Unusual Effort: Ergodic Literature and its Relationship with Remediation

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Ergodic literature is a challenging and, in some ways, baffling term, a term for a genre of literature which, though only recently coined by theorist Espen Aarseth, purports to refer to a phenomenon that could be argued to have been evident in texts several thousands of years old. Espen J. Aarseth's definitions of the genre assert a seemingly strange hierarchy in which James Joyce's *Ulysses* or Leo Tolstoy's *War and Peace* are texts that require only trivial effort whereas a particularly unusually formatted children's book would necessitate greater "effort" on the reader's part (Aarseth 1). Ergodic literature, which often requires readers to utilize unusual eye movement, pays attention to unorthodox sections of the page, and/or parse through multiple narrative paths, can be hard to define and to this day theorists disagree on what may constitute "ergodic" or perhaps more often "nonergodic" literature. Yet, the crux of ergodic literature, the concept which is often the driving force of such literature, is in fact another recently coined phenomenon of media and literary theory: remediation. Remediation, the act of replicating one form of media within another, is not just some sort of technological phenomenon which overlaps with or merely relates to ergodic literature; it is key to how ergodic literature functions. While remediation is often thought of as a phenomenon unique to, if not at least most common to, the technology of the digital age, ergodic literature has made use of what would eventually come to be called remediation before the digital age was even conceived. In a sense, ergodic literature served as a precursor to the hypermediated age of information that we live in today.

Far from being a commonplace term, the concept of ergodic literature and what qualifies as an example requires much clarification. Even the theorists who write on the subject rarely agree on what may constitute an example of the genre; though Espen Aarseth had his own ideas about

what constituted ergodic literature while first envisioning the genre, the very definition of ergodic literature remains nebulous. While scholars continue to debate the limits of the form, what is meant by the term within the context of this essay relies heavily on Aarseth's original definition. Simply put, if nontrivial effort is required for a reader to traverse a text, effort outside basic "eye movement and the periodic or arbitrary turning of pages" (2), then that text is ergodic literature. If eye movement and turning pages is all that is required of the reader, the text is nonergodic. What exactly constitutes "trivial effort" is where much of the disagreement surrounding ergodic literature comes in, even among leading scholars in electronic literature. Aarseth attempts to further clarify that ergodic literature "includes the rules for its own use" (179) and distinguishes between "successful and unsuccessful users," (179) though the idea of a successful user, particularly with certain examples of ergodic literature (even some cited by Aarseth in *Cybertext*) is also hard to precisely define. Scholars will likely not soon be in complete agreement about what constitutes ergodic literature; in fact, to get a sense of the debate, one needs only visit this blog post[i] of renowned electronic literature scholar Noah Wardrip-Fruin and watch as Noah and other experts on the subject, Ian Bogost and Espen Aarseth himself, discuss and debate the matter of ergodic literature and cybertext in the comments, which serve as a rather suitable microcosm for the issues surrounding the definition of the term as a whole.

A large number of overlapping but not synonymous terms to ergodic literature have developed alongside it, including "hypertext," "cybertext" (also coined by Aarseth), and perhaps most recently, "technotext". Cybertext is not quite a literary genre and could apply to examples of media outside of literature (though not outside of text) altogether; Aarseth defines cybertext as a "broad textual media category" (5) which focuses on "the mechanical organization of the text" (1). Hypertext usually refers to texts with branching pathways and non-linear or multimodal features, often "represented as nodes and links" (Joyce 19); most of the time hypertext is used exclusively to refer to electronic literature with such qualities, such as Michael Joyce's *Afternoon, a story*, a non-linear multicursal fiction with a multitude of options for users to guide their narrative. Though these terms are rarely considered synonymous with each other, these definitions infer that examples of ergodic literature are also examples of hypertext and/or cybertext. Technotext is a term still coming into popular usage; it has been proposed by

Katherine Hayles in her book *Writing Machines* to "connect the technology that produces texts to the texts' verbal constructions" (26); she also refers to technotexts as texts with "a heightened sense of their own materiality" (794) and the mediums through which they are produced. The definitions of some of these terms are still developing and can be even murkier than those of ergodic literature and are not my primary concern. To keep things simple, this essay focuses mainly on Aarseth's original definition of ergodic literatureAlthough some examples could also be considered cybertext, hypertext, or technotext, and although those terms may also overlap with the idea of remediation, ergodic literature is perhaps the simplest term to define, even if it too remains a divisive term among many scholars.

