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Explorations of Ergodic Literature: The Interlaced Poetics of Representation and Simulation

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Abstract

The transformation of interface from a merely indicative tool of navigation to a suggestive element infused with metaphorical power in text-based hypertext literature, and the incorporation of hypermedia and modes of play and games into the hypertext scenario--both strains are gradually winning attention in electronic writing. Topics such as the clarification of *paidia* (play) and *ludus* (game) constituents, their formal impact on literature, and the comprehension of the aesthetic matrices projected by the symbiotic infusion of literature, play and games, have been posited, creating a new node in the network of literary studies. In order to explore these fertile new fields, this paper first assigns itself to a survey of interface design and a formal observation of play and games in samples of electronic literature. Furthermore, the paper is focused on the interlaced poetics of representation (narrative) and simulation (*paidia / ludus*) in literary hypertext, play and games (together to be occasionally called, cybertext or ergodic literature, both terms taken from Espen P. Aarseth). It is hoped that the paper can bring more poetical recognition to digital textualities.

I. "Interface as Content" and Beyond

Human-computer interface design is an issue of long evolution that has nagged both programmers and artists. According to Brenda Laurel, the definition of interface has transformed from "the hardware and software through which a human and a computer could communicate" to the broadly encompassing concept of "the cognitive and emotional aspects of the user's experience" with the goal of "empowering the users"(1990: xi). Laurel's *The Art of Human-Computer Interface Design*, a collection of expert research based on the theme of "user friendly," demonstrates a wide range of pragmatic issues in the field. Compared with the

accomplishment of the software industry, the application of interface design in hypertext literature of the early 90's can be generally considered lacking vital imagination, its artistic level being only preliminary. Steven Johnson observes that "novelists and site designers and digital artists are busy conjuring up the new grammar and syntax of linking" (1997: 111). According to Söke Dinkla, several examples of interactive art from the second generation "already show that the concepts for designing the interface and with it the design of the interaction are getting more and more subtle and diverse" (1994: section 7). However, the limitations still inherent in the relationship between hypertext and its technological medium are accurately summed up in Michael Joyce's statement, "…in the adolescence of our technological age it is hard to go too far" (cited from Moulthrop 1997: hgs0a8.html). With very few exceptions, literary hypertexts in this early stage are usually text-based narratives of multi-linearity, the interface of which submissively inherits the instrumental functionalities endorsed by the software industry. As an example, hyperlinks, probably one of the most intriguing interface elements, in such text-based works are hardly elevated from the basic function of linking two lexias (blocks of text) to the arena of artistic metamorphosis.

Richard Pyrill's "Lies" (c.1992-1994) is a story of two lovers sharing lies and truth. There are two hyperlinks on each lexia, one labeled "lies," and the other "truth." A strong sensation of "aporia" (Aarseth 1997: 90-2; 1999) or aesthetic dilemma arises when the reader is hovering over the two links, divided by their implications: Do you want to listen to the narrator's lies or truth? But is the narrator's "truth" really true? The hyperlinks in this work enjoy a mixture of indicative and suggestive functions. Put another way, they have been upgraded from a merely indicative tool of navigation to an artistic object re-engineered with robust suggestiveness, an integral technical device which enhances the aesthetic dimension of the text (Lee 2000: par.17-20). In this sense, "Lies" anticipates a new approach of maneuvering the interface as a suggestive element in hypertext literature.

David Rokeby's concept of "interface as content" urges us to realize "the profound and subtle way that the interface itself, by defining how we perceive and navigate content, shapes our experience of that content" (1998: 27-8). His observation leads to the threshold of recognizing interface as an essential constituent of ergodic works. His vision of "beyond literal simulation" also endorses the possibility that interface assumes a pivotal role in the augmentation of cybertext artistry (1998: 36-7). Later we will illustrate this vision with more distinct interface design in cybertext, particularly those allied with ergodic modes such as playing and gaming.

