Hypertext

Astrid Ensslin, University of Alberta (CA)

Lyle Skains, Bangor University (UK)

1. Introduction

This chapter examines the transformations of literary hypertext as a nonlinear digital writing format and practice since its inception in the late 1980s. It traces its development from the editorially closed and demographically exclusive writerly practices associated with first generation hypertext (also known as the Storyspace School) to the participatory, inclusive and arguably more democratic affordances of the freely accessible, user-friendly online writing tool, Twine. We argue that while this evolution, alongside other participatory forms of social media writing, has brought creative media practices closer than ever to the early poststructuralist-inspired theory of "wreadership" (Landow 1992), the discourses and practices surrounding Twine perpetuate ideological and commercially reinforced binaries between literature and gameplay. In view of the recent proliferation of text-based literary games, however, we argue that media literacies are bound to change and adapt to the cognitive challenges and distinct immersive qualities of literary-ludic hybrid artefacts, and readers/players will develop media-literate strategies of engaging with the clash between hyper- and deep attention (Hayles 2007).

In tracing the historical development of hypertextual writing, we concentrate particularly on aesthetic, technological, and commercial transformations. We begin by outlining some key concepts surrounding hypertextuality and non-sequential writing, including their analogue groundings in proto-hypertextual artefacts. We then move on to outline how hypertext has been aligned with concepts from poststructuralist literary theory, such as decentralization, rhizomatic thought, and the rise of the reader as *alter auctor*. The ensuing sections outline the historical development of hypertext from the Storyspace School to the Web, an evolution that has been framed by various theorists in terms of generations (Hayles 2002, Ensslin 2007, Rustad 2012): from first generation hypertext to second generation hypermedia, which were then followed by increasingly less hypertextual and instead more ludic, multimodal, participatory and often also

more linear forms of digital writing. The migration to web-based forms of hypertext has generated a variety of creative practices implementing hypertext as a micro- or macro-device, as a literary metagame, or an “adaptive” form (Marino 2008). The latter appears to have heralded the growth of highly personalized and personalizable, autobiographical forms of hypertextual writing, which are reflected in the Twine community and the fact that the tool affords a more functionalized, applied approach to digital writing in pedagogic and interventionist contexts. This final move will lead us to a concluding discussion, which will reflect on the ochlocratic tendencies revolving around the Twine community and the political, ideological, and economic controversies surrounding the gamification of hypertext writing.

Our motivation to co-author this chapter is anchored in a tendency we have both observed and driven forward in academic practices surrounding hypertext and digital writing more generally: the trend toward collaborative ventures, where expertise in diverse creative, scholarly, and scientific fields is brought together not only to create highly innovative multimedia hybrids, but indeed to produce interdisciplinary, ground-breaking research on evolving creative practices such as hypertextual writing. One of the projects we discuss in the penultimate section of this chapter is a body image intervention, in which digital media artists, literary and media theorists, and psychologists collaborated on methodological questions surrounding digital fiction and bibliotherapy (Ensslin et al. 2016). We also argue, with Skains et al. (2016), that teaching hypertextual writing can and has been proven to help creative writing students develop an understanding and appreciation of nonlinear compositional structures as aesthetic and critical objects.

2. Concepts and definitions

Hypertext can be understood as an umbrella term denoting a specific form of electronic document organization (Ensslin 2014a: 258). Through hyperlinks, it connects digital files, documents and media in interactive networks. These networks can assume gigantic dimensions, which the World Wide Web epitomizes. Hypertexts are navigated by activating hyperlinks, typically through mouse-click, mouse-over, and/or touch. Hypertext is typically written in HTML (HyperText Mark-up Language) and its variants, although specific software packages

like Eastgate Systems’ Storyspace and Microsoft’s Hypercard were developed before the advent of the Web to enable offline hypertextual composition.

Coined by Theodor Nelson in his 1965 lectures at Vassar College, the term hypertext derives from Greek *hypér* (over, above, beyond) and Latin *texere* (to weave) and refers to the subsumption of multiple subordinate texts under a larger organizational, interconnecting protocol. Nelson’s frequently quoted definition describes hypertext as "non-sequential 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" (Nelson 1984: 0/2). The resulting networks may comprise a variety of semiotic modes, including writing, image and sound. Such multimodal hypertextual networks are generally referred to as hypermedia, short for "hypertext multimedia.”

Nelson's concept was inspired by Vannevar Bush's *Memex* ("Memory Expander"), a theoretical rather than actual, analogue information system designed for the connection and storage of all documents and communications in the world, which Bush had first envisaged in the 1930s. The *Memex* was modeled on the associative functions of the human brain, and intended to operate by ways of indexing and creating paths to help retrieve documents (Bush 1945). Nelson’s aim was to implement Bush's idea using computational technologies by creating a literary “docuverse” – a conceptual precursor of the World Wide Web, which eventually came into being in the 1990s.

Although the term "hypertext" is a twentieth century coinage, the concepts of multilinear reading, intertextual linkage, annotation and cross-referencing date back over a millennium. Pre-digital hypertexts, also known as proto-hypertexts, had already appeared in the form of glosses in medieval Scripture, Canon Law, and medical texts. Non-linear, proto-hypertextual print fiction first emerged with the rise of the novel in the 18th century, underlining the genre’s non-conformist tendencies. Well-known examples include Lawrence Sterne's anti-novel *Tristram Shandy* (1760) and Jean Paul's so-called footnote fiction (e.g. *Siebenkäs*, 1796/97; *Titan*, 1800-03). 20th century modernism and postmodernism in particular generated a variety of proto-hypertextual print fiction and poetry. The narrative style of James Joyce's *Finnegans Wake* (1939), for example, presents the reader with a discontinuous, ever changing line of narrative discourse involving rapid changes between focalizers, settings, and events. Similarly, Oulipian writing, dating back to the 1960s French Oulipo (Ouvroir de littérature potentielle) movement,

operates under self-imposed structural and mathematical constraints, resulting in various non-linear works, such as Raymond Queneau's *Cent mille milliards de poèmes* (1961), the lines of which are printed on separate strips that can be randomly combined into 10^{14} possible different poems.