As Espen Aarseth states, for ergodic literature to exist, there must also be non-ergodic literature (1). The terminology is somewhat ironic; non-ergodic literature would make up the vast majority of literature ever conceived. Still, the distinction must be made in order to properly differentiate the kind of works which fall under the purview of the term. As previously established, texts which require significant effort on the part of traversing their symbolic use of language or texts with a complex and multifaceted plot (which may seem to merit what could be called nontrivial intellectual effort) do not qualify as ergodic literature if, in terms of physical actions needed to be undertaken by the reader or viewer, they still only require to have their pages read and turned, one after the other, in chronological order. On the other hand, a text such as *Infinite Jest* by David Foster Wallace requires the reader to traverse the text in an at least partially non-linear fashion, with the main text constantly referencing endnotes requiring the reader to flip back and forth. This layout, usually requiring the reader to traverse regularly formatted text, qualifies as ergodic as it does not read in an exact, page by page, front-to-back cover order. The magnitude of difference between *Infinite Jest,* an older ergodic text such as the *I Ching,* or an example of an electronic hypertext such as Michael Joyce's *Afternoon, a story,* demonstrates the difficulties of formally and definitively coming up with a concrete definition for ergodic literature as a genre.

Remediation, though also a very recently coined term, does not suffer from the same crisis of definition as ergodic literature does. In the eponymous *Remediation: Understanding New*

Media, Jay Bolter and Richard Grusin define remediation as "the representation of one medium in another" (Bolter and Grusin 45), noting that it is a defining characteristic of (though not exclusive to) new digital media (45). Remediation sometimes attempts to erase all traces of itself, presenting the remediated medium as transparent and close to the original as possible (e.g. digital images of paintings, photos), while more translucent forms of remediation attempt to emphasize the differences, often to improve the media in question. Bolter and Grusin give the somewhat dated example of an electronic encyclopedia, which, unlike its print counterpart, can include videos and audio (46). Remediation can also more aggressively attempt, instead, to refashion or absorb a form of media entirely, much like how many computer games contain cinematic elements which are also interactive (47).

Existing alongside remediation is the sister concept of hypermediacy (itself often involved within acts of remediation) in which the user is bombarded with different forms of media. One such example includes the many different windows a user of a modern day computer might have to open, each with a different form of media, such as text, image, or video. The computer does not usually attempt to mimic a print book, a photograph, or cinema reel; they are each part of the computer's interface. Bolter and Grusin point out that "Hypermediacy strives to make the viewer acknowledge the medium as a medium and to delight in that acknowledgment" (41-42). Hypermediacy brings attention to itself in the way that transparent remediation would attempt not to; when reading a hypermediated text, the reader is very aware of the medium he or she is reading and the mediation or remediation that it may be using. Certain examples of ergodic literature are, as a result of their textual makeup, likely to be examples of hypermediacy. Ergodic literature brings a sort of hypermediated attention to itself by its very nature; nonergodic literature, with the trivial effort of eye movement and turning of pages, is generally the genre readers would come to expect when picking up and reading any given piece of literature. When a reader experiences ergodic literature, especially in print, it brings attention to itself by its break from the reader's normal experiences with literature. This is not to say that all ergodic literature is necessarily an example of hypermediacy or that ergodic literature is a genre which works exclusively through bombarding the reader with unusual formats or arrangements of text (or in

some cases, images); but a reader is certainly more likely to see the logic of hypermediacy present in ergodic literature than nonergodic literature.

Though remediation is certainly a phenomenon that has a much more prominent place in the modern era of digital information, it (like ergodic literature) has existed in both art and technology long before the existence of the internet or the personal computer. There is, after all, nothing about remediation that requires a technology as obviously capable of remediation as the computer or a medium so often reliant on remediation as the modern video game. Indeed, ergodic literature as a genre is a prime example of how the concept of remediation, though not truly named and defined until the twenty-first century, has long been present in both art and technology. In fact, Bolter and Grusin themselves point out that "all mediation is remediation" (55) andthat all art forms and technology are in some way dependent on what could be called a form of remediation; one cannot have something from nothing, after all, and new mediums or genres are always in part dependent on their predecessors and/or contemporaries. What makes ergodic literature a distinct phenomenon is that its very functions stem from the remediation of other forms, mediums, and genres. If there were no remediation, there could be no ergodic literature.

