

Teaching Digital Literature: Code and Culture

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What is Digital literature?

To begin with, it is necessary to define what we mean by 'digital literature'. We can distinguish at least three quite different meanings for this expression:

1. *Digital Publishing*. This perspective focuses on the production and marketing of literature and books, with the aid of digital technology. It includes such phenomena as eBooks, Print On Demand, AudioBooks as MP3 files etc. Content-wise it is a question of literature in a traditional sense.

2. *Scholarly literary hypertext editions* for educational and research purposes. This category includes hypertextually annotated literary works, as well as multimedia implementations of classics. Mainly, because of rights issues, these are older works, free of royalties.

3. *Writing for Digital Media*. Digital texts are always *programmed* text, on one level they are computer code. This opens up a limitless field of literary play and experimentation, as texts can be programmed to behave in a more or less dynamic way. We call this perspective *cybertextuality* and the works *cybertexts*, following Espen Aarseth (1997). Cybertextuality is an umbrella term for different types of digital texts, such as hypertexts, kinetic texts, generated texts, texts employing agent technologies etc.¹

All three categories are important for literary studies, and they also bear implications for literary pedagogy. In this paper, however, we limit our attention mainly to the third category, cybertextuality.

All digital works are in a very concrete sense *experimental writing*. First of all, the authors are experimenting with the new media, trying to find out what is possible in digital textuality, what are the limits of literary expression in programmable media. It is a question not so much of experimenting to break established conventions, than experimenting *trying to create new conventions*. Because the new digital technology plays such a crucial role in cybertextuality, we may call the works in this emerging field as 'technological avantgarde'. Stepping into this new field means that the authors have to learn to write anew, from a novel set of premises. This holds true not only of authors, but also of readers, who have to learn to read anew. This double challenge is a

¹ Espen Aarseth, however, stresses that cybertextuality is not limited to digital texts alone. Quite the opposite, he claims that cybertextuality is perspective on all textuality.

factor slowing down the development of cybertextual field, but at the same time, it works to create a peculiar kind of close connection between the authors and readers of cybertextual literature.

Literary tradition

So far, we are in a situation where cybertexts fall outside of the commercial publishing world². Thus, many cybertextual works are published by the authors themselves, usually through their personal websites. Web magazines, such as eg. *Beehive* <<http://beehive.temporalimage.com>>, offer important fora for cybertexts. In this marginality, and playing outside the established field of mainstream publishing, digital literature resembles earlier forms of literary avant-garde. It is also heavily 'academic' in flavour, as a significant part of both authors and readers come from the academic circles (literary studies, media studies, creative writing etc.)

Of specific precursors, or literary traditions closest to digital literature, we could mention here both modernism and postmodernism, as well as concrete poetry and the literary group Oulipo.

The characteristics of literary modernism, which are also often found in cybertextual writing include the use of dispersed perspective, fragmentarity, openness (and especially open ending), density, and complexity. With postmodernism cybertextual literature shares heterogeneity, use of collage, discontinuity and ambivalence. Concrete poetry, with its emphasis on the visual aspects of text, and foregrounding of multimodality, is one of the clearest precursors to cybertext literature, not only to cybertextual poetry, but to more narrative oriented cybertexts, too. The Oulipo group, on the other hand, with its experiments with procedural writing and combinatorial poetics is a forerunner to the idea of algorithmic or procedural writing. It might be even more apt to see Oulipian writing rather as the first phase of cybertextuality, than a precursor to cybertexts.

It seems fair to say that much of the current digital literature, in spirit and in form, is closer to modernism than postmodernism. This holds true despite the fact that there are certain inherent postmodern tendencies or qualities in digital literature.³ All in all, most authors of digital literature seem to be well aware of these precursors, even when aiming to break up with their conventions. Thus, the reader needs to be familiar with both modernist and postmodernist conventions to really appreciate digital literature in all its nuances. More importantly, the reader also needs to be ready to abandon the book, and face the screen...

² One exception being Eastgate.com, which has published literary, 'serious hypertext' since the late 80's.

³ One of these being the foregrounding of textual ontology, which for Brian McHale is the defining characteristic of postmodernist fiction. I have discussed this in more detail in Koskimaa 2000.

