4 Theoretical Landscapes: Towards a Definition of Digital Literature

Words strain,
Crack and sometimes break, under the burden,
Under the tension, slip, slide, perish,
Decay with imprecision, will not stay in place,
Will not stay still

T.S. Eliot (*Burnt Norton*)

We theoreticians have to know the laws of the peripheral in art. The peripheral is, in fact, the non-aesthetic set. It is connected with art, but the connection is not causal. But to stay alive, art must have new raw materials. Infusions of the peripheral.

Victor Shklovsky

4.1.

The *Genesis* of New Poetic Spaces: Holopoetry and Digital Literature

Responsible for such revolutionary works as the *Genesis* installation and the fluorescent GFP bunny "Alba" – a piece of transgenic art consisting of an albino bunny injected with a green fluorescent protein first isolated from the jellyfish *Aequorea victoria* –, Eduardo Kac has been an active voice in the theorization of new media art as well as a remarkable practitioner of new media language. In the foreword to Kac's *Telepresence & Bio Art: Networking Humans, Rabbits and Robots,* art historian James Elkins states that a reviewer once said of Kac's work "that [it] is six degrees of separation from every important issue of our time" (ELKINS, 2005, p. v). Alongside such names as Noah Wardrip-Fruin,

John Cayley and Camille Utterback, Kac is an artist engaged in the theoretical discussion of his practice.

Apart from the examples extracted from Kac's *Holopoetry*, any attempt to classify such works as the *Genesis* installation and the GFP bunny as literary would be far-fetched, at best. I shall go into further detail on this matter when I discuss Katherine Hayles' definition of digital literature, as well as her enviable ability to deflect certain issues, which, in the end, prove to be theoretical *mises en abime*. According to Kac, holography is a means of investigating the nature of language as well as its relationship to the visual arts (KAC, 1986).

> My work in holography can be understood in the context of language art and visual poetry, two genres that explore the fusion of word and image. I create what I call holographic poems, or holopoems, which are essentially holograms and computer holograms that address language both as material and subject matter. I try to create texts which can only signify upon the active perceptual and cognitive engagement on the part of the reader or viewer. (KAC, http://www.ekac.org/holopoetry.hypertext.html)

Because holopoems create visual texts that rely entirely on audience interaction – their perceptual and cognitive engagement as well as their physical interventions –, interactivity could be said to be central to Kac's work. Kac defines his *Holopoetry* project as one of co-creation, a result of collaborative efforts in which "each reader 'writes' his or her own texts as he or she looks at the piece" (Ibid.). Surely, Kac's "viewer-activated choreography" is indicative of the reciprocal procedural logics embedded in all computer-based literary communication. I would submit that the true innovation of digital aesthetics – detectable not only in Kac's work but also in the works of a vast majority of new media artists – lies in the complex articulation of material instantiation (presence) with recursive intermediation (i.e., disembodied informational patterns presumably circulating independently from "the medium instantiating [them]" (HAYLES, 1999, p. 13). I mention this to rehabilitate the discussion on the difficulty in ascribing ontological value to "flickering signifiers," – inasmuch as they consist of strings of signs or informational patterns, they can be said to preclude presence or substantiation (HAYLES, 2006). If print allows words to inhabit immutable surfaces of the page, as our discussion of remediation has indicated, digital poiesis is transient, it is code – which, as John Cayley posits,

implies that "transactive mediations" occur at the moment of production.[1] In this regard, it is not sufficient to claim that ergodic relations require discrete reader interference – (reactive interactivity) on a pre-semiotic level (*Erleben*). One must also account for the manner in which perception presupposes mediation. Very succinctly, one also needs to acknowledge that the processual character of digital media effectively repels definitive ontological assertions, which, in the interest of complexity, is also why one must undertake them.