If ergodic literature is literature which requires unusual and extraneous effort to traverse, and remediation is the emulation of one form of media within another, then at first glance the two concepts do not necessarily seem to share an obvious connection, let alone a connection in which remediation is an integral part of ergodic literature. A closer look at the mechanics of specific examples of ergodic literature is needed in order to properly understand the relationship between it and the idea of remediation. Essentially, ergodic literature, with its unorthodoxy of form and/or text, tends to either intentionally or unintentionally remediate another form of media or another genre of literature as part of its textual schema. The various examples of ergodic literature cited by Aarseth in *Cybertext*, as well as other texts seen prior to and since the publication of *Cybertext* do not always mean to remediate other specific mediums or genres, but such remediation may occur as a result of other textual and/or technical choices or techniques of the author(s).

The *I Ching*, also known as the *Book of Changes,* is cited by Aarseth as perhaps the earliest example of ergodic literature; Aarseth in an ergodic literature-focused section of *Cybertext* calls the *I Ching* the "best-known example of cybertext in antiquity" (9), and this moniker applies just as well to its status as ergodic literature. Using the *I Ching* as an example of a genre or form of literature which was not even proposed as a term until just around the digital age may seem to be a strange and anachronistic comparison. Yet, it is the *I Ching*'s status as an example of ergodic literature and cybertext which lends credence to Aarseth's terminology and demonstrates the need for concepts such as ergodic literature; concepts which must exist in order to separate the unique textual and physical machinations of works such as the *I Ching* from nonergodic literature. The *I Ching* was used as a text of divination during the Western Zhou period (1122-770 B.C.) (9) of ancient China and consists of 64 hexagrams, each of which is made up of a series of whole or broken lines. Yarrow plant stalks (or in modern times, special coins) are used to determine a set of two hexagrams which together form a single divination. As the use of the plant stalks or coins to find and combine hexagrams obviously constitutes nontrivial effort beyond simply moving one's eyes and turning pages, the *I Ching* therefore would certainly qualify as ergodic literature.

The idea that the *I Ching* could, as a result of its status as ergodic literature, also be an example of a text which uses or demonstrates remediation may seem even more absurd than classifying it under a turn of the century buzzword like ergodic literature. After all, remediation revolves around the mimicry of mediums within one another, and surely during the thousand years B.C in which the *I Ching* came to prominence, there were not exactly an abundance of forms of media that any text could attempt to remediate. Yet, even the *I Ching* itself is a prime example of remediation. The *I Ching* did not sprout up as a complex textual work immediately; there are in fact mythologies dedicated to explaining its origins (Smith 21), which make separating the few accurate historical details surrounding the *I Ching*'s beginnings from fiction difficult. Nonetheless, in spite of the scarcity of historical details on the *I Ching*, there is substantial evidence that the work itself has its origins in a sort of oral tradition of early Chinese divination, which used the interpretation of oracle bones (turtle shells) rather than plants or coins (21). This process would later be altered and developed into the textual work known today as the

I Ching, which can be considered a sort of remediation of the original oral tradition (perhaps the oldest form of media), a remediation designed to carry the techniques of divination throughout the ages. This is an aggressive example of remediation, as the oral tradition of the original divination which the *I Ching* springs from is absorbed yet still represented within the text in a new form.

The fact that *House of Leaves*, perhaps the most commercially successful and well-known piece of ergodic literature in the genre, is so dependent upon remediation is some of the best evidence for the link between the two literary phenomena. Being perhaps one the most commonly discussed examples of ergodic literature (even if it is not always discussed exclusively *as* such), it is perhaps only appropriate that Mark Danielewski's *House of Leaves* has enough examples of remediation to fill a paper on its own, and this is precisely what is accomplished in Katherine Hayles' "Saving The Subject: Remediation in House of Leaves". Rather than merely echo Hayles' work on the subject, this essay will attempt to address a few areas Hayles did not cover.

