Bound to be a book
Florian Cramer
Hogeschool
Date: October 5, 2011

"When you open the book unbound, you will change it."[1] This premise was not just a promise. Published in a 1995 hypertext special issue of *postmodern culture* - one of the very first online arts and humanities journals and discussion forums -, John Cayley's *book unbound* was a programmed, generative electronic text. It was technically based on Apple's HyperCard, an early hypertext, multimedia and visual programming environment. HyperCard was freely bundled with every Macintosh from 1987 to 1991, saw its last update in 1992 and was ultimately abandoned in 2000.[2] "HyperCard stacks" were black-and-white, running on non-networked personal computers and operated with mouse and keyboard. Otherwise, they were "apps" according to contemporary terminology, i.e. small multimedia-centric computer programs.

Around the same time, electronic literature became a thriving academic field. It anticipated net art and even the World Wide Web itself by a couple of years, had its own conferences and festivals, specialized literature departments in the U.S. and Europe, and an extensive body of research literature on hyperfiction and e-literature. Still today, this strand of electronic literature has its own academic body, the Electronic Literature Organization (ELO), regardless the fact that the field has shrunk dramatically, with research continuing to be focused on a very small canon of works written for the most part in the academic world of American creative writing programs. More or often than not, these were the same literature departments - and even the same writers - that also produced its theory and criticism.

In the early 1990s, HyperCard provided not only the foundation for most experimental computer poetry like that of Cayley and, for example, the French computer literature pioneer Jean-Pierre Balpe. The more mainstream "expanded books" published by Bob Stein's company Voyager in 1992 were HyperCard stacks as well. One of Voyager's showcase products was "Annotated Alice", an electronic version of the *Alice in Wonderland* edition with the annotations of Martin Gardner. Voyager's expanded books had taken its inspiration from the release of Apple's first PowerBook notebook computers in 1991. In 2010, history repeated itself when Apple released the first iPad and "Alice for the iPad" was developed by the London-based software and electronic book company Atomic Antelope. Similarly, the conference that preceded this book, *The Unbound Book*, took place in 2011 without the organizers having been aware of Cayley's *Book Unbound*. Were the unbound books of 1990s electronic literature just premature products because the hardware technology hadn't been there yet? Will 2010s technology solve the obstacles and finally establish the paradigm of unbound hypermedia books?

Even if the above déjà-vus of Apple buzz products and unbound books should be coincidental, it is striking how the debate on electronic literature seems to have stalled. In his famous 1991 essay *The End of Books*, the American novelist Robert Coover wrote that

---

"in the real world nowadays, that is to say, in the world of video transmissions, cellular phones, fax machines, computer networks, and in particular out in the humming digitalized precincts of avant-garde computer hackers, cyberpunks and hyperspace freaks, you will often hear it said that the print medium is a doomed and outdated technology, a mere curiosity of bygone days destined soon to be consigned forever to those dusty unattended museums we now call libraries."[3] ____

Not much seems to have changed in electronic literature criticism in the twenty years since then. It appears as if it is the only field of new media studies that hasn't been updated and revised. The multimedia school of electronic literature has become Alice in Wonderland caught in an endless-pointless loop like at the hatter's tea party.

One year after Coover's article, his fellow Brown University literature professor George Landow for the first time linked electronic literature to poststructuralist literary and media theory. Drawing on Jacques Derrida and Roland Barthes as much as on Ted Nelson and Andries van Dam, he wrote on the first page of his book *Hypertext* :

"All four, like many others who write on hypertext or literary theory, argue that we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity and replace them with ones of multilinearity, nodes, links, and networks. Almost all parties to this paradigm shift, which marks a revolution in human thought, see electronic writing as a direct response to the strengths and weaknesses of the printed book".[4] ____

Landow still wrote this without any reference to the Internet, and one year before the release of the first graphical web browser. Nevertheless, he did not advocate unbound electronic books. Unlike other electronic literature critics, his point was not a shift from print books to digital hyperbooks, but from printed matter to networked writing - to the medium, in other words, that ultimately became the World Wide Web. Landow's "revolution in human thought" boiled down to something much more down to the earth; bloggers and "Anonymous", for example, rather than Derrida and Barthes. Outside such speculative realms, hypertext found its pragmatic, down-to-the-earth application in structured information systems like Wikipedia.