> My holopoems don't rest quietly on the surface. When the viewer starts to look for words and their links, the texts will transform themselves, move in three-dimensional space, change in color and meaning, coalesce and disappear. This viewer-activated choreography is as much a part of the signifying process as the transforming verbal and visual elements themselves. (KAC, http://www.ekac.org/holopoetry.hypertext.html)

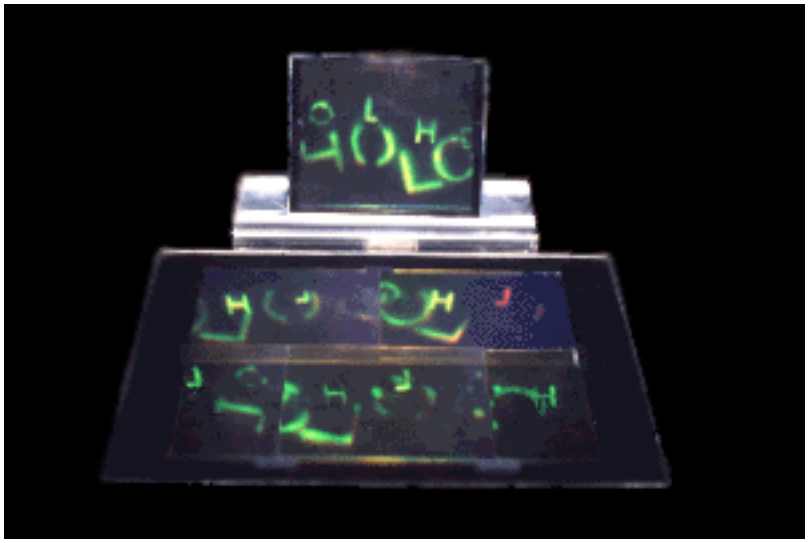


Fig. 11. *HOLO/OLHO* (*HOLO/EYE*) 25 x 30 cm. Reflection holograms mounted on wood and Plexiglass. (1983) UECLAA Collection, University of Essex, UK.

[1] In his celebrated essay "The Code Is Not the Text (Unless It Is the Text)," Cayley problematizes the ontological discussion of the flickering signifier as a means of advocating the hermeneutics of the code, wherein criticism of code-making is included in theoretical practices (CAYLEY, 2002).

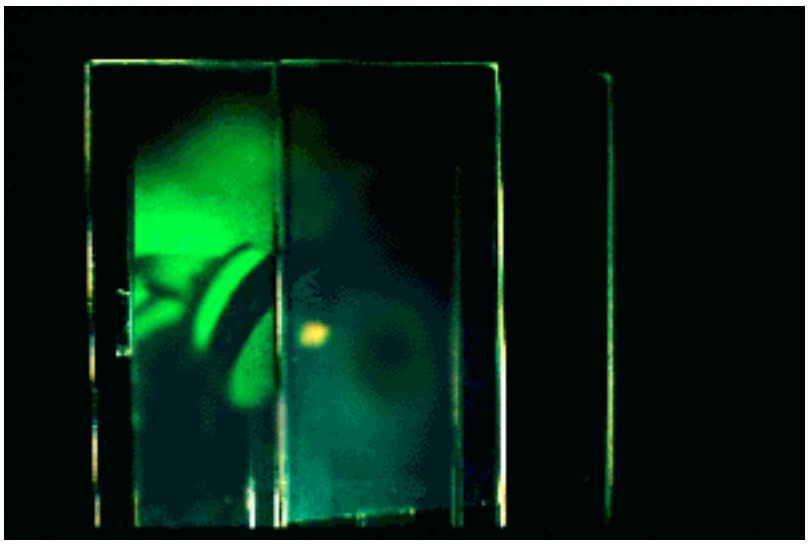


Fig. 12. *OCO* 30 x 30 cm. White light reflection hologram (1985). Original (shown) lost. Remade in 1989 by E. Kac as a computer holographic stereogram (WL transmission).