3. Hypertext and poststructuralist literary theory

The emergence of digital hypertext fiction and poetry in the late 1980s was set against a scholarly backdrop steeped in the critical paradigm of late poststructuralism. Metaphorically, the concept of nonlinearity lends itself to the principles of the rhizome (Deleuze and Guattari 1987, Moulthrop 1995): ramifying, decentralized, horizontally organized root structures, which do not have a clear beginning or end. Rhizomes conveniently deviate from the arborescent, hierarchical structures associated with logocentrism. In the same vein, early literary hypertext followed an avant-garde principle, seeking to undermine hierarchical textual order and linear narrative development by offering readers highly fragmented, subjective reading experiences, aimed to produce unique and individualized receptive and hermeneutic processes.

Individual units of a hypertext are generally referred to as "lexias" (nodes, or text chunks; Landow 1992; cf. Barthes’ [1970] “units of reading”). A typical hypertext lexia contains a number of links, which enable readers to choose different pathways for every reading, thus generating different mental images of the text, or indeed different texts (Ryan 2001: 5). This element of creating individualized narratives seemed conveniently close to the idea of virtual co-authorship, thus giving rise to the concept of the hypertext "wreader", a reader who assumes an authorial role through actualization of the text (Landow 1992). Wreadership has been theorized extensively since Landow’s coinage and experienced an upsurge in academic interest in contemporary participatory media culture vis-à-vis the shared and co-produced social media narratives it affords (Page 2012, Klaiber 2013, Ensslin 2015).

Literary studies has seen three major, partly overlapping waves of hypertext theory. The first wave was inspired by a body of fictional, poetic, and dramatic works written between the late 1980s and mid-1990s, and published primarily in Eastgate's Storyspace software. Canonical works of the Storyspace School include, for instance, Michael Joyce's *afternoon - a story* (1987), Stuart Moulthrop's *Victory Garden* (1992) and Shelly Jackson's *Patchwork Girl; Or, a Modern*

Monster (1995). Pioneered by George P. Landow, Robert Coover and Jay D. Bolter, the first wave of literary hypertext theory mapped key organizing principles of hypertext fiction and poetry, embedding them firmly in the concepts and terminology of postmodern and particularly poststructuralist theory. Being “a radically divergent technology, interactive and polyvocal, favoring a plurality of discourses over definitive utterance and freeing the reader from the domination of the author" (Coover 1992), hypertext came to be seen as a "vindication of postmodern literary theory" (Bolter 1992: 24), a claim which Landow (1992) systematized in his so-called convergence thesis. Thus, hypertext came to be considered a tangible writerly implementation of major poststructuralist and deconstructionist theorems such as anti-logocentrism, the writerly text, the death of the author, decentering and non-closure. The liberating, empowering, and ultimately democratizing potential this was supposed to have for hypertext (w)readers, however, did not materialize empirically.

As a matter of fact, in a hypertext environment, the reader’s freedom to form personal associations and connotations within the formal constraints of the material text is considerably restrained given the existence of manifest, technically implemented hyperlinks, which are more likely to prevent than facilitate creativity in readers accustomed to monolinear plots and tangible narrative boundaries. Indeed, numerous empirical studies found hyperlinks to have a delimiting rather than empowering function in hypertext readers, as they often lead to confusion, serendipity and cognitive overload in the readers not accustomed to hypertextual forms of creative writing (Pope 2006; Miall & Dobson 2001; Mangen & van der Weel 2015). According to Simanowski (2004; see also Ensslin 2007), the only feasible contexts in which the roles of reader and author may legitimately be merged are truly collaborative writing projects such as *A Million Penguins* (a 2007 web-based collaboration of Penguin Books and De Montfort University), netprov works such as *Grace, Wit & Charm* (Wittig 2011), Kate Pullinger and Chris Joseph's collaborative social media novel, *Flight Paths: A Networked Novel* (2007-2012), and dedicated collaborative writing platforms such as *Ficly* (see Klaiber 2013).

From the mid-2000s onward, a second wave of hypertext and digital fiction scholars has highlighted the importance of grounding literary, stylistic, and narratological theories of hypertext (and other types of electronic literature) in methodologically rigorous close analyses. Acknowledging that hypertext and other electronic types of writing require a new hermeneutic

attitude, they embrace the fact that hypertexts are never read the same way twice but indeed rely on multiple re-readings on the part of the analyst (Ciccoricco 2007; Ensslin 2007). This theoretical and analytical school has been adapting existing, print-born theories and analytical tools from stylistics, narratology, and semiotics as well as developing new approaches, concepts, and methods tailored to the affordances of digital media (e.g. Ensslin & Bell 2007, Bell 2010, Bell et al. 2014). For example, in a book-length study, Bell (2010) applies select theorems of Possible Worlds Theory to a number of Storyspace hypertext and hypermedia fictions to demonstrate how this approach can be used to analyze the ontological self-consciousness and conflicting first-person perspectives of the narrator, the problematic boundaries between fictional and historical discourses, intertextual references to other fictional characters, appearances of the author figure in the text, as well as absurdist humor. Adopting a concept from unnatural narratology, Astrid Ensslin (2012) applies theories of unreliable narration to Michael Joyce's Storyspace fiction *afternoon - a story* and Stefan Maskiewicz's dialogic hypermedia narrative, *Quadrego* (2001). Both texts feature unintentional (neurotic and psychopathic) unreliable narrators but make very different uses of hypertextuality and hypermediality to represent the respective characters' perceptions and symptoms.