This shifts from initial utopias and expectations to later usage culture very much corresponded to that in audiovisual media. In the early 1990s, it was commonly assumed that film and television would become interactive and turn into "virtual reality". They remained linear. Immersive interactive 3D audiovisuals nevertheless became a reality and mass product, but in its own proper medium of computer games. Games and films sometimes compete, sometimes even converge, but for the most part remain separate genres with their own particular aesthetic qualities, technical constraints, audiences and cultures. Correspondingly, books and the web now coexist as two competing, sometimes converging yet for the most part separate forms of editorial media. And just as the transition of films and TV to digital files and streams was a transition of a symbolic form into a new medium did not fundamentally change the symbolic form of film from the symbolic form of computer games, transitions of books into digital files do not imply fundamental changes of the symbolic form of books.

Books, in this sense, do not mean printed matter by definition. In the last few years, electronic books finally have emerged as mass media, but since they retain the characteristics of books versus the web, they differ from the hypermedia electronic book culture envisioned in the 1990s (and, under the banner of electronic books as game-like iPad apps, still today). Contemporary electronic book culture is best exemplified by the two commercial and anti-commercial extremes of Amazon's Kindle e-book store and the underground critical theory text repository aaaaarg.[5] Despite their opposite politics, both are based on the same concept of symbolic form and medium: the electronic book as A straightforward, no-frills downloadable text file offered for a multitude of reading devices. The Kindle e-book store has been modeled, in design, technology and business model, after Apple's iTunes store for paid music file downloads, aaaaarg conversely is the text-cultural equivalent of underground mp3 file sharing.

Digital audio thus provides an important history lesson for electronic books. Just like electronic literature had been mostly synonymous with experimental hypermedia writing in the 1990s, electronic music had been synonymous with computer-generative algorithmic music since Lejaren Hiller had composed the Iliac Suite in 1956. It was the music expected for the year 2001, in Stanley Kubrick's film and elsewhere. Since the 1990s, electronic composition also involved interactive interface controls like the ones provided by the programming environments Max/MSP and Pure Data. But the notion of electronic music had already shifted by the 1970s and 1980s when it had become pop. In 2001, digital audio did not travel to space, but stayed firmly on the ground where people shared mp3 files.

Just like mp3 files, electronic books only became popular when they became simple. The popularity of textfiles.com and aaaaarg.org neither depended on any particular electronic reader hardware nor a particular e-book file format. Even Amazon's Kindle is no longer intrinsically linked to the e-ink reader of the same name, but can alternatively be run as a software app on various devices (including iPhones and Android phones).

Particularly in the ASCII and ePub formats, electronic text files mean the second historical transformation of the way books are bound: after having morphed from pre-medieval scrolls to codices, electronics have transformed them into a medium in between a scroll - with text having no static pagination - and a codex, since the physical limits of the display still amount to a de-facto page.

But what about the electronic book as a networked medium? The conference panel for which this paper was written had the following abstract:

"Online the book becomes part of a vast, interactive network of footnotes, endnotes, hyperlinks, social tags, geo-location search capabilities, animations, video and sound. It becomes an occasion for social annotations and collaborative communities of readers and authors." ____

This sums up Bob Stein's contemporary effort, two decades after the Voyager expanded books, of redesigning electronic books as social media. Aside from that, it is a description of the World Wide Web rather than the book. What is the sense of making electronic books like the World Wide Web when there already is a World Wide Web? If conversely the World Wide would be an e-book, readers would likely not be able to read it a few years later because of broken links, spammed social tags, deprecated geo-location programming interfaces and obsolete video and sound codecs. So far, interlinked networked media have only remained stable in closed systems such as the JSTOR database of humanities papers or in the Digital Object Identification System (DOI).

Just like the HyperCard stacks of the early 90s, the multimedia CD-ROMs and Macromedia Shockwave projects of the late 90s, Flash applets of the early 2000s and the iPad apps of the 2010s, a contemporary multimedia e-book would likely not work on the hardware, operating system and screen of an electronic device in the year 2020. "Alice in Wonderland" would have to be reprogrammed from scratch again, an initiation rite for every new e-book-startup, for every new generation of hardware and software on the market. On top of its sheer absurdity, this brings the consumerist nightmares of endless recycling, remaking and reselling throwaway media from the film and music to the publishing industries.