With regards to media syntax, Kac ascribes specific constraints to the production of holographic poetry: holographic poetry needs to be composed in accordance with the laws, rules and allowances of holographic structures. This claim is analogous to the arguments advanced by Simanowski about the "genuineness" of the digital medium. Otherwise put, though it is technically possible to record any poem on a hologram, a poem composed analogically and subsequently transcribed to holographic film does not constitute a valid example of holographic poetry (Cf. SIMANOWSKI, 2007). Nevertheless, as the discussion of *The Child* by Alex Gopher has revealed, such demarcations are never without a certain measure of indeterminacy.

Interfaces

In his 1998 book *Esthétique Relationnelle* (*Relational Aesthetics*), Nicolas Bourriaud coins the term *relational art* to define a kind of art that utilizes the realm of human interactions and their social contexts as its theoretical bases. No longer separated from the autonomous and private space of the museum, relational art invades a fundamentally altered urban landscape, wherein "the pseudo-aristocratic conception of how artworks should be displayed [collapses before our very eyes]" (BOURRIAUD, 1998, p. 14). Bourriaud's aesthetic experience is

explained in spatial terms: rather than a surface to be *walked through*, art becomes an experience to be *lived in*. Emblematic of the inevitability (and difficulty) of encounter is the modern city, wherein art subjugates itself to the rules of convivial mores. Bourriaud's theorizations refer mainly to installations. Irrespectively of whether electronic art tightens the space of relations – "[producing] specific sociability" (Ibid.) – or disrupts it, the notion of art being interwoven with lifeworlds in a specific interstitial space is one that suits digital literature, particularly the subset which includes immersive installations and VR environments.

In mutually constructive pieces such as the aforementioned *Holopoems* and *Genesis*, one could say that free arenas of exchange are generated. Digital art, in other words, fosters a distinct mode of dyadic interchange,[2] indeed one that liberates us "from the 'communication zones' that are imposed upon us" (BOURRIAUD, 1998, p. 16). Kac's inter-relational works, such as *Interfaces*, a live split-screen video exchange, which took place on the 10th of December 1990, quite efficiently exemplifies Bourriaud's hypotheses. *Interfaces* reenacts the exchange that took place between a group of artists in Chicago and another at the Center for Creative Inquiry at Carnegie Mellon University, Pittsburgh. Because participants in Chicago could not anticipate which images would be sent out by the Pittsburgh group and vice versa, *Interfaces* simulated a natural visual dialogue between participants – "bringing the improvised and spontaneous feed-back loop of a personal conversation to the realm of video" (KAC, 1990) (Fig. 13). The digital dissolution of identity attained through simple video overlapping techniques – parts of a face from Chicago, for instance, would be slowly scanned over another face previously sent by the Pittsburgh group – is less of a technologically fascinating feat today (within contexts of our current over-mediated and over-Skyped lifeworlds) than it was in 1990.

[2] I allude to Wolfgang Iser's use of the term, adopting the patterns advanced by Edward E. Jones and Harold B. Gerard in *Foundations of Social Psychology*. Additionally, Iser borrows from the psychoanalytical research on communication conducted by R. D. Laing, H. Phillipson, and A.R. Lee. Quoting directly from Laing's *Interpersonal Perception* Iser writes: "My field of experience is, however, filled not only by my direct view of myself (ego) and of the other (alter), but of what we shall call *meta*perspectives—my view of the other's … view of me. I am not actually able to see myself as others see me, but I am constantly supposing them to see me in particular ways, and I am constantly acting in the light of the actual or supposed attitudes, opinions, needs and so on the other has in respect of me" (LAING, PHILLIPSON & LEE, 1966, p. 4).

Fig. 13. Eduardo Kac – *Interfaces* (1990).