A third wave of hypertext and digital fiction scholarship may be seen in a trend toward looking at “actual” readers and conducting empirical reader response studies to develop an understanding of how readers process for example nonlinear, multimodal and ludic structures. A recent study by Bell et al. (2015) for example has studied how readers of a web-based hypermedia Flash fiction (geniwate and Deena Larsen’s *The Princess Murderer*) understand different meanings of textual *you* in a nonlinear narrative and how these understandings affect their perceived relationships to the protagonist and other characters in the narrative.

4. Hypertext and the Web

The advent and popularization of the World Wide Web in the mid-1990s opened up new avenues for hypertextual creativity, ranging from avant-garde experimentalism to more mainstream forms of interactive multimodal narrative. The inherently public nature of the Web allowed and ostensibly compelled (through a gift economy culture [Currah 2007]) digital writers to make their works freely available if they wanted them to be read more widely than the consistently

narrow, scholarly audiences afforded by the Storyspace School, which to this day insists on print-derived, offline forms of commercially traded "serious hypertext."

The rise of the Web was fostered partly by the development of multimodal technologies such as graphic browsers (e.g. Mosaic, 1993) and web design and animation software such as Flash and Dreamweaver, yet also, crucially, by HTML, the Web's major mark-up language and encoding convention. HTML serves a variety of different semiotic systems which had previously been analogue, i.e. separated in terms of mediality and materiality; text, speech, sound and music, graphics, animation and film could, for the first time, be embedded in and displayed through one and the same protocol. Enhanced by JavaScript, Flash and Shockwave technologies, web-based hypermedia came to be a sandbox for digital writers to experiment with different forms of interactivity, mono- and multilinearity, the interplay of semiotic codes in multimodal arrangements as well as new gestural manipulations (Bouchardon 2014)[1] and ontological oscillations between storyworld, the virtual realities of the everyday WWW and the realities of the reader through metaleptic links, for example (Bell 2014).

Despite its potentially anti-immersive, alienating, and confusing properties, hypertext as a structuring principle of electronic writing has continued to be used by digital writers since the advent of the Web. What can be seen, however, is that web-based uses of it often reflect a more careful, reader-friendly attitude, ostensibly seeking to sustain rather than impede immersion. For instance, Kate Pullinger and Chris Joseph's emergent digital fiction *Inanimate Alice* (2005-2016) shows that hypertextual elements can be embedded in otherwise linear hypermedia storylines so as to create options and choices without risking overall reader disorientation vis-à-vis lack of closure and navigational clarity. Episode 4, "Hometown", opens with Alice being dared by her friends to climb a dilapidated staircase. The experience is told diegetically by Alice's first person narrative voice, superimposed in writing onto a photographically animated first-person, linear, semi-interactive camera eye journeying up the rusty stairs. The doubly encoded first person viewpoint (textual diegesis and camera focalization) allows readers to empathize with the challenging, potentially life-threatening situation facing the protagonist. Two-thirds of the way up, Alice notices the stairs beginning to collapse underneath her, at which point the visual

[1] Bouchardon (2014) uses the concept of gestural manipulations as an analytical tool for digital fictions that emphasizes the "gestural," kinetic aspects of user interactions with electronic literature, such as clicking, drag-and-drop and pull-and-release, all of which add to a digital literary text's essential interpretive meaning.

interface turns blurry and begins to spin before turning completely black, thus conveying Alice’s confusion and momentary black-out. Subsequently the reader obtains four hypertextual options to "[l]ook at what happened," visualized as four compass hands on a black background. Each chosen path represents an element of Alice’s aporia: the upward pointer, for example, leads to a display of the wall of the building that Alice is ostensibly clinging on to, superimposed by an animated, crawling chunk of text quite literally performing its own content: “I managed to haul myself up onto what remained of the stairs.” Clicking on the “continue” (>>) arrows leads the reader back to the options screen, which now only has three options left. The thus hypertextually conceptualized and implemented, multilinear panic situation continues with each chosen direction and inevitably leads back to the options screen without any further deviations or alternative pathways. Hence, as soon as all four directions have been explored, the linear reading path continues without the reader having been given even a slight chance to deviate from the beaten track that is Alice’s survival. It may even be argued that this type of hypertextual embedding is a paradoxically linear way of using multilinearity in electronic writing – arguably one that defies key postmodernist assumptions and minimizes rhizomatic effects to a temporary randomization of reading order. Ultimately, of course, this writerly design is a deliberate and innovative attempt to allow readers a two-dimensional, multimodal phenomenological experience of the protagonist’s distressed state of mind and multisensory stream of consciousness.

Another attempt to create user-friendly, “adaptive” hypertext online is Mark C. Marino's (2008) *a show of hands*. Using a software called the Literatronic(a) storytelling engine, this work pursues a user-centered approach by enabling readers to situate themselves within the story. It "adapts around the reader's choices, rearranging the content so the reader will always encounter all of the text in an order optimized for narrative coherence." Developed by Juan B. Gutiérrez, Literatronic’s “artificial intelligence engine” attempts to mitigate the disorienting and frustrating effects of hypertexts. Similar to other hypertext engines, Literatronic is based upon authorial creation of lexias and hyperlinks between those lexias. What it adds are dynamic responses to reader actions that seek to minimize aporia and maximize narrative cohesion. For instance, as readers journey through *a show of hands*, they are offered bookmarking capabilities, a “percentage read” bar to gauge their progress through the text, a list of “Recommended Next Pages” ranked by continued narrative relevance, a contents table that indicates which lexias have

been read, as well as Marino’s addition of a hyperlinked photomosaic with each tile linking to a lexia, their narrative distance reflected in their proximity in the mosaic. The lexias themselves do not contain links, which further enables immersion for the reader, free from the cognitive distractions of links to unknown destinations. Hence, Marino’s work reflects digital writers’ ongoing pursuit to empower readers by offering them personalized wreading experiences.