Digitalization of culture

When we are talking about digital literature, and especially about teaching digital literature, it is important to see also the larger cultural framework within which it is situated. In the current cultural setting, in developed countries at least, online access to content is expected. Surveys show that, for several years already, people have read more materials on screen than in print format (including all reading and textual materials, not just literary texts). This has given rise to new forms of textuality, such as:

- Text adventure games ('Interactive Fiction')
- MUDs & MOOs (Multi-User Dimensions, and Multi-User Dimensions, Object Oriented)
- Web Logs ('Blogs')
- Chat Channels, Instant Messaging, and SMS
- Wikis (esp. Wikipedia)

All these share, in various degrees, the usage of abbreviations and idiosyncratic acronyms, collaborative writing, and interactivity (writing as real-time, or close to real-time, two way communication), which all are frequently used in digital literature, too.

With Internet based cultural formations, globalization is a dominating factor. There are numerous implications for globalization tendencies within the cultural field, but here we will mention only the language issue. Most of the works of digital literature discussed in theoretical and critical treatises are written in English, and in many language areas there seems to be no indigenous, local-language digital-literature-scene to talk about at all. The domination of English language literature, at the cost of the local languages, is an issue within digital literature, but there are also signs to a contrary development; especially at the blog scene, multilingualism is striking.

The rise of the so-called new media has brought along the connected development of new forms of expression. Most notable of these is the astonishingly quickly boomed field of *digital games* with their various genres. In addition to the mainstream game genres like action, adventure, sports, and puzzle games, there are the subfields of news games, political games, advergaming, edugames etc., bringing the game approach to cultural fields where they have not played such a prominent role previously. What is notable with game cultures is the active audience participation. In addition to the playing itself, players are often involved in producing various add-ons to the games, such as modifications (mods; new games built on an existing game), patches (pieces of code changing certain details in the game), skins (custom-made character and environment textures attached upon the original game world), machinima (using a game engine as tool to produce

animation films), etc. A particularly interesting branch of digital games are online virtual worlds, from role-playing games (such as *EverQuest*) to kid's play-worlds (such as the *Habbo Hotel*).

In addition to games, there is an abundance of various sorts of multimedia productions for various purposes in contemporary culture. And when we keep an eye on the development of digital television, with its subsequent implications to broadcast conventions and audience behaviour, we begin to get an idea of how far-ranging the change of media landscape that is happening at the moment is. The birth of digital literature is, indeed, a part of that change, partly a consequence of it, partly a reaction towards it.

Roughly speaking, cybertexts can be located within the triangle:

Literature

Cinema

Games

They employ techniques such as hypertextuality, interactivity and programmability, and there is a grey area where clearly literary cybertexts give way to works more naturally classified as games or (interactive) cinema. We do think, however, that there is much to gain in keeping the literary world open to these new developments, and acknowledging the fact that 'literature' is a historically changing concept, rather than strictly sticking to the traditional literary forms and genres.

Technology

One way to classify cybertexts is by the authoring tools with which they were produced. This is, of course, quite an extra-literary approach, but justified in how strongly many authoring environments seem to direct the aesthetics of individual pieces. These tools include hypertext editors such as HyperCard and Story Space. Also general-purpose multimedia authoring tools such as Tool Book, and more recently, Director, have been employed in producing cybertexts. One of the most popular approaches currently is to use the interactive web content editor Flash (so much so, that there is already talk about a specific genre of Flash Poetry). Also, many works are done using general web page editors. The web page approach may be powered up with JavaScript coding, combination of SQL and Perl, Java Applets, or other programming languages and database solutions. Also, there are individually ('manually') coded pieces, where the cybertext takes the form of an executable file.

Being the main solution for whichever of the above-mentioned options, there is always computer code involved on some level of the work. An interesting question is, then: is the code part of the work? This may be reformulated as: where is the border between text and code located? When we are looking at cybertextual literary works, how ‘deep’ do we need to look?

From a user’s (‘reader’s’ in traditional parlance) point of view we may detect three main cases. 1. There are many works for which you don’t need programming knowledge at all. All you need to know, to be able to read and enjoy the work, is the basic usage of a computer (like using a web browser). 2. Some works only require installing. 3. There are also works that require a more profound understanding of the software environment. These include, for example, poems which are written in such a way that they work as executable code in a certain programming language. These works can be seen as a literary branch of ‘software art’ or ‘code art’.