The uniqueness of the hyperlinks in "Lies" makes it a very rare exception in the early days of text-based hypertext literature. However, things have changed rapidly since hypermedia entered the scenario, along with the help of faster computers and the widespread of software packages such as *Frontpage* and *Flash*. Though not without its counter-currents, as articulated in Robert Coover's nostalgia for text-

based hypertext (2000), the incorporation of hypermedia into textual works has dominated the trend of hypertext writing. Most important, however, the hypermedia interface is not insulated from the lexias as an indifferent point of transit but rather is actively infused with literary merits like the other constituents of the text proper.

One of the core concerns of interface design in digital art is "interaction" or "ergodic action." This is particularly the case for such cybertext forms as computer games in which ergodicity is the sole point of engagement which the rest of the constituents support. The forms of interaction as found employed in ergodic texts can be categorized according to Espen J. Aarseth's definition of "user functions" (1997: 64) or in accordance with Marie-Laure Ryan's strategic types of textual changes initiated by "the user's input" (2001: 73-6). To some degree, both categorizations identify the complexity of interaction as forms of expression. Nevertheless, their aesthetic discussion of interactive forms is yet to be extended, partially because such newly created works are limited in number. Distinguished scholars in the field, all deeply immersed in the cultural dimensions of hypertext, have touched upon the aesthetic subject but not to the depth of its potential. Michael Joyce (1995; 2000) and J. Yellowlees Douglas (2000), though exceptional, talk of pure textual hypertext only.

II. The Playful Mouse

Interaction in hypertext literature may not be as fully exploited as that of computer games, but hypertextual interaction very often replicates playing and gaming modes or even models behaviors prevalent in computer games. Hypertext critics such as Stuart Moulthrop (1999b; 2001) have applied hypertext reading to computer games, but it is rare to see critics discuss the application of play and game elements derived from either traditional or digital entertainment. It is thus suitable to take a look at the definition of play and games, which may expand the understanding of hypertext literature and other types of ergodic texts.

 Roger Caillois' *Man, Play and Games* has identified *paidia* and *ludus* as the principles that characterize play and games, respectively. Subsequently, he "proposed '*paidia*' as an equivalent to the English noun 'play', and '*ludus*' for the noun 'game'"(Frasca 1998). Caillois' distinction between play (*paidia*) and games (*ludus*) can be summarized in a formula by way of Andre Lalande: games are dominated by the ultimate goal of win-lose or other similar binary patterns of opposition, while play embraces no goals of such kind (Frasca 1998). To illustrate activities with diverse ratios of *paidia* and *ludus*, Caillois sets up a graph with *paidia* and *ludus* on opposite ends and their hybrid species in between (2001: 36). The spectrum is an excellent tool for the analysis of a given computer game, visual or textual, online or console-

based, once its ratio of *paidia* and *ludus* elements in it has been approximately ascertained. Another scale of similar intention is proposed by Talin, using "interactivity" and "storytelling" as the two opposite attributes: "In general, games with highly scripted, sequential structure are on the right [interactivity], and games that lack this are on the left [storytelling]" (1998: 154).

 The two categorizations, respectively employed by Frasca (1998) and Talin for analytical perspectives for videogames, can shed light on the not yet fully explored dimensions of play and game elements in hypertext literature. Hypertext narrative and non-narrative, a digital product similar to computer games, have absorbed *paidia* elements into their literary communications. Similarly, it is not striking to see traditional writing assimilate elements of *ludus*, evidently influenced by the binary nature of computer games, thus giving way to "literary computer games," a term derived from the subtitle of Jim Andrews' "Webarteroids." The goal of *North West Coast Printmakers* (anonymous), for instance, is to successfully complete a journey of American Northwest Indian cultures in the least amount of time. The rescue of an alien and an environmentalist constitutes the defaulted mission in *The Guardians of the Millennium* (Lynn 1999). These two examples manifest the binary structure of win-lose in their narratives.