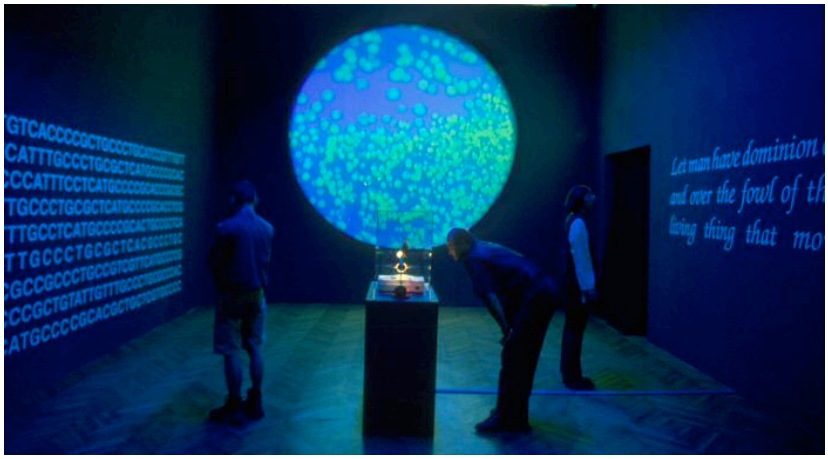
As a fringe theoretical provocation, I will briefly suggest that it is possible to equate Kac's multidirectional communicative schematics to Wolfgang Iser's theory of aesthetic response (*Wirkungstheorie*) wherein contingency is an inevitable component of interaction (ISER, 1978). If the act of reading is to be understood in terms of unpredictability – "as both a constitutive and differentiating element in the process of interaction" (ISER, 1980, p. 163) – then Kac's *Interfaces* and more generally his telepresences[3] very aptly exemplify contingent communication models as they are remediated to the digital medium.

Genesis

Let us now shift the discussion to Kac's renowned *Genesis* installation, commissioned by Ars Electronica 99 and first presented online at the O.K. Center for Contemporary Art, Linz, from September 4 to 19, 1999. According to his own description, *Genesis* (1998/99) is a transgenic artwork "that explores the intricate relationship between biology, belief systems, information technology, dialogical interaction, ethics, and the Internet" (KAC, 1999). The connection to Hayles' theorizations on the posthuman is exceedingly blatant: "The posthuman subject is

[3] Kac's telepresences function according to premises of instability: "(…) it is necessary to acknowledge the immaterial in art. Immaterial art does not mean art without any physical substrates; rather it signifies the exploration of televirtual domains and the foregrounding of the participant's experience" (KAC, 2005, p. 156).

an amalgam, a collection of heterogeneous components, a material informational entity whose boundaries undergo continuous construction and reconstruction" (HAYLES, 1999, p. 3). In *Genesis*, Kac seeks the visualization of the absurd biblical protein through the conversion of the first sentence of the book of Genesis – "Let man have dominion over the fish and the sea, over the fowl of the air, and over every living thing that moves upon the earth" – into Morse code. The gallery display is as follows: a flexible microcamera, a UV light box and a microscope illuminator allow for the projection of the bacterial division. Facing the projection of the petri dish – with its fluorescent bluish hues remnant of stained glasses from a gothic cathedral – are two large-scale texts applied directly to the wall depicting, respectively, the versicle extracted from the book of Genesis and the *Genesis* gene.