Even though most cybertexts do not require advanced computer skills from the reader, the situation is somewhat different from the perspective of a researcher or a teacher. In order to understand the specific nature of cybertextuality, you need to know the basics of programming. This does not necessarily mean the mastery of specific programming languages, but rather a more general understanding of how computer programs are put together, and what they are capable of doing. Michael Mateas (2005), for example, has talked about the necessity to teach ‘procedural writing and thinking’ as a part of education in the new media.

Sample works

Victory Garden by Stuart Moulthrop

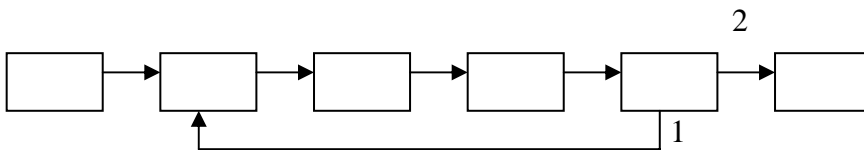
Stuart Moulthrop’s *Victory Garden* (1991) is one of the ‘classical hyperfictions’ alongside Michael Joyce’s *Afternoon* (1987) and Shelley Jackson’s *Patchwork Girl* (1993). There are several reasons to pay closer attention to this *tour de force* of one of the most innovative and prolific hyperfiction authors so far, but we’ll just take up a few points of interest here.

Victory Garden is fully packed with intertextual allusions to numerous authors and novels. We’ll mention only the most obvious ones here, as they serve well to illustrate how prominent pre-digital era authors have inspired many hyper and cybertext authors, not just Moulthrop.

First of all, J. L. Borges’s fiction is the central subtext in *Victory Garden*. “The Garden of Forking Paths” is the obvious allusion here, and the whole set up of *Victory Garden* may be understood as a hypertextual implementation of Borges’ idea of ‘forking paths’. Also “Tlön, Uqbar, Orbis Tertius”, with its parallel worlds, figures heavily as a subtext for *Victory Garden*.

Secondly, parts of *Victory Garden* may be seen as appropriations of William Burroughs' *cut-up technique*. Thirdly, *Gravity's Rainbow* by Thomas Pynchon is an obvious subtext. Here, the hypertextual structure may be seen as an actualization of Pynchon's complex, multilinear narrative web.

The relation between the hypertextual structure and the narrative structure is one of the most interesting aspects of Moulthrop's piece. He makes use, for example, of a hypertextual structure we have called 'singular loop'. In singular loop the reader is taken back to a previous point in the path she is reading, but the next time around not. There is a loop, a sequence of pages read twice, but after that the path continues forward:



This particular device is used in a few places in *Victory Garden*, and one interpretation of it could be the aim to invoke a certain sense of malfunctioning, of an unintentional lapse in the running of the narration.

There is one particularly interesting occasion mixing (hypertextual) loops and (narrative) repetition. The titles of the pages in the sequence are as follows:

"Ring" -> "Help Mister Wizard" -> "Fool's Errand" -> "Ring Cycle" -> "Errant Fool" -> "In Need of Help" -> "Ring Around" -> "Arrant Fool" -> "Helpful"

There seems to be one sequence repeated three times, each repetition starting with a title including the word 'Ring'. The beginning paragraphs of each starting page seem to be commenting on this cyclic structure:

"Ring": U ran through the dark field, slipping and scrambling on the dry ground. He knew Madden was behind him somewhere. He did not look. [...]

"Ring Cycle": Once more U ran through the dark field, slipping and scrambling on the dry ground. He knew Madden was behind him somewhere but he did not look. [...]

”Ring Around”: U is once again still always running through that dark field, slipping scrambling through his own footprints on the dry ground. He knows Madden is behind him somewhere but he doesn't dare look. You've had this dream before, you know.

Other variations during this cycle are less significant:

”Help Mister Wizard”: [...] U picked up the book. It was quite heavy. Ponderous.

”In Need of Help”: [...] U picked up the book. It was very heavy. Voluminous.

”Helpful”: [...] U picked up the book. It was very heavy. Massive.

This demonstrates nicely the difference between the hypertextual structure and narrative structure: narratively speaking we are certainly dealing with repetition; the hypertextual structure, on the other hand, is not a loop at all, but a linear path (as shown in the title list above). The repetition here has a totally different effect than a hypertextual loop: it creates a feeling of reading through different drafts, or adjustments, as the author is trying to find exactly the right tone of expression.