 Play modes pervade hypertext works. Random links (Moulthrop, *Reagon Library*), stumbling in a dark screen looking for exits (Harrell, "Nightmare Wanders Father Song"), tricky "mouseover" design, and cutup generators all belong to this category. The combination of both play and game patterns in a hypertext work is not uncommon either. "*Ludus* is a particular kind of *paidia*," cites Frasca, "defined as an '*activity organized under a system of rules that defines a victory or a defeat, a gain or a loss*'" (1998). Thus, literary games of exploration such as *North West Coast Printmakers* and *The Guardians of the Millennium* all employ a strong element play.

 The ludic nature of computer games can shed light on the study of hypertext narratology as well. Frasca's comparison reveals that computer games are cybertext embedded with "a set of narrative possibilities" or cybernetic machines that can produce "sessions of narratives." Most notably, "producing narrative and being narrative are different things" (1998). This essential distinction helps to differentiate hypertext literature, a type of cybertext, from its print counterpart. Therefore hypertext literature dictates an approach that caters to its unique structural features. Michael Joyce's interstitial reading, for instance, serves this purpose rightfully (1995). Stuart Moulthrop (1999b) takes one step further with Joyce's concept of interstices applied to the reading of the computer game *Myst*, which in a way has set up a beachhead for the interdisciplinary study of hypertext and computer games, both of which actually share a vast array of cybernetic forms.

 Caillois defines play as "an activity….in which playing is not obligatory…, circumscribed with limits of space and time…, creating neither goods, nor wealth,

nor new elements of any kind...," and "Governed by rules..., accompanied by a special awareness of a second reality or of a free unreality...," "the courses of which cannot be determined" (2001: 9-10). With this definition in mind, the elements of *paidia* embedded in the multicursal construction of hypertext literature become clear. If the number of hyperlinks on a lexia exceeds one, the lexia becomes an arena of access options. A work composed of such lexias turns out to be a maze-like playground, wherein the *paidia* elements manifest a life of their own, exactly in compliance with Caillois' perception of play. The multicursal structure hinges on the maneuvering of hyperlink. In recent times, the application of multi-layer design, another way of displaying information, has increased. The rationale of multi-layer design is that hidden layers are invoked to the foreground by responding to the touch of the curser in affiliation with a "mouseover event" (Javascript) or "on mouse event" (*Flash*'s Action Script).

Like hyperlink, in some literary hypertexts mouseover is strongly suggestive. Linkages of such kinds contribute to the artistic metamorphosis of the playing situation. Artistic manipulation of mouseover can be found in Loss Pequeño Glazier's "Mouseover: Essay in Javascript." Two under layers of the same size are hidden below the work's title banner, and are invoked to the foreground by the consecutive change of three mouse (curser) positions in relation to the layer-objects. The three mouse positions are: pre-mouseover, on-mouseover and off-mouseover. Humor can be derived from the change of content, following the shifting mouse. For example, the graphic moose and the verbal "moose" in the on-mouseover state is replaced with a graphic mouse and a verbal "mouse" once the mouse moves away from the title banner, entering into the off-mouseover state. On this variation, the author comments: "There is humor in this particular series of frames, of course. The idea is that such a shifting series of frames may induce a mood of giddiness. The alternation between 'Mouseover' and 'Mooseover' presents a slapstick animal substitution based purely on an internal off rhyme. The play on the animal after which the computer's pointing device is named thematizes the instrument of control over text" (2002: 121-2).

Deena Larsen's "Carving in Possibilities" is another significant example of mouseover effect. Texts and a graphic bust of Michelangelo's "David" in this work unravel step-by-step in response to continual random re-positioning of the mouse. The motion of the mouse, accompanied by pounding sounds which imply steel carving stone, connotes the process of transforming a shapeless rock into a statue with a human form. The mouseover design, more than just a tool to divulge verbal, graphic and aural content, induces a series of implosions in the text as a whole. First, it brings forth a clash of distinct materialities through the process of remediation. Second, the remediated environment works as a testing ground for the exchange of information disclosed from each medium. Third, the three distinct types of texts, proved to have messages of correspondence and compatibility,

merge into a recombinant object. The result of the transfusion unifies a group of seemingly scattered puzzle blocks into a clear figure. In the case of "Carving in Possibilities," the application of mouseover elevates the playground of random search to that of a metaphorical quest for a certain object.

