interfaces will benefit from combining art with deliberately applied usability principles. It might be possible that the network literature interface itself might achieve the status of genre.

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Works Cited