These Waves of Girls by Caitlin Fisher

These Waves of Girls by Caitlin Fisher won the first prize in the fiction category awarded by the Electronic Literature Organization in 2001. Thus, it should be an exemplary case of electronic literature, both in the sense of being a piece of true electronic writing, and also in the sense of being of very high aesthetic value. As such, it is a work well worth some critical attention.

In the category of electronic literature, Fisher's work can be further characterised with such labels as web fiction, hypertext fiction, and multimedial fiction. *These Waves* is published in the Internet <<http://www.yorku.ca/caitlin/waves/>> and is available through an Internet connection and a web browser.⁴ Here we want to take up two issues related to this work.

During the relatively short history of hypertextual practices, there has been a strong connection to the idea of associative writing. For Vannevar Bush, the inventor of the hypertext system, the idea was to have a device with which it would be possible to record the associations of the reader while reading and also make these recorded associative structures available to other readers. Ever since, one of the main functions for hypertext links has been to serve as a means for pointing out and making associations. Regarding Fisher's work one is tempted to say that it is a

⁴ The work was later published on a CD Rom (Rettberg 2003).

paradigmatic example of the associative hypertext. It is a work of autobiographical reminiscences (whether it is a 'true' autobiography or a fictional one is not relevant here), where hyperlinks function mainly as a means to point the interconnections, overlaps, and coincidences between several episodes recounted by the narrator. The hypertext serves both to simulate the associative working of the (narrator's) memory and as a way for the reader to follow potential associations.

There is a feeling of secrecy in the work, caused by the protagonist's sexual identity, her knowing early on that she is fond of other girls more than boys. In addition to all the secrets usual among preteen and teen girls, she has the great secret of a not-out-of-the-closet-yet lesbian. As a coming out story, *These Waves* has a strong feeling of deliverance, of letting out all the things that the narrator had to keep inside her while still a girl. The hypertextual structure collapses the two temporal levels together, so that the self-conscious older narrator and the still unsure narrated girl blend into each other – even when coming out with the truth, she is still hiding the revelation in the labyrinth of the hypertext, in the entangled web of a girl's secrets.⁵ Thus, in addition to the quite generic solution of motivating the hypertextual structure through the associative working of the narrator's memory, there is this more personal and more artistically modeled motivation too.

The Question of Interpretation

As important as the structural analysis of cybertexts is in order to understand them, it is just the starting point. There is still need for old-fashioned close reading of the textual level, with the added twist of the programmed characteristics of the work. We still need to be able to make the jump from analysis to interpretation, if we want to make the work *to mean* something for us. Thus, we need to combine all the complexity of literary criticism with all the complexities hyper and cybertextual programming creates. And if that challenge is not enough, we may even raise the question to what extent we may be expected to come up with an interpretation at all. That is, *how to interpret a work which one can never read exhaustively?* From a critical perspective, the solution seems to be to understand the working of the machinery, so that no exhaustive reading is even necessary. From a reader's perspective, the only solution seems to be to learn a new reading attitude, trying to come to terms with partial *readings* of a work.

⁵ There is a strong flavor of unreliable narration in *These Waves*, bringing into doubt everything the narrator is telling. The clue bringing up the issue of the narrator's reliability, however, is deeply buried in the hypertextual structure of the work, so that it is quite easy (even for an attentive reader) to miss that clue altogether.

Challenges in the classroom

When teaching digital literature one faces certain challenges. The fact that there is no commercial publishing in the field poses practical difficulties. It is often quite hard to find specific works, and there is no guarantee that a certain work will stay accessible for a longer period. It is already way too common to see, in critical essays from some years back, references to works which are nowhere to be found anymore. As an advantage, on the other hand, most of the works available online are free.

There is no established canon of digital literature yet, even though there are a few 'classics'. This makes the selection of works to discuss quite hard, and the teacher planning to enter this field has to prepare herself for extensive reading to get familiar with the works. All in all, the works are known by a very small group of enthusiasts and scholars, and it is hard to find out about all the works out there. There are, however, some initiatives that help with this problem. Especially notable here is the ELO (Electronic Literature Organization) Directory, which is the best place to start when looking for digital literature <<http://www.eliterature.org>>.