It is likely no coincidence that Carroll's novel became the recurring showcase item of electronic literature since it is perhaps the only best-selling, all-popular piece of literary avant-garde and experimental writing in the Western world; a text lending itself to media experiments while still having the sufficient mass market to recuperate the software development costs.[6] The gamification of books, in other words, is possible, but limited to niches, and comes at the price of complex, unstable file formats.

Unbound books existed much earlier than electronic computers, as artists' experiments with the medium of the paper codex. With forerunners in classical and medieval visual poetry and Victorian children's books, the 20th century was a "Century of Artists' Books", to quote the title of Johanna Drucker's seminal book on the subject.[7] One of Drucker's examples is the book "Boundless" by the American artist and graphic designer David Stairs.[8] Consisting circular pages that are spiral-bound throughout their entire circumference (and therefore cannot be opened), and the letters "Boundless" on their cover, it is the perfect emblem of the dialectics of the bound and the unbound book. By virtue of its circularity, the book's binding has a boundless surface. Binding and unbinding thus exist in a paradox. Despite this paradox, Stairs' object of reflection still leaves binding as the lowest common denominator of a book, something that can't be escaped even where it is subverted.

A book, it follows, is almost anything bound together or unbound in negative reference to the former. True boundlessness is never achieved, and being unbound does not mean to be boundless.

While this sums up the spatial, synchronic dimension of a book's binding, there also is a temporal, diachronic one. A book is a bunch of stuff bound together so that it does not fall apart. The motivation for not having a book fall apart is its future readability - one, ten or hundred years later. There are exceptions to this, everyday ones like telephone books (that are being phased out for the more apt unstable medium of Internet databases) and less common ones like an auto-destructive book by the contemporary artist Jan Voss whose pages are slowly being perforated by two worms living inside the corpus.[9] But just like Stairs' work, this book is a negative extrapolation, an exception of instability proving the rule of stability all the more by the virtue of its several hundred, heavy, oversize pages. Even within print culture, the book has typically been thought of as a more stable and durable medium than a short-lived newspaper or flyer. The same is happening in electronic publishing. Just because of their relatively simplicity, straightforwardness and collectability, text files have become the electronic books of our time ASCII has been stable since 1963, the Project Gutenberg and textfiles.com as the oldest electronic literature repositories (with files dating back to the early 70s) have outlived, in their pure technical readability, all hypermedia literature. Based on ASCII and simplified XHTML in a zip file, ePub will remain accessible readable for the same reasons.

No definition of the book, however, is set in stone. The creation of the World Wide Web as a dynamic, up-to-date, ephemeral and unstable medium of writing has not necessarily pushed the notion of the books towards similar unstable attributes, as expected in the 90s, but just on the contrary helped to solidify its notion of a comparatively stable, long-term medium. Short-lived information, from news journalism to telephone registers and city maps, has migrated from print to the Web for the opposite reasons. The chances to still find a research paper published online ten years later are dim - in the worst case, it has vanished, in the second-worst case, it still is online but its URL has changed. The ubiquity of content management systems with their automatically assigned URLs, prone to breaking with every software upgrade, has worsened this situation, but print is not the only solution. The book as a more stable medium than the Web is not at all an issue of print or electronics. Electronic text files, just like print books, can survive longer than a web site on a server as its single point of failure - because their storage is distributed, with as many backups as there are readers of a book.

There are parallels to this new appreciation of low-tech simplicity in the contemporary visual arts. In the 1990s, many experimental artists who had previously worked with unstable do-it-yourself media such as video, performance, and small press print publications happily moved to the web as an efficient and inexpensive community medium of artistic production and communication. Twenty years later, there is a contrary resurgence of non-electronic media in the contemporary arts, particularly of self-published books and zines. These media have become a counterculture to the Internet with its corporate, data-mined social networking and throwaway information culture. The binding of these books and zines has also become social and cultural glue. Just like structural experimental 16mm filmmaking began in the 1960s as an act of resistance against cinema's glamor and dream factory, but turned into an act of love for the endangered medium of celluloid by the 2000s, the poetics of artists' books have shifted from de(con)structions of the codex - in its double sense of binding and book of law - to a celebration and expansion of its tangible materiality.

