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Hypertext: Electronic Writing and its Literary Tradition

'Hypertext' has emerged as a keyword for the 1990s, with high visibility across a range of disciplines. The term was coined by an American, Theodor Nelson, during the 1960s, to identify "*nonsequential writing* – text that branches and allows choices to the reader, best read at an interactive screen. As popularly conceived, this is a series of text chunks connected by links which offer the reader different pathways" (Landow 4). Lively debate is now taking place around this new medium for non-linear organization of information, evaluating it as a resource for teaching, research, and creative writing, and assessing potential benefits and hazards to be faced as we undergo further transition from print to electronic technology.

Computer hypertext is at a stage of development which invites speculation, and visionaries have duly appeared to gaze into their screens and make pronouncements about the future of the written word. These often appear overstated, and sometimes are clearly utopian; that is part of the process of adaptation to cultural change, and alongside the prophets run more cautious enthusiasts and experimenters, gauging immediate practical applications, drawing hypertext into the service of established programmes, and conducting carefully conceived tests before passing measured judgment on the usefulness or desirability of the medium, and of the sets of practices and methods it makes possible.

George P. Landow, a prominent champion of hypertext, has made a strong case for it as an educational tool, and to clarify the advantages of this "text composed of blocks of words (or images) linked electronically by multiple paths, chains, or trails in an open-ended, perpetually unfinished textuality" (Landow 3), he compares its use to the way we approach a conventionally structured academic essay. By means of numbers or symbols within the main body of the scholarly article, we are referred to footnotes or endnotes. If our curiosity is sufficiently aroused, we may pause in our reading and consult a note, which may direct us to another essay, or to a book to be sought out (hopefully) in a library. The process may be time-consuming and laborious, and is potentially endless. Hypertext systems promise to facilitate and accelerate information retrieval, allowing the supplementary texts to be summoned on to the screen, where, in effect, they shed their separate identity and become part of a hypertextual realization unique to the occasion and to the reader's requirements. Another reader might make different choices, follow different paths.

In addition to convenience, then, a well-developed hypertext system

may disclose previously concealed connections, new alignments that may alter the shape of our knowledge. But where the optimist foresees revelation, the pessimist feels the threat of confusion, of readers cast adrift in an ocean of words, without the security of the *terra firma* offered by the physical book. Navigation is a serious problem that pioneers of electronic writing are having to address. One, at least, has advocated a Book Emulator system, a comforting bridge from the familiar, "that is visually and navigationally based on, but not strictly limited to, the book metaphor" (Benest 53). Still, the prophetic voices are announcing the imminent end of the Book, and the greatest revolution in information technology since the invention of the printing press. The physical object will dematerialize; reading and writing will occur at an interactive screen, without even the solace of the print-out that culminates word-processing.

The speed with which vinyl recordings have been superseded by compact discs, cautions against ready dismissal of these voices as merely fanciful, but it is too early to grow anxious over the disappearance of cherished volumes, and the loss of those various pleasures associated with collecting books. More constructively, we may consider the implications of hypertext for the future of creative writing. The novel inhabits essentially the same terrain as the textbook. Indeed, some novelists have actively courted the appearance and resources of the technical manual or reference work, with their indexes, table of contents, notes, and graphic elements. Michel Butor offered theoretical justification in his essay, "The Book as Object;" Vladimir Nabokov demonstrated what was artistically possible in *Pale Fire* (1962), a novel with the form of a scholarly, annotated edition of a long poem. The physical nature of the book is unequivocally enabling for non-fictional purposes – the dictionary, encyclopaedia, and telephone directory rely on alphabetical, sequential ordering, with fixed numbering of pages crucial to the system of reference and cross-reference. Novelistic use of the book's material resources may be seen to comment ironically that what is enabling for non-fiction is generally restrictive for fictional works. The modern novel has regularly sought ways to subvert the sense of reality suggested by the fixity of print, by the physical nature of pages bound sequentially, to be read left to right, top to bottom, beginning to end.

Cultural commentators such as Marshall McLuhan and Walter Ong have indicated how the dynamics of reading, framed by print technology, can encompass a world view, determining what we know and how we know it. Technological changes during this century have brought about a series of major shifts in cultural and social relationships. Throughout this upheaval and flux, the character of the book has remained more or less unchanged. Its linear, sequential, and fixed nature accorded well with the tenets of classical literary realism, where everything has its place, and appropriate effect follows inexorably upon identifiable cause. Modernist writers

employed innovative techniques and forms to direct readers to a more complex, fluid, and unreliable reality. Abstract the stories from Joyce's *Ulysses*, Woolf's *Mrs Dalloway*, and Faulkner's *Absalom, Absalom!* and they appear inconsequential. These novels deserve our attention to the degree that they have transcended the book's technological form.