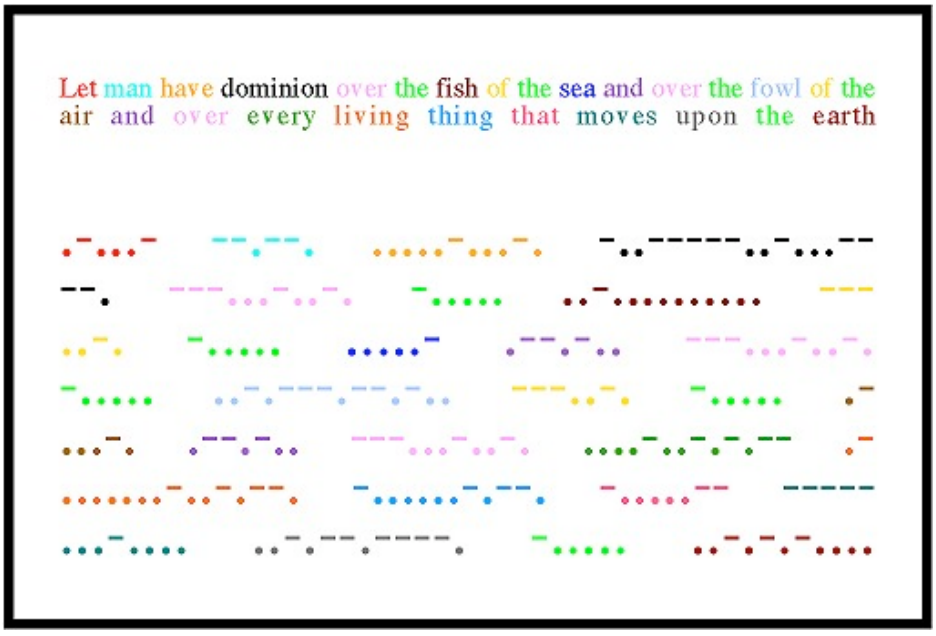


Fig. 14. Translation of the biblical sentence into Morse code. (Back wall).

Kac explains that the biblical sentence was chosen because of its "implications regarding the dubious notion of (divinely sanctioned) humanity's supremacy over nature" (http://www.ekac.org/geninfo2.html). Morse code carries a distinctive symbolic value: "[it] represents the dawn of the information age – the genesis of global communications" (Ibid.). Kac converts the Morse code into DNA base pairs according to a principle specially concocted for the work. In an explicative piece, Kac details the procedure as follows: the primary process consists of cloning a synthetic gene into plasmids and the subsequent transformation of said plasmids into bacteria (KAC, 1999, pp. 45-55). This process produces a new protein molecule – the key factor being that such a gene is completely artificial and does not exist in nature.[4] While the bacteria (ECFP) contain the synthetic gene, the other type (EYFP) lack this gene. The point is that when exposed to UV radiation (302 nm), these fluorescent bacteria emit cyan and yellow light. It should also be noted that as the number of binary fissions increases, mutations naturally occur in the plasmids and new color combinations arise as a result of their interaction. The impact of the UV light disrupts the *Genesis* DNA sequence and, because the gallery display is set up in a way that local as well as remote (Web) participants are able to monitor the evolution of the work, Kac offers the interactor a simple yet moral choice: to click or not to click. My bet is that most people will click. According to Kac, "The ability to change the sentence is a symbolic gesture: it means that we do not accept its meaning in the form we inherited it, and that new meanings emerge as we seek to change it (…)" (KAC, 2005, p. 251). Kac's is certainly one of the many possible readings of the work. Another is Simanowski's, who affirms that though the project's message might be relatively simple – "by acquiring authority over all other living

[4] The details on the specific kinds of bacteria present in the work are as follows: (a) bacteria that have incorporated a plasmid containing ECFP (Enhanced Cyan Fluorescent Protein) and (b) bacteria that have incorporated a plasmid containing EYFP (Enhanced Yellow Fluorescent Protein). Kac explains that ECFP and EYFP are mutants of the GFP protein (Green Fluorescent Protein – used in the Alba bunny) –, that the strain of bacteria employed in *Genesis* is JM101 and that normal mutation in this strain occurs 1 in 10^6 base pairs. "Along the mutation process, the precise information originally encoded in the ECFP bacteria is altered. The mutation of the synthetic gene will occur as a result of three factors: 1) the natural bacterial multiplication process; 2) bacterial dialogical interaction; 3) human-activated UV radiation. The selected bacteria are safe to use in public and are displayed in the gallery with the UV source in a protective transparent enclosure" (KAC, 1999, pp. 310-313).