House of Leaves is a novel almost impossible to describe in full, but, as simply as it can be put, the novel tells two primary stories. One is that of Johnny Truant, a vagabond who discovers a manuscript entitled *House of Leaves* in the home of his deceased neighbor. The fictional House of Leaves serves as an academic study of the events surrounding the non-existent film *The Navidson Record*, a documentary film about a filmmaker named Will Navidson, his family and friends, and their experiences surrounding their residence in a mysterious and paranormal house, a house which impossibly shifts, expands, and contracts, among other impossible phenomena. The Navidson family serves as the perhaps more central set of protagonists of *House of Leaves,* with their story (in the fictional manuscript) written in a different typeset than Johnny's, whose own story of reading the manuscript interrupts the Navidson's throughout the book. Further complicating the book's narrative are fictional editor's notes, as the whole product is presented as a complete book (including the manuscript and Truant's notes and story) created originally by Truant and submitted for publication.

House of Leaves is already complex and difficult to navigate given its set of shifting and

contradictory narratives, and yet the typography utilized by Danielewski is what makes the novel truly labyrinthine. The text on some pages is displayed all around the page and in different orientations, scattered in a strange and occasionally indecipherable fashion, while in other parts of the novel, the text might be entirely crossed out or appear alongside strange markings. In some pages, the reader might be required to use a mirror to navigate a reversed section of the page. The various efforts the readers must use to navigate a page in order to fully read it as intended constitutes "nontrivial effort," and there are also a number of points in the text which highly encourage, if not absolutely require, the reader to flip between pages – including lengthy footnotes – and references to items (such as Truant's mother's letters) in the novel's various appendixes.

Hayles describes *House of Leaves as* a "frenzy of remediation" (781), and it's not difficult to see why this is the case; the novel attempts to remediate within its contents media including but not limited to **"**film, video, photography, tattoos, typewriters, telegraphy, handwriting, and digital computers" (780) in the process of telling its various narratives. Even the existence of several of the narratives is dependent on the process of remediation. The novel represents Truant's creation of the book *House of Leaves*, in which Truant remediates Zampano's manuscript; it serves as an academic study which attempted to remediate elements of the film *The Navidson Record* (and even the fictional film itself remediates other media, such as the radio transmissions of Will's brother Tom). Each narrative in *House of Leaves* seems to build on more and more layers of remediation of other forms of media, like a never-ending set of nesting dolls. Oftentimes, the different narratives as well as the representation of different mediums within *House of Leaves* are represented through changes in the novel's typography or textual structure. For example, "Tom's Story" (Danielewski 253-273) is written in the form of an audio transcript, with a different typeface, date and time labels for each radio transmission. In another example, when the novel includes letters from Will (389) to his wife Karen, the text remediates handwriting by centering the letter within the page and increasing the font. Additionally, the appendixes for *House of Leaves* also contain pictures and other documents in the novel's most clear-cut and transparent attempt and remediation.

Even more unique to *House of Leaves* is its use of typography within a page to, in Hayles' words, "remediate the narrative action in the life-world of the reader" (797). Often when words shift on the page, it is meant to represent an event in the narrative. There are countless examples of this within the text, but one particularly effective use when Will and his friend Reston, with a flashlight as their only source of light, are pursued in the house by what is first described as a "blur of a man, standing dead center with a rifle in his hand" (Danielewski 213-215). The next several pages contain only several words each, often in different parts of the page. The typography mimics Will and Reston's claustrophobic and dark surroundings; he can only see a small section of his surroundings, and so the reader is left with a small bit of text in a largely blank page. This is but one example of many within the text, and the intent or even connection to the text's narrative event is not completely clear every time. Regardless, even if the effects produced or the author's intent are not consciously clear to the reader, such effects produced by the mere formatting and placement of the text still influence and alter the reader's experience.