Jay David Bolter develops this point in *Writing Space: The Computer, Hypertext, and the History of Writing* (1991). Electronic writing promises to fulfil a desire manifested early in this century when

> modern authors found themselves straining at the limitations of the printed page. Because the linear-hierarchical presentation of the printed book was so well suited to the conventions of plot and characters of the realistic novel, to attack the form of the novel was also to attack the technology of print (Bolter 131).

Tracing the antecedents of hypertext, Bolter identifies a tradition of writing that plays with the medium, acknowledging, explicitly or tacitly, that print has had a determinant effect upon the content as well as the structure of novels. He might have included Flann O'Brien's *At Swim-Two-Birds* (1939), whose narrator archly declares:

> One beginning and one ending for a book was a thing I did not agree with. A good book may have three openings entirely dissimilar and inter-related only in the prescience of the author, or for that matter one hundred times as many endings (O'Brien 9).

His dissatisfaction has been shared by contemporary novelists as various as John Fowles, whose *The French Lieutenant's Woman* (1969) offers alternative endings, and Richard Brautigan, who concluded *A Confederate General from Big Sur* (1964) with the announcement:

> Then there are more and more endings: the sixth, the 53rd, the 131st, the 9,435th ending, endings going faster and faster, more and more endings, faster and faster until this book is having 186,000 endings per second (Brautigan 116).

This is the fantasy of a metafictionist, self-consciously exploring the nature of fiction itself; it is the playful imagining of a writer working a conceptual counterpoint against the thread of print on paper.

Bolter rightly traces this self-conscious tradition back to Laurence Sterne, who in *Tristram Shandy* (1759-67) launched "an attack on the conventions of the novel as a coherent narrative of events," and "an assault on the conventions of presentation, on the technology of writing and printing" (Bolter 133). He cites the absence of Chapter 24 of Book 4, which Shandy claims has been torn out, although the missing material is summarised in Chapter 25. The pagination registers this loss. Bolter might equally have drawn into his list of hypertext's precursors Sterne's contemporary, Denis Diderot, who tells us near the end of his novel *Jacques the Fatalist* (written between the 1750s and 1784):

> Here is the second paragraph, which has been copied from *The Life and Times of Tristram Shandy,* unless the conversation of Jacques the Fatalist and his master predates this work and the good minister Sterne himself is the plagiarist, which is something I do not believe, because of the particular esteem in which I hold Mr Sterne, whom I distinguish from the majority of men of letters of his nation whose quite frequent custom is to steal from us and then insult us (Diderot 252).

Diderot, through this reference, creates a link into *Tristram Shandy* and wrily tests the physical boundaries of the book, suggesting how ideas, practices, even specific materials may leak from one textual vessel to another.

Landow, near the beginning of his study of "the convergence of contemporary critical theory and technology," prepares for his discussion of hypertextuality by quoting Michel Foucault's observation "that the 'frontiers of a book are never clear-cut,' because 'it is caught up in a system of references to other books, other texts, other sentences: it is a node within a network... a network of references' "(Landow 3-4). Such revelations of intertextuality have been resisted by conservative critics, keen to maintain author, book, and reader in their distinct domains. But Diderot saw it plain two centuries ago, as befits the compiler of a great encyclopaedia. It cannot be denied, however, that the formulations of contemporary critical theory - especially the work of Foucault, Barthes, Derrida, and their followers – make for 'difficult' reading. Comparable difficulty is commonly associated with Modernist writing. In both cases, readers are unsettled from the relative passivity of more comfortable reading situations; they must work, and become aware of their own activity. James Joyce's *Finnegans Wake* (1939) is the extreme case. As Bolter notes, "both fiction and theory are attempting to turn the printed medium against itself. Both are trying to defeat the linearity of writing, and yet they have at their disposal only a linear medium" (Bolter 165).

The flourish of highly self-conscious fiction that appeared internationally during the 1960s and 1970s, and which left its mark upon subsequent novels reaching a far wider readership, was in part a response to technologies (notably television, and then increasingly the computer) that were manifestly altering the perception and practices of everyday life. A spectacular early example was *Composition No. 1* by Marc Saporta, published in France in 1962, looseleaf in a box, with an invitation to shuffle the pages before reading one of many possible permutations of the novel. Argentinian writer Julio Cortázar retained the bound format, but sought similarly to extend the reader's active role; the chapters of *62: A Model Kit* (1968) can be read in any order: "The reader's option, his personal montage of the elements in the tale, will in each case be the book he has chosen to read" (Cortázar 4). An American novelist, Ronald Sukenick, aware of such experiments, has envisaged the novel printed on scrolls, globes, and billboards, but has stressed that such mutations are not required for its survival.