Hypertext fiction has often been compared to a “game” in the dual sense of giving readers playful choices and positing them in a virtual competition with the author (Fauth 1995, Morgan and Andrews 1999, Millard et al. 2005, Rustad 2009, Bell 2010). Surely, literary gaming in the sense of operating ludic mechanics (rules, victory conditions, scalable player progress etc.) does not usually happen when reading hypertext literature (see also Koskimaa 1997/1998). Instead, readers engage in complex forms of cognitive-ergodic and often aleatory playfulness, which can assume various forms and have diverse aesthetic effects (Ensslin 2014: 58). Robert Kendall’s poetic hypertext mystery, *Clues* (2002), for example, may be seen as an allegory of the *agon* (Caillois 2001) between author and reader. It sends its readers on a metafictional quest, while audiovisually evoking the conventions of a standard Hollywood noir thriller. The hypertext structure provides an element of choice and decision-making – both important aspects of gameplay proper. Readers can click on doors to enter rooms and obtain clues. However, they will discover that any narrative devices, such as setting, props, plot and character, are purely figurative devices for self-reflexive reading and poetic communication ("The pen is your weapon of choice"). The true riddle therefore lies in interpreting the text's metafictional and metapoetic layers of meaning, and to rediscover one's own role in the literary communication process.

Thus, married with the connectivity, adaptiveness, and multimodality of the Web, hypertext remains a powerful expressive tool for creators and readers of playful, nonlinear fiction. Furthermore, as will be shown subsequently, its inherent ludic qualities have proven to be a fruitful means of promoting itself as not only a niche phenomenon but indeed a form of writing and self-expression that has the potential to attract wide, popular and interdisciplinary user groups.

5. Hypertext as Literary Gaming: The Rise of Twine

Web 2.0, defined by its participatory architecture and user-generated content, has provided a global space for interaction, the sharing of ideas, collective intelligence, and democratization of content (O'Reilly 2007; Jenkins 2006a; b). The democratization of hypertexts, however, was somewhat slow in emerging: until 2009, Eastgate's Storyspace, which was used to create *afternoon* and *Patchwork Girl*, was the only consistently maintained dedicated hypertext authoring system, and its purchase price was (and remains) significant. Further, Eastgate hypertexts are published at a price point comparable to a new release hardback or Blu-ray, and are generally obsolete and unplayable on contemporary machines within a few years. Outside of Storyspace, no hypertext-specific tools existed; hypertext authors either had to adapt general web authoring platforms to meet the specific affordances of their creative genre or create their own authoring tools, both of which require a level of technological awareness and expertise to accomplish. In a culture of internet gift economies (Currah 2007) and WYSIWYG user interfaces, these economic and technological barriers to entry kept hypertext in and of the avant garde and the academic.

Chris Klimas, an interactive fiction author, launched his Twine storygame platform in 2009 to specifically address these barriers. The program is free, open source, open platform (Twine 2.0, released in 2014, is browser-based), and publishes to HTML. At its core, it requires no coding (just a simple text notation for hyperlinks), though advanced users can refine it with CSS, JavaScript, variables, conditional logic, and multimedia. Despite the lack of barriers to entry, however, Twine languished in obscurity until independent game developer Anna Anthropy posted about it on her blog and promoted it in her book *Rise of the Videogame Zinesters* in 2012, bringing the platform into the "fringe mainstream" (Ellison 2013; Brey 2016; Friedhoff 2013). By the end of the year, fellow game creator Porpentine had posted a manifesto/tutorial (2012), Anthropy had posted numerous tutorials, and Twine emerged as an independent gaming platform.

Anna Anthropy and Porpentine's adoption and promotion of Twine have affected the hypertext genre in two spheres: first, as a platform for marginalized voices in the gaming industry, and second as a democratization of hypertext as a literary form. Anna Anthropy characterizes the Twine community as queer- and women-dominated, and both she and Porpentine promoted the platform as a resource for the "marginalized voices" of underserved populations, including

women, LGBTQ, and racial or religious minorities (Bernardi 2013; Friedhoff 2013; Harvey 2014; Kopas 2014). Anastasia Salter notes this is a sharp contrast to the overall game-development community (2015), which the International Game Developers Association's (IGDA) 2014 survey indicates is made up of 76% male, 86% heterosexual, and 79% Caucasian. Popular discourse on Twine games supports Anthropy's overview, calling attention to the "personal game" aspect of Twine hypertexts, and how Twine's affordances allow the game-maker to focus on the text instead of the tech in order to make "games whose purpose is to explore personal perspectives and issues of identity, sexuality and trauma that mainstream games rarely touch on" (Hudson 2014: n.p.). Indeed, frequently recommended Twine games such as Anthropy's *Queers in Love at the End of the World* (2013), Porpentine's *With Those We Love Alive* (2014), and Zoe Quinn's *Depression Quest* (2013) all incorporate innovative gameplay and interaction focusing the reader/player's attention on questions of love, gender, sexuality, body awareness, and mental illness – using the text-dominance and intimacy afforded by hypertext to explore deeply personal topics that mainstream gaming rarely addresses. Further, from their position outside the perceived "elite" academy, Anthropy and Porpentine (as well as other Twine author-developers) have reached a mainstream audience for these texts and their resulting discourse, a feat most hypertexts have never accomplished (or indeed sought to accomplish). By side-stepping the barriers to entry formed by academic gatekeepers and pricey software platforms, Twine games have democratized the hypertext form to a new audience of gamers and game-developers who feel their voices are not being heard in their chosen communities: women, LGBTQ, and racial and religious minorities who play and create games.