Johanna Drucker points out how even in their most unstable forms, books never do away with their material unity or binding.: ____ ``In examining the way artists have interrogated the structure of the book, it is important to begin with the obvious but also profound realization that a book should be thought of as a whole. A book is an entity, to be reckoned with in its entirety" (Drucker, 122) ____

Looking at two classical examples of unbound literary books, Marc Saporta's card stack novel "Composition No. 1" and Raymond Queneau's sonnet "One Hundred Thousand Billion Poems" whose lines are slitted so that every single on may be chosen from twelve alternatives, it is obvious how both works explode the

corpus. Queneau's still retains its spine; Saporta's, though arguably the most radically nonlinear novel of all times, is still bound by virtue of the envelope that holds its pages and the finite number of pages of which it consists. In both examples, binding becomes even more accentuated. The books thus prove what Drucker writes in the same chapter:

``To remain artists' books, rather than book-like objects or sculptural works with a book reference to them, these works have to maintain a connection to the idea of the book - to its basic form and function as the presentation of material in relation to a fixed sequence which provides access to its contents (or ideas) through some stable arrangement. Such a definition stretches elastically to reach around books which are card stacks, books which are solid pieces of bound material, and other books whose nature defies easy characterization".[10] ____

If the notion of the book is tied to a "stable arrangement" of material in one item or unit, then it becomes all the more obvious why the notion of electronic literature became problematic after the early 1990s. In its American schools, it did not mean literary writing on the web, but most of all the creation of standalone, one-entity works in analogy to the book: HyperCard stacks, Storyspace hypertexts, Macromedia director presentations, Multimedia CD-ROMs, Flash applets. Each technological crisis and obsolescences of those file formats therefore amounted to an aesthetic and literary crisis of this genre as well.[11] Other schools of electronic literature, for example in Germany and Russia, that simply understood their practice as writing online, moved to blogging, and eventually converged with op-ed journalism.

Perhaps surprisingly, Drucker's notion of the book as "the presentation of material in relation to a fixed sequence which provides access to its contents (or ideas) through some stable arrangement" is very close to the technical specification of ePub, the open standard file format for electronic books:

``EPUB Publications are not limited to the linear ordering of their contents, nor do they preclude linking in arbitrary ways - just like the Web, EPUB Publications are built on hypertext - but the basic consumption and navigation can be reliably accomplished in a way that is not true for a set of HTML pages."[12] ____

The codex, as a binding of diverse stuff within one whole, migrates into a data navigation structure: "A key concept of EPUB is that a Publication consists of multiple resources that may be completely navigated and consumed by a person or program in some specific order".[13] In other words, e-books as defined here are not unbound books at all. As opposed to web sites, they

- are offline media, self-contained documents without external links or embedding, based on a subset of HTML and CSS that does not require network connections;
- are based on static text, with audio, video and scripting as purely optional and non-essential features. The ePub specification specifies that every e-book must remain readable and usable on readers that do not support any of them;[14]
- are read-only documents, with no internal support for input forms, annotations or alterations of the text;
- do not prescribe a particular visual look or layout, but are supposed to look differently on different reading devices.[15]

Since e-books, in the above sense, follow the mp3 file paradigm of the lowest common technological

denominator, of portability instead of audiovisuality, predictable behavior instead of complexity, they are far more restricted in their media richness and artistic design possibilities than print books. A project on e-book-design at the Piet Zwart Institute Rotterdam confirmed these observations. One of the students, graphic designer Megan Hoogenboom, adapted Paul van Ostaijen's 1920s visual poem "boem paukenslag" - a classic of Dutch avant-garde literature - to ePub, with the result that the visual poetry of the text could only be adapted using crudest hacks in the technical syntax of the ePub file. The resulting file only properly displayed on one particular model of the Sony Reader since other devices destroyed the (essential) pagination or could not render the poem's large font letters. While some of these compatibility issues were déjà vus of browser incompatibility in the early years of the World Wide Web, most of them were intrinsic to the very concept of ePub. Since the format is designed to be independent from display size (from mobile phones to high definition screens) and display technology (whether e-ink, color LCDs or braille) and have no predefined pagination, it has rendered the graphic design paradigm of the page and even the screen unworkable.