The book "is both a concrete structure and an imaginative structure – pages, print, binding containing a record of the movements of a mind. The form is technological, the content is imaginative." His argument, informed by admiration for Modernist achievement, is that "to complain that the novel can't escape from its binding...is like complaining that the mind can't escape from its skull" (Sukenick 38 & 39).

The hypertext visionaries, on the other hand, are convinced that the novel will escape its binding, an inevitable and desirable evolutionary development in the history of writing. From this, new structures of consciousness will surely follow. The literary work most regularly cited to cast light upon what is made possible by electronic writing is Jorge Luis Borges's story, "The Garden of Forking Paths." Borges writes of an ultimate fiction, created by a Chinese official. It differs from familiar fictions in one crucial respect:

> In all fictional works, each time a man is confronted with several alternatives, he chooses one and eliminates the others; in the fiction of Ts'ui Pên, he chooses – simultaneously – all of them. *He creates*, in this way, diverse futures, diverse times which themselves also proliferate and fork (Borges 51).

Hypertext promises to realize the essence of this Borgesian conceit, a fiction that has no definitive version, no single opening or conclusion, and may always be constructed otherwise. As Bolter puts it, by means of textual blocks and links at an interactive screen it is now possible to write multiply (see Bolter 144-6).

The pioneering work of hypertextual creativity is "Afternoon" (1987), a story by Michael Joyce (see Bolter 123-6). Readers are required to make choices, to move along paths provided by the author, but not according to an order indicating authorial preference. Each reader will navigate through available episodes according to individual inclination, but other options are not eliminated – the selection is not definitive: "There is no single story of which each reading is a version, because each reading determines the story as it goes. We could say that there is no story at all; there are only readings" (Bolter 124). This accords well with recent literary critical theory orientated towards the role of the reader, rather than authorial intention or the sovereign text. Landow and Bolter draw upon such theorists as Roland Barthes, Stanley Fish, and Wolfgang Iser when considering the likely relationships of reading and writing, of authors and readers within this new medium. At the interactive screen, such distinctions seem destined to dissolve as readers seize the opportunity to become writers, not only through their role as organizers of textual events, but through the possibility of actually writing into the story, of augmenting or elaborating fictions.

Time will tell what diverse futures are held in store for us. Benjamin Woolley has launched a series of exploratory probes into the spaces of postmodern culture in his book, *Virtual Worlds* (1992). In his chapter on

hypertext, he quotes computer executive John Walker: "When you're interacting with a computer, you are not conversing with another person. You are exploring another world (Woolley 154). An electronic environment is increasingly our context; arguably, we have already entered another world, and the hypertext theorists are among those endeavouring to map the territory. The death of the novel has been announced for decades... and refuted. Now, we are told, the end of the Book is at hand, rendered obsolete by the computer screen. History has shown that such displacements are rarely clear-cut; often, dominant technologies change their status, assume secondary roles, rather then simply vanishing. The Book offers pleasures that cannot be emulated by the computer; it may be that printed novels of the future will adapt to foreground those pleasures, relating to tactility, specific visual organization, the technological form generally. The groundwork has been done within the metafictional tradition.

Analysts of current change have created a constellation of cultural significance from the work of 'obscure' theorists and 'difficult' writers. The experimental and the avant-garde have always drawn criticism from across the political spectrum, for failing to respond with adequate directness to social issues, for failing to address the concerns of the majority, especially in times of crisis. Innovative writers have been attacked as "aesthetic game-players," obsessed with formal concerns, "juggling, obscenely giggling and gesturing in the wings while the play of life groans on" (Gardner 55). An alternative view is offered by Marshall McLuhan who, observing how real change tends to be perceived only in retrospect, defines the genuine artist as "the person who invents the means to bridge between biological inheritance and the environments created by technological innovation" (McLuhan 98). Hypertext, in a sense, creates its own literary tradition; from our vantage point we may understand that the game-players, the metafictionists writing fiction about the writing of fiction, seemingly so detached from history, have sustained an historical perspective on technological forms, preserving awareness of how those forms may shape our knowledge, and enabling us to meet the challenge that invariably comes with change.

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