There are more pedagogical challenges, too, in addition to these practical problems. One of the most fundamental is the question of how to demonstrate a work in a classroom. This is closely related to another problem, that of recording and representing a particular reading, for which in many cases there is no functionality available at all. Often, screenshots from particular passages are the best a teacher can provide, but with highly dynamic text this gives just a weak impression of how the work actually behaves. This is a real challenge, and one to which every teacher needs to find her own solution and manage the best way she can. Smart recording tools with adjustable bookmarking capabilities would be of great help here, and the ELO has started an initiative to develop these kinds of aids for teaching digital literature.

As far as we are talking about literary texts, the reading environment is quite a significant issue. That is, how to make a work available for the students? If the only place to read digital literature is a computer lab, this certainly has some consequences for the reading experience and the aesthetic reception of the work. Laptops with wireless net connections would be the ideal solution, but one that is often impossible to accomplish.

The final challenge, however, and probably the greatest too, is how to make the students interested in digital literature in the first place. It is very rarely that students face digital literature on their own, spontaneously. Rather, a class room situation is usually the place of their first contact with digital literature, and the teacher has to be exceptionally careful to avoid making it seem either

too complicated or too trivial for students very seriously oriented towards literature (as literature students tend to be).

Luckily, in virtual learning environments, as is mostly the case with ODL programs nowadays, some of these problems turn into advantages. Digital literature is, by its very nature, well suited for virtual learning environments, as there is no need for scanning or other ways of digitalization. Also, the works and the learning environment (and the accompanying pedagogic approaches) walk in a way hand in hand, they are natives in the cyberworld of the global network, and no frequent mental jumps are needed from the digital domain to the 'Gutenberg Galaxy' of print world and back.

Good Practices

To finish this paper I would like to make a short list of good practices, based on my own teaching experiences.

Make students write hypertext themselves. Or, make them adapt a short story into a hypertext version. It is the best way to make them realize the functioning of hyperlinks, the way in which they simultaneously both connect and separate the pages on both ends of the link.

Make students write about their experiences with the works read. This is the best way to make them really reflect on what reading cybertext is. It is also a good way to gain feedback on the features the students especially like, or which mostly distract them.

Let the authors explain their work. If it is possible, arranging a visit from one of the authors studied would serve both to heighten the students' involvement with the works, but it is also the best way to get a deep insight into the functioning of a certain cybertext.

Make students play with interactive fiction, or with a MOO (for example, an online Murder Mystery). This is probably the best way to make the students realize the world-creating power of language, combined with the idea of written text as a dynamic event, instead of static print on paper. For students mostly familiar with chatting and instant messaging, immersion to an interactive fiction or a MOO should not be too challenging.

All in all, in teaching digital literature it is important to find a balance between the aesthetico-literary approach and the more technically oriented approach. The works discussed should be situated in the literary tradition, but also in the wider context of digital, networked culture. For all of this, virtual ODL environments should prove at least as efficient as the traditional classroom setting, and with a suitable pedagogical approach they might even prove to be the best alternative.

Works Cited

- Aarseth, E. (1997) *Cybertext. Perspectives on Ergodic Literature*. Baltimore: The Johns Hopkins University Press.
- Fisher, C. (2001) *These Waves of Girls*. Electronic text. URL (Consulted May 2006):
<http://www.yorku.ca/caitlin/waves/>
- Jackson Sh. (1993) *Patchwork Girl* Electronic text. Watertown, MA: Eastgate Systems.
- Joyce M. (1987) *Afternoon, a Story* (1987) Electronic text. Watertown, MA: Eastgate Systems.
- Koskimaa, R. (2000) Digital Literature. From Text to Hypertext and Beyond. Doctoral Dissertation Thesis. Jyväskylä: University of Jyväskylä. URL (Consulted May 2006):
<http://www.cc.jyu.fi/~koskimaa/thesis>
- Mateas M. (2005). "Procedural Literacy: Educating the New Media Practitioner". *On The Horizon. Special Issue. Future of Games, Simulations and Interactive Media in Learning Contexts*, 13 (1), URL (Consulted June 2006):
- Moulthrop, S. (1991) *Victory Garden*. Electronic text. Watertown, MA: Eastgate Systems.
- Rettberg, S. (2003) *State of the Arts. The Proceedings of The Electronic Literature Organization's 2002 State of the Arts Symposium & 2001 Electronic Literature Awards*. Includes a CD ROM with the Award winning works. Los Angeles: ELO / UCLA.