What is important in relation to hypertextual democratization through Twine is the almost unexpected reversion from what, for decades, seemed to be a trend toward reverse ekphrasis and increased orality in hypermedia verbal arts - toward a reduction of linguistic literariness in favor of a more multimedia artistic hybridity that sometimes leaves the actual written text (i.e. the essence of conceptual literariness) in an either marginalized position, or indeed in a quasi-egalitarian interplay with other semiotic modes such as sound (voice-over; music; noise) and (moving) image (see Aquilina's contribution to this volume). This trend has been particularly noticeable in Flash and 3D digital fictions for example by Dreaming Methods, Christine Wilks and Kate Pullinger, in some app fictions such as Gorman and Cannizzaro's *Pry*, as well as literary games such as Tale of Tales' *The Path* and Jonathan Blow's *Braid*. Twine fictions, by

contrast, are almost exclusively text-based, thus debunking the general empirical finding and critical assumption that text-heavy digital writing comes at the expense of mass popularity. Thus, we might argue that the Twine movement has led to a paradigm shift in digital literariness, and it will likely cause a renewed scholarly interest in close-reading as well as close-play, to augment and complement rather than replace or defy what Moretti (2013) has termed 'distant reading' in the age of big data.

In light of Twine hypertexts' frequent exploration of personal experience and choice, some studies have begun to emerge that examine how both writing and reading these texts can be used as interventions for particular issues. Einstein and Vetter's 2015 study asked students on a gender studies composition course to use Twine as a creative platform for texts exploring the topic of women in games development, reporting that drafting and developing these hypertexts "created for them a more nuanced and complex understanding of the ways in which gendered behavior is policed in early childhood and adolescence in order to enforce gender conformity" (n.p.). A subset of Ensslin et al.'s 2016 study on creating Twine hypertexts as an expressive writing intervention on body image issues for teenagers found that "hypertext's inherent ability to permit the digital writer to examine self and society…can result in positive effects for the participants' body image" (13); the emergence of Twine hypertexts created by and for more "popular" users (as opposed to academic or experimental users) widens the potential for hypertext as a medium of cultural discourse and empowerment of marginalized voices, and a creative tool for exploration of personal narrative. Empirical studies are only recently emerging on hypertext and digital fiction; more examination of how writing hypertexts (as opposed to printed prose) can affect mental and emotional states, as well as cognitive processing, is certainly called for, given the indications in these early studies.

As a creative tool in and of itself, Twine is being put to use as a pedagogical tool in a variety of classrooms. The studies noted above utilized Twine because of its accessibility and ease-of-use; their primary purposes were not to teach students to write hypertexts, but to use the hypertext medium as a method of creative exploration on topics unrelated to hypertext. Twine is, of course, being used in creative education contexts as well, as an introductory tool for game development (Anthropy 2012; Friedhoff 2013) and experimental creative writing. Skains et al.'s 2016 study of the effects of writing in digital media on experienced creative writers found that writers who

engage in hypertexts demonstrate an altered cognitive approach: they are more likely to engage in unnatural narration, reflecting the cognitive effects of considering multicursal pathways for character choices and plot alternatives. They are also more likely to develop more disciplined writing habits, incorporating greater levels of planning and revision, in order to accommodate the multiple possibilities for narrative within hypertexts.

The development of Twine (and other emerging platforms such as Texture) is a movement of hypertext away from what Porpentine describes as a "lull" – when the gatekeepers of the form[2] "acted like it was some kind of avant-garde science," where hypertext was "caught uncomfortably between literature and games" (2012: n.p.) – toward a medium as versatile and adaptable as pen and paper. Its accessibility and facility have led to its rise as a vehicle for personal exploration of narrative experiences in underserved populations, establishing hypertext outside of the experimental art realm and into the mainstream. This has enabled hypertext to play significant role in personal narrative and cultural discourse, establishing hypertext beyond literary experimentation and avant-garde art into literature itself.

6. Concluding Thoughts: Hypertext Now and in the Future

Multilinear writing has come a long way from proto-hypertextual experimentation with the printed page to multimodal and multivariant writerly and readerly gameplay in the age of Twine, Scalar, and Texture. What has become evident in the process is that (w)readerly empowerment through co-creation of narrative meaning cannot be imposed through forms, texts and theories that imply exclusivity of access and assume that deconstructivist thought can be implemented through manifest literary materiality. Instead, movements like the Twine community and participatory social media writing have shown that genuine (w)readership has to come from users themselves, driven by the aesthetic and social needs of their own communities, and in particular the urge to "circumvent gatekeeping in game development" (Brey 2016) and to get published as an experimental creative writer.

[2] Porpentine does not specifically identify "gatekeepers," though she references "academic essays on hypertext buried behind passwords," "a hypertext editor like Twine for $300," and "stories selling for $30" (2012: n.p.), which seems to refer to Storyspace and Eastgate Systems.

The big question in this context is whether, given the above mentioned democratization process, this means that hypertext has finally been canonized, in a sense of return and transformation (Ensslin 2007; Assmann and Assmann 1987). And yet this return is ambivalent: the continuing exclusivity of access suggested by highly copyrighted forms like Storyspace hypertexts permeates issues of looming obsolescence and ultimately academic elitism. Surely, hypertext fictions like *afternoon* and *Patchwork Girl* are now regularly taught in literary media classes around the world, and yet the issue of iterative incompatibility with ever-evolving software requirements remains an obstacle – deliberate or not – to broader popularization. By the same token, even for Generation Y and after decades of regular Web exposure, the aesthetic effects of Storyspace hypertext remain alienating to the common reader (Mangen & van der Weel 2015).