Although Katherine Hayles describes in detail the ergodic and remediative features of *House of Leaves*' typography and multi-layered fictional structure, there are at least a few remediative attributes within the novel that Hayles does not touch upon in her article. Remarkably, Hayles does not comment on one of the most prominent and easy to spot examples of remediation in *House of Leaves*, that of the shape of the book in of itself. The house, described by Navidson early in the novel as "a quarter of an inch" (30) longer on the inside than the outside, is itself remediated by the actual physical object of the book *House of Leaves*. The cover of the paperback edition of House of Leaves has a front cover which is just roughly half an inch shorter than the remainder of pages within the novel (the hardcover edition less effectively cuts the design of the cover short, but not the physical shape). The real-life novel *House of Leaves* physically attempts to remediate the shape and nature of the fictional eponymous *House of Leaves*, and not just as some sort of literary gimmick. This may seem to be a rather strange form of remediation; it is not the text or the language of the novel that actually remediates in this case, but the actual object of the novel as a whole. Rather than remediating another form of art or a form of technology (which is often accomplished within the actual text), the book is remediating its own subject. This results not only in a physical effect which mimics the fictional house but in

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fact triggers an actual emotional reaction in the reader which mimics that of Will Navidson's within the book; like Navidson, the shape of the cover causes many readers to feel just a slight bit of discomfort at the cover's size and inability to conform to what the reader would expect to be holding in his or her hands. While not a transgression of the laws of physics like the house, it is a transgression against a reader's typical experience with a book, and many readers – having not read the book and thus being unaware of the significance of the shorter cover – experience not only discomfort but are also perplexed and ever so subtly disturbed by it, much like Navidson's initial feelings upon discovering the inconsistent size of the house.

Navidson, at one point in the novel, comments on how "incompetent images can be" (344), noting the inability of his various attempts at filming, sound recording, and photographing the house to truly capture it. Despite the depths of remediation within it, *House of Leaves* is also a novel about the futility of remediation to fully capture its original subject or medium. In contrast to Hayles' claim that the novel "recuperates the vitality of the novel" (781) by "showing what print can be in a digital age" (781), writer Mark Hansen in "The Digital Topography of Mark Z. Danielewski's *House of* Leaves," claims that "the deformations of the text point to the failure of print and the novel as recording technologies (or remediations of such technologies)" (618). This should not be taken to mean that *House of Leaves* is a failure or that remediation is flawed as a concept. Indeed, most of the remediations in *House of Leaves* intentionally emphasize the differences between mediums, causing a sense of longing in the reading to be able to view, for example, the Zampano's manuscript as Johnny Truant viewed it, and especially to view the doubly non-existent film *The Navidson Record.*

This sort of failure of remediation applies to the real-world object of *House of Leaves* as well. *House of Leaves*' various typographical and unusually formatted elements could not be accomplished in any sort of handwritten or non-digital form; effects such as the aforementioned text "boxes", unusual symbols, and strangely crossed out words require a level of computerized manipulation and design beyond that of most nonergodic novels. Yet, there is virtually no legitimate eBook version of *House of Leaves,* and certainly any attempts to remediate the novel into such a format would impact the effect of certain sections of the book which require a printed

page to be read as Danielewski intended. Effects on the reader produced by a text's placement on the page or by the necessity to flip between pages would be diminished or eliminated. Ergo, at the heart of *House of Leaves'* ergodic and remediative elements, there lies an ironic paradox: the novel, in print form, could not exist as it is without the use of digital tools, and yet as a result of the same attributes that required such technology, the book cannot be remediated into a digital format. The very factors which make *House of Leaves* unusual for its own medium of print media make it impossible to successfully remediate the novel into another medium. *House of Leaves* is a novel with a monumental number of examples of remediation within itself, and yet due to its own ergodic textual properties, *House of Leaves* as a piece of media cannot be remediated.

It is particularly common to see examples of ergodic literature within the sub-medium of electronic literature. In its own remediation of print media, electronic literature often takes advantage of its computer-based medium by involving nontrivial effort impossible in a traditional print format, and *Afternoon, a story* is one of the first texts to do just that. Michael Joyce's *Afternoon, a story* is a very significant piece of ergodic literature in the sense that it not only requires nontrivial effort to navigate but was also one of the earlier pieces of electronic literature to be produced. It was certainly one of the first examples of electronic literature to be widely studied and analyzed by literary critics. *Afternoon, a story* was originally intended as a demonstration for the computer program Storyspace, a program used for the creation and reading of electronic hypertext. Only available on a small floppy disk in a faux cover, the then avant-garde format of *Afternoon*, *a story* has ironically made it equally difficult to find and access as modern computing has moved beyond the technology that the story was built on. Even a very limited demo version provided online by publishing company W.W. Norton is designed to run on outdated browsers. *Afternoon, a story, is,* in the most basic of terms, about a divorced man named Peter, who gets involved in a car crash which, as the narrative progresses, is revealed to have possibly involved his ex-wife and son. It is a text with a significantly complicated structure made even more complicated by its multicursal non-linear nature; it consists of textual nodes (also called "scriptons" (Aarseth 87) which link to each other through the user/reader choosing