The summarized storyline of an ergodic work is a meta-narrative. Characteristically, this meta-narrative is equivalent to the narrative embedded in a text-based story. This sole meta-narrative, however, is not tantamount to the hypertext from which it is engendered. Like a game, a hypertext work is a producer of narratives rather than the narrative itself (Frasca 1998). While possible meanings in most print texts are to be excavated, in hypertext possible narratives are to be explored. The re-access to a hypertext work for discovery of new trajectories partially fulfills Joyce's claims: True hypertext reading is rereading (1995; 2000). Put another way, hypertext is a simulated environment of text-based reading, its content allowing users to play and to read at the same time and therefore entitling them to fashion narratives based on their options. To play in node-link hypertext is to choose one link option among many. The decision may be an aimless selection or made in accordance with a specific idea originated from reading a text. While it is generally random in hyperlink optioning, mouseover design enjoys motion of a binary pattern: randomness ("Carving in Possibility") vs. arbitrariness (the mouseover positioning in the title banner of "Mouseover: Essay in Javascript"). A mixture of the two attributes is not an uncommon practice. In each individual section of "Mouseover: Essay in Javascript," the reader's movement has no alternative but follow the arbitrary trajectory governed by the mouseover design. On the other hand, the work encourages the reader to take it as a whole and traverse it randomly for an uncompromising interactive reading, because "this is a 'physical' work and that physical interaction with the work determines its content" (2002: 125). Random or arbitrary, the form of transition design is meant to meld with content and does not affect the playfulness its playing mode aims to achieve.

III. Representation vs. Simulation

The appellation "literary play" or "literary games" indicates a collaboration of verbal text and *paidia* or *ludus* in an ergodic situation which engenders literariness. Literary play or game is an alloy of two forms of expression: representation and simulation. Representation is "the act of portrayal, picturing, or other rendering in [textual and] visible form" (*Random House Dictionary*), a way of presentation prevalent in analog media such as fiction and film. By comparison, "Simulation does not simply represent objects and systems, but it also models their behaviors" (Frasca 2002), and is a form of communication now ardently developed and employed in digital

technology. The distinctiveness of the poetics of representation and of simulation makes their convergence intriguing and worthy of exploration. To glimpse this wild, hybrid aesthetic species, let's test-drive two instantiations of *paidia* and *ludus* respectively.

"Teddy will comfort me" is the only phrase on the "Bear" page in Nobody Here (anonymous). Above this phrase rests a visual *paidia* environment wherein the reader/player is invited to torture a Teddy bear with an array of objects such as scissors, tape, and nails. Irony immediately arises from the clash between the text (representation) and the *paidia* situation (simulation): the consolation is derived from sadistically torturing a cuddly toy rather than being comforted by its cuteness. Notably, it is the input of physicality from the reader/player which converts the *paidia* situation into a signifying system.

"Webarteroids," a verbal transfiguration of the classical video game "Asteroids," involves fighting word-invaders. In its first Canto, the default defensive is the word "poetry," whose mission is to shoot, cracking open charging words or phrases such as "death," "fear," "insecurity," "nothing," or even "poetry" itself but in different colors. Roberto Simanowski reminds us that "the more skillfully you play, the more words you read/understand, until you will be able to construct sentences: "The battle of Poetry against itself and the forces of dullness," and "poetry poetry all is poetry destroyed and created." He continues with a very perceptive comment on the relation between reading and fighting in the game: "The attempt to decipher these words (sometimes twisted 180 degrees) absorbs the attention one needs to fight attackers: reading is threatening your life, like on any battlefield" (2001: section 2).