Paradoxically, the canonization of hypertext as a form of option-driven creative writing is happening on the ludic rather than literary side of creative expressivity, and in previously unforeseeable manifestations that could not have happened without participatory media and radical changes in commercial software and IP models (e.g. open source, open software) as well as user-friendly WYSIWYG interfaces. Hence, self-authoring (rather than choosing your own paths) is becoming the standard form of literary-ludic interaction, and what is top ranked (ergo: 'literary,' or 'worthy of canonization') is no longer decided by the select few but the wreaderly masses themselves. We might argue that the aesthetic and commercial qualities of literariness in digital media are shifting towards wreaderly presumption and crowdsourced criticism and appreciation. The question arises of course whether these are signs of true democratization or rather of a new, evolving form of elitism: a type of aesthetic technocracy that may call out for a reassessment of the term and traditionally pejorative connotations of ochlocracy, or smart mobs (Rheingold 2002).

By the same token, it cannot be denied that Twine art has found a home neither in the region of serious hypertext, which seems to defy "plot-centered hypertext narrative" and to assume "that [Twine] writing is a hobby," thus impeding a "literary economy" (Bernstein in Pressman 2014); nor in mainstream game culture (Brey 2016). Strangely or not, Twine art has created its own niche in between commercial media sectors, yet – unlike Storyspace hypertext – this niche has been burgeoning, not least because it offers an outlet for autobiographical, emotional and even therapeutic interactive experiences that are meaningful, tangible and poignant for today's

prosumers. Furthermore, some existing Twine games exhibit literary and ludic qualities that are not only innovative but deeply immersive and re-playable. This begs the question of whether so-called hobbyist hypertext writing might perhaps ultimately become more profitable in terms of a literary economy than those promoted by more conventional publishing models – especially considering alternative, donation-based and online-marketing-driven reward systems, as well as the fact that average user literacies are bound to become increasingly multi-literate, blending modes of hyper- and deep attention and changing reader/player expectations to ever-new and challenging combinations of literary, audiovisual, and ludic arts.

What we can say, by way of a conclusion, is that the recent discursive shift from serious hypertext to personalized game writing in the area of nonlinear electronic literature has moved hypertext scholarship away from ultimately hypothetical constructions of writerly practices that seem to manifest poststructuralist thought, to examinations of actual reader participation, agency and ownership in the development of interactive literary narratives, or games, as many would call them. Among the deplorable symptoms of this paradigm shift is of course the fact that writerly and thematic diversity may lead to victimization vis-a-vis cyberbullying, as the horrific misogynist Gamergate attacks on the likes of Zoe Quinn have shown in recent years. In this light, as well as other political and cultural facets of our contemporary Western pseudo-democratic reality, democratization and anti-commercialism are at a risk of undergoing semantic pejoration. And indeed, even such super-accessible platforms as Twine and Scalar inevitably promote cultural colonialism such as writing in English as the domineering T-Rex of Web culture (Brey 2016; Ensslin 2011). Promoting diversification of digital art practices therefore must remain at the forefront of electronic literature activism, not least to show that digital writing can indeed serve as a new form of “world literature” (Tabbi 2010), and not just in the sense of the potential inhabited by electronic literature to evoke community-building, collaborative hermeneutic and creative processes but indeed a world literature that is grounded in and promotes extra-poetic, egalitarian values across identities, cultures and (linguistic) communities.

References

Anthropy, Anna. (2012), *Rise of the Videogame Zinesters: How Freaks, Normals, Amateurs, Artists, Dreamers, Drop-outs, Queers, Housewives, and People Like You Are Taking Back an Art Form: Anna Anthropy*. New York: Seven Stories Press.

Anthropy, Anna. (2013), *Queers in Love at the End of the World*. [Twine game] http://www.auntiepixelante.com/endoftheworld.

Assmann, Aleida and Jan Assmann. (1987), *Kanon und Zensur: Archäologie der literarischen Kommunikation, II*. Munich: Wilhelm Fink.

Barthes, Roland. (1970), *S/Z*. New York: Hill and Wang.

Bell, Alice. (2010), *The Possible Worlds of Hypertext Fiction*. Basingstoke: Palgrave Macmillan.

Bell, Alice (2014), "Media-specific Metalepsis in *10:01*." *Analyzing Digital Fiction*. eds. Alice Bell, Astrid Ensslin and Hans Kristian Rustad. New York: Routledge, (21-38).

Bell, Alice and Astrid Ensslin. 2011. "'I know what it was. You know what it was:' Second Person Narration in Hypertext Fiction." *Narrative* (19.3) pp. 311-29.

Bell, Alice, Astrid Ensslin and Hans Kristian Rustad. (2014), *Analyzing Digital Fiction*. New York: Routledge.

Bell, Alice, Ensslin, Astrid and Smith, Jen. (2015), "Studying 'Readers' of Digital Fiction: 'You' in *The Princess Murderer*." Experimental Narratives: from the Novel to Digital Storytelling Conference, Institute of Modern Languages Research, Senate House, University of London, England, 26-27 February 2015.

Bernardi, Joe. (2013), "Choose Your Own Adventure-Maker: Twine and the Art of Personal Games." *Motherboard*. (Feb 19, 2013). http://motherboard.vice.com/blog/twine-and-the-art-of-personal-games.

Bläß, Ronny. (2004), "Hypertext/Hypertextuality." In *Metzler Lexikon Literatur- und Kulturtheorie: Ansätze - Personen - Grundbegriffe*, edited by Ansgar Nünning. 3rd ed. Stuttgart: Metzler, (270-1).