Consequently, media richness, visuality and tactility has become the domain of print. Artists' books and periodicals have turned into a graphic design genre for which in particular the publications of Dexter Sinister / dotdotdot have set a contemporary art trend. Along with this trend, print as a whole is moving from mass media to a boutique niche, not unlike calligraphy did after the invention of the printing press. In what could be metaphorically called heat death of print, all printed matter strives to become coffee table books, with 'warm' materiality and 'unbound' characteristics, privileging collector's value over everyday use value. What Drucker investigates in the fifth chapter of her book, "The Artist's Book as a Rare and/or Auratic Object" [16], is rapidly becoming the business model for the whole print industry, the print book as a fetishized collector's item like vinyl LPs. Many if not most print books today are subsidized - by academia, institutions, non-profits and companies - because of the desire for a long-term readable publication, but also because of the prestige of the book object. Because of these factors, the crisis of paper book publishing has not yet been as visible, at least in Europe, as for example the foreclosure of record stores.[17]

With print becoming boutique publishing, electronic books are striving away from the 1990s hypermedia coffeetable. They are conversely turning into today's equivalent of paperbacks, cheap (or even pirated) books with the added convenience of folding book and library into a single reading device. Although applications like Apple's iBook Store visually simulate bookshelves, complete with fake wood, on iPhone and iPad screens, e-book libraries in the end can't be shown off like in the Great Gatsby. If e-books will be the no-frills books for no-frills reading, running keyword searches over, carrying around and illegally sharing with friends, then e-books will unbind the book in the same way that mp3 has unbound audio recordings. It is, however, not the kind of unbinding imagined in 1990s interactive hypermedia visions.

---

1. John Cayley, Book Unbound, http://homepage.mac.com/shadoof/net/in/incat.html#BUNB, accessed in 10/2011↩

2. According to the Wikipedia article on HyperCard, http://en.wikipedia.org/w/index.php?title=HyperCard&oldid=453304040, accessed in 10/2011↩

3. Robert Coover, The End of Books, in: The New York Times Book Review, 6 1992↩

4. George Landow, Hypertext, Baltimore, Johns Hopkins Press, 1992, p. 2-3.↩

5. http://aaaaarg.org↩

6. Kolja Bedürftig voices a similar concern in a 2011 article for the professional organization of German book traders: "Ich sehe eine Analogie zwischen den 'Multimedia-CD-ROM-Projekten', die in den späten 90ern gehypt wurden und den 'enhanced' E-Books. Problematisch sind heute wie damals die

Produktionskosten, die schnell den Rahmen sprengen können", http://www.boersenblatt.net/442555, accessed in 10/2011]↩

7. Johanna Drucker, The Century of Artists' Books, New York: Granary Books, 2004 (1994)↩

8. Drucker, p. 177↩

9. Voss is also discussed by Drucker, p.171-172, 204-208↩

10. Drucker, 122f. Her statement that ``All books are visual", p. 197, needs to be contested though in a time of audiobooks and e-books that can alternatively read as braille or via text-to-speech software.↩

11. 11↩

12. This is why the Electronic Literature Organization initiated the "Acid-Free Bits" and "Born-Again Bits" initiatives, with no success yet. Nick Montfort, Noah Wardrip-Fruin, Acid-Free Bits. In: Electronic Literature Organization, 2004. http://eliterature.org/pad/afb.html; Alan Liu, David Durand, Nick Montfort, Merrillee Proffitt, Liam R. E. Quin, Jean-Hughes Rety, Noah Wardrip-Fruin, Born Again Bits. In: Electronic Literature Organization. http://eliterature.org/pad/bab.html, 2005, both accessed in 10/2011.↩

13. ibid.↩

14. "Scripting consequently should be used only when essential to the User experience, since it greatly increases the likelihood that content will not be portable across all Reading Systems and creates barriers to accessibility and content reusability", ibid.↩

15. Bedürftig: "Schon bei einfachen EPUB-Dateien, die einen gewissen Anspruch an das Layout erfüllen sollen, besteht aktuell das Problem, dass für verschiedene Plattformen optimiert werden muss. Alternativ suche man vergnügt nach dem kleinsten gemeinsamen Nenner...".↩

16. Drucker, p. 93↩

17. Although in Netherlands, printers are foreclosing on a large scale at the time of this writing (late 2011). Even the variety of paper available for book production is massively declining, according to↩