Symbolically, "poetry" is a weapon against the dark side of life and destroys even itself for the sake of resurrection. The interactive form of "Webarteroids," in which the gamer assumes the role of a poet/fighter responsible for the gaming consequence of winning or losing, has re-energized such cliche motifs as "poetry vs. death" in literature. This work transfers the motif of resistance from the platform of representation to that of simulation, wherein the imagineering (imagining + engineering) experience is greatly different from the imagining perception[1].

It is noteworthy that the binary goal of games can easily corrupt the seriousness of text as gamers may wield all possible means to achieve their goal and subsequently degrade the verbal reading and demote aesthetic appreciation to secondary status. To distance the impact of the binary goal from its textual seriousness, Robert Kendall's "Clues," a detective narration of interaction, chooses to blur the importance of its final goal, that is, to diminish the implication of a success vs. failure pattern in the game. Thus, the goal exists, but only with enough relevance to sustain the illusion of progression in a specific situation in the gamer's mind.

One has to re-read/re-play "Clues" in order to appreciate the artistry of its interaction design. It is rarely possible for the reader/player to identify the ten clues required to

obtain the winning goal with just one trial, mainly because there are few covert tips readily accessible in the reading concerning the discovery of the right trajectories.

Obviously there is a goal-oriented drive that sustains the reader's retrials. The error messages, which will pop up when certain objects are clicked, are supposed to help the reader avoid the wrong paths trod in the previous round and facilitate his progression in the next. However, for the less serious reader who places the winning goal as the priority in his engagement with the game, the textual reading will make little sense. The goal-oriented reader eventually would just click and not read at all, since the unrequited efforts will indicate that reading has offered little help in figuring out useful suggestions to the location of clues. Subsequently he will also recognize that this game is of little fun since clues are indefinite all the way through the detective case and no final answers but abstract talks offered at the non-/conclusions of the game. Ironically, a hint from the narrator is already available at the prelude to the game: No need to go further. It's all my fabrication. I'm the answer.

At first glance, the verbal text of "Clues" is problematic in terms of detective story convention. In view of literary games, however, "Clues" is a simulation of detective reading with corrupted form and content. In terms of representation, the narration is non-storytelling wrapped up in the form of detective storytelling. Regarding simulation, the gaming ends, either winning or losing, sustain the philosophical vein of ambiguity pervading the whole text. The detective non-story and the blurred gaming goal seem to pose a challenge to their respective convention but with little impact. But on the contrary, the convergence of the two twists, or the interlaced poetics of representation and simulation, gives birth to a cybertext of meditative immersion, a new species transcending the type of immersion presumed in popular culture. The ergodicity of "Clues" injects new life into the convention of text-based detective stories which have succumbed to lack of innovation in form. The poetics of simulation contribute to the elevation of a popular form to an artistic one.

VI. "Beyond Literal Simulation"

Simulation, or to be specific, behavior modeling, employed in the works cited above are all explicit in terms of signification, with the possible exception of "Carving in Possibilities." Like interface in hypertext, simulation can be upgraded from explicit duplication of reality to suggestive reconfiguration of behaviors by imposing a symbolic gesture upon its object. Rokeby criticizes contemporary VR designers as "so literal in their attempts to simulate reality that they stifle some of the most exciting potentials that these new media offer" (1998: 36). He cites Tamas Waliczky as an outstanding example in experimenting the aesthetic dimension of simulation.

Waliczky "has been creating alternate perspectival systems." One of his works is "a program that renders inverted perspective, in which things get larger as they get farther away from you, and vice versa" (1998: 37). This brilliant inversion of perspectival simulation in digital art may serve as inspiration for ergodic literature.

From technically simpler interface design such as hyperlink to complex behavior modeling, we have witnessed an evolution of literary form initiated by digital technology and compounded by artistic imagination. The evolution has shown no sign of exhausting the energy of digital artists whose imaginations run abreast with the advance of digital technology. We will soon see this trend of artistic simulation bloom into ergodic literature since digital technology has made the creative tool for such work easier to use and available to all writers.

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1. My reading is based on "Webarteroids," an earlier version of "Arteroids."