Bolter, Jay David. (1992), "Literature in the Electronic Writing Space." *Literacy Online: The Promise (and Peril) of Reading (and Writing) with Computers*. ed. Myron C. Tuman. Pittsburgh: University of Pittsburgh Press, (19-42).

Bouchardon, Serge. (2014), “Figures of Gestural Manipulation in Digital Fictions.” *Analyzing Digital Fiction*. eds. Alice Bell, Astrid Ensslin and Hans Kristian Rustad. New York: Routledge.

Brey, Betsy. (2016), “Twine, Hypertext, and Games: Ideologies and Implications.” Canadian Games Studies Association Annual Conference, June 1-3, University of Calgary.

Bush, Vannevar. (1945), "As We May Think." *Atlantic Monthly.* (July 1945), 47-61.

Caillois, Roger. (2001), *Man, Play and Games*. Chicago: University of Illinois Press.

Ciccoricco, David. (2007), *Reading Network Fiction*. Tuscaloosa: University of Alabama Press.

Coover, Robert. (1992), "The End of Books." *The New York Times Book Review.* (June 21), 23-25. Available at http://www.nytimes.com/books/98/09/27/specials/coover-end.html.

Currah, Andrew. (2007), “Managing Creativity: The Tensions Between Commodities and Gifts in a Digital Networked Environment.” *Economy and Society* (36.3) pp. 467–494.

Deleuze, Gilles and Félix Guattari. (1987), *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minneapolis Press.

Einstein, Sarah and Matthew Vetter. (2015), “Women Writing in Digital Spaces: Engaging #Gamergate and Twine in the Gender Studies-Composition Course.” *Digital Rhetoric Collaborative*. 7 May 2015. http://www.digitalrhetoriccollaborative.org/2015/05/07/women-writing-in-digital-spaces-engaging-gamergate-and-twine-in-the-gender-studies-composition-course/

Ellison, Cara. (2013), “Anna Anthropy and the Twine Revolution.” *The Guardian*. 10 April 2013. http://www.theguardian.com/technology/gamesblog/2013/apr/10/anna-anthropy-twine-revolution

Ensslin, Astrid. (2007), *Canonizing Hypertext: Explorations and Constructions*. London: Continuum.

Ensslin, Astrid. (2009), "Respiratory Narrative: Multimodality and Cybernetic Corporeality in 'Physio-cybertext.'" *New Perspectives on Narrative and Multimodality*. ed. Ruth Page. New York: Routledge, (155-165).

Ensslin, Astrid. (2011), “’What an Un-wiki Way of Doing Things:’ Wikipedia’s Multilingual Policy and Metalinguistic Practice.” *Journal of Language and Politics* (10.4) pp. 535-61.

Ensslin, Astrid. (2012), “'I Want to Say I May Have Seen My Son Die This Morning:' Unintentional Unreliable Narration in Digital Fiction." *Language and Literature* (21.2) pp. 136-149.

Ensslin, Astrid. (2014a), “Hypertextuality.” *Johns Hopkins Guide to Digital Media*, ed. Marie-Laure Ryan, Lori Emerson and Benjamin J. Robertson. Baltimore: Johns Hopkins University Press, (258-265).

Ensslin, Astrid. (2014b), *Literary Gaming*. Cambridge, MA: MIT Press.

Ensslin, Astrid. (2015), “Digital Fiction: Texts, Technologies, Techniques of Reading.” Shankland Lecture, Bangor University, 7 December 2015. https://www.youtube.com/watch?v=CLvCrvMq9sE.

Ensslin, Astrid and Alice Bell. (2007), *New Perspectives on Digital Literature: Criticism and Analysis*. Special issue of *dichtung digital* 37. www.dichtung-digital.org/Newsletter/2007.

Ensslin, Astrid, Lyle Skains, Sarah Riley, Joan Haran, Alison Mackiewicz and Emma Halliwell. (2016), “Exploring Digital Fiction as a Tool for Teenage Body Image Bibliotherapy.” *Digital Creativity*, (in press).

Fauth, Jurgen. (1995), "Poles in Your Face: The Promises and Pitfalls of Hyperfiction." *Blip Magazine* (1.6). http://blipmagazine.net/backissues/1995/06-jurge.html.

Fiderio, Janet. (1988), "A Grand Vision." *Byte* (13.10) pp. 237-243.

Friedhoff, Jane. (2013), “Untangling Twine: A Platform Study.” In: *Proceedings of DiGRA 2013: DeFragging Game Studies*. Atlanta, GA. http://www.digra.org/wp-content/uploads/digital-library/paper_67.compressed.pdf.

geniwate and Deena Larsen. (2003), *The Princess Murderer*. www.deenalarsen.net/princess/index.html.

Harvey, Alison. (2014), “Twine’s Revolution: Democratization, Depoliticization, and the Queering of Game Design.” *G|A|M|E Games as Art, Media, Entertainment* (1.3). http://www.gamejournal.it/3_harvey/#.VeW_BNNViko.

Hayles, N. Katherine. (2002), *Writing Machines*. Cambridge, MA: MIT Press.

Hayles, N. Katherine. (2007), "Hyper and Deep Attention: The Generational Divide in Cognitive Modes." *Profession* 2007 pp. 187-99.

Hudson, Laura. (2014), “Twine, the Video-Game Technology for All.” *The New York Times Magazine*. 19 November 2014. http://www.nytimes.com/2014/11/23/magazine/twine-the-video-game-technology-for-all.html.

Klaiber, Isabell. (2013), "Wreading Together: The Double Plot of Collaborative Digital Fiction." *Analyzing Digital Fiction*, eds. Alice Bell, Astrid Ensslin and Hans Kristian Rustad. New York: Routledge, (124-140).

Jackson, Shelley. (1995), *Patchwork Girl, or, A Modern Monster*. Cambridge, MA: Eastgate Systems.