beings, humans destroy the scriptural formation that had originally organized them" (SIMANOWSKI, 2007, p. 59). One must consider that both structurally and semantically, society has fully embraced "cyborg logics" as a strategy of self-description. Kac is most certainly not alone when he affirms that the boundaries between carbon-based life and digital data have reached the frailty of cell membranes – one need only recall Hayles' third characteristic of the posthuman view, namely that the body "[be] regarded as the original prosthesis we all learn to manipulate, so that extending the body with other prostheses becomes a continuation of a process that began before we were born" (HAYLES, 1999, p. 3). To address the strictly *literary* aspect of the piece, the changed sentence relayed to the audience displays a minimal yet intriguing change: "Let *aan* have dominion over the fish of the sea and over the fowl of the air and over every living thing that *ioves ua eon* the earth." Is the typographical error to be dismissed as bacterial *non sequitur* or are we to consider the fact that the verses still retain poetic cadence? Does it matter who is speaking – be it human, bacteria or machine?

4.2.

Upheavals in Literary Theory

In their 2007 publication *The Aesthetics of Net Literature: Writing, Reading and Playing in Programmable Media*, theorists Peter Gendolla and Jörgen Schäfer stress such themes as "rupture" and "upheaval" as a discursive strategy to explain the drastic changes computer-based technology and networked communications have impinged upon traditional literary models – describable as processes of communication (production/reception). The very fact that the research center to which both authors belong is called *Medienumbrüche* (Media Upheavals) is quite telling. In order to earn the denomination of "upheaval" a cultural event (which is to say, a variation on the level of Mentalités) ought to prompt distinct epistemic disruptions. In the case of the "specific organ of perception" that is literature, a media upheaval entails drastic discontinuities in medial supports, directly affecting processes of production and reception. Insofar as digital literature presupposes remediations, which directly affect cognition – "[literature's] signs are able to amalgamate the perceptions of our senses in a specific synesthetic way" (GENDOLLA & SCHÄFER, 2007, pp. 17-18) –, it is not sufficient to argue that crystallized categories such as that of the reader, author and text would have to be redefined within these new contexts. Because literature of the 21st century has expanded into "the third domain [of literary communication], namely that of designing and conceptualizing," literary theory must assess the manner in which technologies of information problematize the *literary* component in computer-based literary discourse (GENDOLLA & SCHÄFER, 2007).

> Wherein, despite all differences, lie the common features that allow us to talk of a sphere of objects we can continue to call literature even across historically replaced constellations of media? And what difference is produced by the various media of production, distribution, and reception of literature, or, to put it otherwise: wherein lies the distinguishing feature between the chain of letters fixated in print and the "flickering signifiers" (Katherine Hayles) of computer aided media? (GENDOLLA & SCHÄFER, 2007, p. 19)

In order to address such questions, Gendolla and Schäfer refer to Harmut Winkler's argument that language is a basic technology, and as such, linguistic praxis, or "fluid discourse," is always directly connected to its materiality. Winkler's definition of writing proves particularly helpful in the description of the relationship between "the symbolic" and the technical realms (GENDOLLA & SCHÄFER, 2007). Though the authors' interest in understanding the abstract way in which Winkler arrives at the concept of the sign is admittedly limited (as is ours), for the purposes of the present analysis of digital literature as a literary sub-genre, I reiterate (and extrapolate on) two of their deductions: (a) that semiosis, or the process of signification, is ineluctably technical in that it connects operation and procedure (*techné*)[5]; and (b) that literature is always medially inscribed (GENDOLLA & SCHÄFER, 2007).