"Yes" or "No" or simply pressing the enter key. The nodes do not necessarily ask questions or seem at first to follow any sort of logical narrative (or even, at times, logical sentence structure).

Though the user can follow a set of instructions in order to reach the end of a sort of "default" path through *Afternoon, a story,* the vast number of nodes allows for much more varied and unpredictable readings of the text, with each choice made differentiating one reading from the other. Further complicating the internal structure is the use of what Joyce refers to as "words that yield" (qtd. in Aarseth 85), invisible links in words within the text which allow the user access to different nodes. As Aarseth points out, this complication is unusual even among other early examples of hypertext, but it is an intentional and important feature of *Afternoon, a story*, one which differentiates it from other strictly binary examples of hypertext and/or electronic literature. Additionally, by inputting a certain set of keys on the keyboard, the user can view a list of linked words to get some idea of the path they will be taken on. Still, even if using the hidden list, the reader remains unsure as to how one passage connects to the next. The text of *Afternoon*, *a story* is a labyrinth, a text difficult to decipher even with the right tools to manipulate and understand its internal logic. The ergodic aspects of *Afternoon, a tory* lie in the unusual structure of the text and the fact that the user must put fourth an effort and make a choice (Yes, No, picking one of the words, etc.) in order to continue the text, a structure which also forms the foundation for the remediation inherent in *Afternoon, a story*.

The principal act of remediation in *Afternoon, a story* consists of remediating an aspect of the medium through which it functions: the story's structure mimics the computational concept of a "binary tree" (see *fig. 1*). A binary tree consists of a set of nodes each of which has between one and two "children" nodes, leading to another set of one or two nodes, and so on. In the Storyspace program, users can actually navigate to a sort of map of *the text's* structure (see *fig. 2*) which resembles a sort of binary tree. A binary tree is itself a stand in for simply a visual representation of a computational structure, but it represents the binary system machine language on which computers are based. Ergo, the act of remediation in *Afternoon, a story* is the remediation of the medium of the computer itself. If, as Jay Bolter posits, *Afternoon, a story* is, in a textual sense, "about the problem of its own reading" (qtd. in Aarseth 80), then on a

structural level it is also about the problem of the technology it is built on and functions through. The hidden words that yield are analogous to inputting a code into the command line of a computer, telling it to run one particular program, or in *Afternoon, a story*, one particular node. The comparison is not without its flaws; a user writing on a command line will have some purpose in mind and most likely some idea of where his commands will take him. Nonetheless, *Afternoon, a story* remains a significant piece of ergodic literature with its particularly unique structure and technique of remediation which echoes the structure of what was at the time an unusual and new medium in which to tell a story.

Ergodic literature, thanks in no small part to its connections to remediation, is one genre or format of literature that commonly pushes the boundaries of what constitutes literature, electronic literature, or even "text". New examples of ergodic literature often tend to and will continue to test the limits of what constitutes literature and blur the lines between different mediums and genres. There are already many examples of ergodic literature which are exclusively electronic and cannot exist in print form: *Afternoon, a story* is one example, along with most other examples of "hypertext," but there are also electronic stories which do not quite as clearly resemble (although that text already pushes the limits of the term somewhat) what most would consider to be any form of literature at all, and yet which would likely fall under the category of ergodic literature when examined in detail. Aarseth examines various examples of interactive fictions in *Cybertext* which some critics or readers might consider solely in the realm of video games, but which would just as easily belong in the realm of ergodic literature. If graphic novels and other visual fictions can be considered literature and multicursal fictions such as *Afternoon, a story* or "Choose your own adventure books" remain firmly within the category of ergodic literature, then a work which is both visual and multicursal, as many examples of interactive fiction are, could surely be considered in the same vein.