Jenkins, Henry. (2006a), *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press.

Jenkins, Henry. (2006b), *Fans, Bloggers, and Gamers: Exploring Participatory Culture*. New York: New York University Press.

Joyce, Michael. (1987), *afternoon, a story*. Cambridge, MA: Eastgate Systems.

Kopas, Merritt. (2014), “Trans Women & The New Hypertext.” *Lambda Literary*. 8 July 2014. http://www.lambdaliterary.org/features/07/08/trans-women-the-new-hypertext/.

Koskimaa, Raine. (1997/1998), "Visual Structuring of Hyperfiction Narratives." *electronic book review* 6. http://www.altx.com/ebr/ebr6/6koskimaa/6koski.htm.

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

Mangen, Anne and Adriaan van der Weel. (2015), “Why Don’t We Read Hypertext Novels?” *Convergence*, 25 May 2015, online first, http://con.sagepub.com/content/early/2015/05/22/1354856515586042.abstract.

Marino, Mark C. (2008), *A Show of Hands*. http://hands.literatronica.net/src/initium.aspx.

Maskiewicz, Stefan. (2001), *Quadrego*. www.quadrego.de.

Miall, David and Teresa Dobson. (2001), “Reading Hypertext and the Experience of Literature.” *Journal of Digital Information* (2.1), https://journals.tdl.org/jodi/index.php/jodi/article/view/35/37.

Millard, David E., Nicholas M. Gibbins, Danius T. Michaelides and Mark J. Weal. (2005), "Mind the Semantic Gap." In *Hypertext '05: Proceedings of the Sixteenth ACM Conference on Hypertext and Hypermedia*. eds. Siegfried Reich and Manolis Tzagarakis. New York: ACM, (54-62).

Moretti, Franco. (2013), *Distant Reading*. London: Verso Books.

Morgan, Wendy and Richard Andrews. (1999), "City of Text? Metaphors for Hypertext in Literary Education." *Changing English: Studies in Culture and Education* (6.1) pp. 81-92.

Moulthrop, Stuart. (1992), *Victory Garden*. Cambridge, MA: Eastgate Systems.

Moulthrop, Stuart. (1995), "Rhizome and Resistance: Hypertext and the Dreams of a New Culture." *Hyper/Text/Theory*, ed. George P. Landow. Baltimore: Johns Hopkins University Press, (299-320).

O’Reilly, Tim. (2007), “What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software.” *International Journal of Digital Economics*, (65) pp.17–37. https://mpra.ub.uni-muenchen.de/4580/.

Nelson, Theodor Holm. (1984), *Literary Machines 93.1*. Sausalito: Mindful Press.

Page, Ruth. (2012), *Stories and Social Media: Identities and Interaction*. New York: Routledge.

Pope, James. (2006), “A Future for Hypertext Fiction.” *Convergence* (12.4) pp. 447-465.

Porpentine. (2012), “Creation Under Capitalism and the Twine Revolution.” *Nightmare Mode*. 25 November 2012. http://nightmaremode.thegamerstrust.com/2012/11/25/creation-under-capitalism/.

Porpentine, and Brenda Neotenomie. (2014), *With Those We Love Alive*. [Twine game] http://aliendovecote.com/uploads/twine/empress/empress.html.

Pressman, Corey. (2014), "Exprima Talks: Reading Hypertext with Mark Bernstein." *Publishing Perspectives*, 27 Feb. 2014. http://publishingperspectives.com/2014/02/exprima-talks-reading-hypertext-with-mark-berstein/#.V5pdTPmU2M8.

Pullinger, Kate, Chris Joseph and Andy Campbell. (2005-2016), *Inanimate Alice*. http://www.inanimatealice.com.

Pullinger, Kate and Chris Joseph. (2007-2012), *Flight Paths: A Networked Novel*. http://www.flightpaths.net.

Pullinger, Kate, Stefan Schemat and babel. (2004), *The Breathing Wall*. London: The Sayle Literary Agency.

Quinn, Zoe. (2013), *Depression Quest*. [Twine game] http://www.depressionquest.com/.

Rheingold, Howard. (2002), *Smart Mobs: The Next Social Revolution*. Cambridge, MA: Basic Books.

Rustad, Hans K. (2009), "A Four-sided Model for Reading Hypertext Fiction." *Hyperrhiz: New Media Cultures* 6 (summer), http://www.hyperrhiz.net/hyperrhiz06/19-essays/80-a-four-sided-model.

Rustad, Hans K. 2012 “A Short History of Electronic Literature and Communities in the Nordic Countries,” *dichtung digital* 41, http://www.dichtung-digital.org/2012/41/rustad.htm.

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

Salter, Anastasia. (2015), “Ephemeral Words, Ephemeral People: Suicide and Choice in Twine Games.” *Electronic Literature Organization Conference 4-7 August 2015*. Bergen, Norway.

Simanowski, Roberto. (2004), "Death of the Author? Death of the Reader!". *p0es1s. Ästhetik digitaler Poesie – The Aesthetics of Digital Poetry*. eds. Friedrich W. Block, Christiane Heibach and Karin Wenz. Ostfildern: Hatje Cantz, (17-92).

Skains, Lyle, Alice Bell, and Astrid Ensslin. (2016), “Gaming the Composition: An Ethnographic Study on Composing Ergodic Fiction.” *International Society for the Empirical Study of Literature Conference, 6-9 July 2016*. Chicago, IL.

Tabbi, Joseph. 2010. “Electronic Literature as World Literature; or, The Universality of Writing under Constraint.” *Poetics Today* (31.1) pp. 17-50.

Wittig, Rob. (2011), *Grace, Wit & Charm*. Performance: Teatro Zuccone, May 14 & 24, 2011. http://vimeo.com/26485377.