If such works can be considered ergodic literature, then the consideration of whether such interactive fictions could be considered truly literary, if they could aspire to the level of what Aarseth calls a "good novel" (107) is posed as well. There are of course a great deal of questions surrounding the division of literature, interactive fictions, and video games which were already

divisive during the time of Aarseth's writing and which have only been debated more rigorously as the video game has come further into prominence. Simultaneously, many forms of electronic literature discussed by Aarseth, such as hypertext, have arguably faded into relative obscurity. Aarseth himself sympathizes more with the "trivialists" and insists that "games will never become good novels" (107). He goes on to point out that this does not matter, as games are their own "unique aesthetic field of possibilities" and should be judged on their own merit, and not on how close they come to the platonic ideal of a classic novel. Ultimately, questioning what qualifies a text to be either a piece of literature or a video game or whether a video game can achieve literary greatness is an irrelevant and misguided notion. The pedigree of a work, the rigid placement of it into one medium or genre over another, is not a concern; these games and other interactive fictions are treated as ergodic literature by Aarseth, and so they can be considered as such. Whether any of them qualify as literature which is "literary" (an often-misused word) does not matter.

Aarseth devotes a lengthy chapter to what he calls the "Adventure Game" in *Cybertext* where he looks at certain examples of games as ergodic literature. The term adventure game does not necessarily cover all video games; rather, adventure games can be either text or graphically based and have a specific focus on the user experiencing the story through the control of a central protagonist. The first example discussed by Aarseth is the early adventure game appropriately titled *Adventure*, conceived as sort of an electronic successor to the popular tabletop role-playing game "Dungeons and Dragons" (98). Even the original "Dungeons and Dragons" can quite easily be considered ergodic literature: it does, after all, tell a story which requires nontrivial effort from the user to progress, and it does distinguish between successful and unsuccessful users. Inspiring the creation of the genre which bears its name, *Adventure*, published in 1979, was one of the first games which had any sort of graphical interface at all, featuring the user as a lone hero wandering a castle filled with puzzles and enemy dragons. *Adventure* in itself served as remediation of some of the basic attributes of Dungeons and Dragons, such as the medieval era "swords and sorcery" setting along with, of course, the eponymous dungeons and dragons.

Ironically, *Adventure* does not really fit into the category of adventure games which it inspired; it lacks a focus on (or anything beyond a vague notion of) a central story and has little to no text used within it. Nonetheless, as Aarseth points out, it laid the groundwork for a commercially winning formula for early adventure games:

> Take a popular fiction genre…create a background story (the more stereotypical the better, since the users would need less initiation, create a map for the player to move around in, objects to manipulate, characters to interact with, a plot tree or graph with several outcomes, depending on the player's previous decisions, and add descriptions, dialogue, error messages, and a vocabulary for the player (100)

The principle of many adventure games was one principally dependent on the act of remediating genre fiction, from detective novels to fantasy to science- fiction. The text-based adventure games built on such a formula can be thought of as making use of the more aggressive form of remediation, as they "absorb" the medium of print-based genre fiction. In *Remediation,* Bolter and Grusin explain in an example of aggressive remediation that in video games like *Myst* and *Doom* "players become characters in a cinematic narrative" (47), and in similar fashion when playing the classic adventure game players become characters in a genre fiction narrative (e.g. a detective, a sword-and-sorcery style hero, etc.). Even the modern revival of the adventure game genre by companies like Telltale Games has almost always relied on the remediation of a certain sort of genre fiction, or more often, specific literature, movies, or even other genres of video games.

Ergodic literature, as a sort of sub-medium of literature as a whole, has a unique opportunity to transform what is thought of as the novel into something new in an increasingly hypermediated era in which the novel and print media are ever more constantly claimed to be dead or dying. Though remediation is not a unique concept to any particular medium, ergodic literature in particular is dependent on remediation to subvert expectations of what a regular novel should be or what the word novel even means. Whether the traditional novel is truly in need of a great rebirth or if such claims are entirely unfounded, ergodic literature remains a

unique bridge between mediums and a form of literature which will continue to redefine what the word "literature" can mean in a word of rapidly evolving technology.
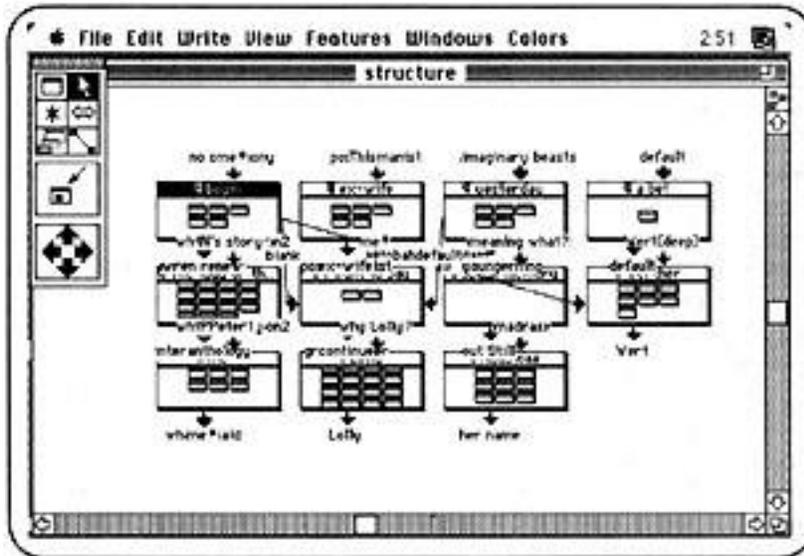
fig. 1

Example of a binary tree
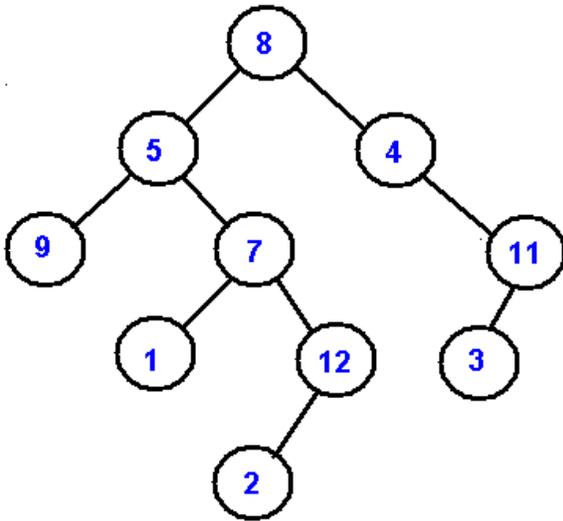
Source: Example of Binary Tree. Digital image. *CMU Computer Science*. Carnegie Mellon University, n.d. Web.

fig. 2

Structure of *Afternoon, a story* as seen through within the Storyspace program

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[i] Wardrip-Fruin, Noah. "Clarifying Ergodic and Cybertext." *Grand Text Auto*. University of

California, Santa Cruz, 12 Aug. 2005. Web.

Works Cited

Aarseth, Espen J. *Cybertext: Perspectives on Ergodic Literature*. Baltimore, MD: Johns Hopkins

UP, 1997. Print.

Adventure. Sunnyvale, CA: Atari, 1979. Computer software.

Bolter, J. David, and Richard A. Grusin. *Remediation: Understanding New Media*. Cambridge, MA: MIT, 1999. Print.

Danielewski, Mark Z. *Mark Z. Danielewski's House of Leaves*. New York: Pantheon, 2000. Print.

Hayles, Katherine. *Writing Machines*. Cambridge, MA: MIT, 2002. Print.

Hayles, N. Katherine. "Saving the Subject: Remediation in House of Leaves." *American Literature* 74.4 (2002): 779-806. *Project MUSE*. Web. 14 Dec. 2015.

Hansen, Mark B. N. "The Digital Topography of Mark Z. Danielewski's "House of Leaves"" *Contemporary Literature* 45.4 (2004): 597-636. *JSTOR*. Web. 14 Dec. 2015.

Joyce, Michael. *Afternoon a Story*. Watertown, MA: Eastgate Systems, 2001. Print.

Legge, James. *The I Ching*. New York: Dover Publications, 1963. Print.

Smith, Richard J. *The I Ching: A Biography*. Princeton, NJ: Princeton UP, 2012. Print.