For Gendolla and Schäfer it is critical to outline Winkler's theories alongside Espen Aarseth's cybertext theory[6] in order to attain what they describe as a "model of levels of man-machine-dynamics in net literature" (GENDOLLA & SCHÄFER, 2007, p. 21). Though their full depiction of such a model as well as the specifics of their dialogue with Aarseth and Winkler need not concern us directly, there are a few points to be stressed. Firstly, though I choose not to adopt it, Gendolla and Schäfer's choice for the term *net* literature as opposed to *electronic*, *digital* or *ergodic* helps clarify what they mean by upheaval within the specific context of the literary system. Because both anthropogenic and artificial networks tend to be "self-generating, self-controlling and self-expanding forms of organization," the term *net* underscores the dynamics of networked communications (BÖHME apud GENDOLLA & SCHÄFER)[7]. Secondly, if by net literature they do *not* mean print literature that circulates on the Web – which

[5] This statement requires that we equate procedure/*techné* with technology. Analogously, semiosis is not necessarily technical or mechanic.

[6] Cf. My earlier discussion of Espen Aarseth's concept of ergodic literature as characterized by the reader's non-trivial effort to traverse the text.

[7] The authors cite Hartmut Böhme's definition:

"Netze sind biologische oder anthropogen artifi zielle Organisationsformen zur Produktion, Distribution und Kommunikation von materiellen und symbolischen Objekten. . . . Netze bilden komplexe zeiträumliche dynamische Systeme. . . . Sie tun dies nach stabilen Prinzipien, doch in instabilen Gleichgewichten, selbstgenerativ, selbststeuernd, selbsterweiternd, also autopoietisch und evolutionär." (19)

Nets are biological or artificial anthropogenetic forms of organization to produce, distribute and communicate material and symbolic objects… Nets create complex, dynamic systems of time-space… They do this in a self-generating, self-controlling and self-expanding way according to stable principles, however, with instable balances, i.e. in an autopoietic and evolutionary manner.

would limit the scope of investigation to a mere analysis of modes of distribution – then *net* literature assumes conceptual modifications bearing direct consequences on definitions of literature itself. This is why it makes sense to speak of a collapse of the author/reader/text triad.[8]

Towards the end of their 2007 article, Gendolla and Schäfer are forced to admit that their focus on the technical and formal aspects of what they call conditions of altered textuality proves to be insufficient with regards to aesthetic concerns – "and might as well be applied to all networked communication" (GENDOLLA & SCHÄFER, 2007, p. 27). The authors argue that the "blind spot" in Espen Aarseth's theory of ergodic literature lies precisely in its lack of a normative framework, whereby it would be possible to distinguish between literary and non-literary texts (Ibid.). If that is the case, then the question becomes whether within altered medial conditions one can still distinguish aesthetic "literary differences" in "net literature," such as stylistic concerns of fictionality and meta-fictionality from those of traditional, non-fiction, print literature (Ibid.). From their examination, it becomes abundantly clear that Gendolla and Schäfer subscribe to at least one major premise developed by the Russian formalist school: "Literature, with its very special usage of words, indeed differs from everyday language" (2007, p. 27). Central to both the Russian formalists and the Prague Circle's thoughts is the trope of "defamiliarization" (*ostranenie*) as the determinant constituent of literary composition.[9]

On the question of literature proper (digital or print literary processes) Gendolla and Schäfer's claims are as follows: firstly, "[Literature] de-automates through distancing, exhibiting irony, and by using effects of alienation" (GENDOLLA & SCHÄFER, 2007, p. 27). It is certainly viable to theorize that literature negates itself by constantly creating aesthetic difference – which, in

[8] If, however, *net* is to be understood as a system or literary field, then the exclusion of print literature remediated to the Web (digitized literature) would cease to be justified. This is not an issue addressed by the authors. Because of my emphasis on digitally-born works, I choose to comply with the arguments on "net" literature insofar as I understand that even stand-alone objects of digital literature are informed by principles of connectivity.

[9] In his *Literary Theory: A Brief Insight*, Jonathan Culler states that "literature is language in which various elements and components of the text are brought into a complex relation" (CULLER, 1997, p. 38). What does this mean? Culler explains that should he, for example, receive a letter requesting his contribution to some worthy cause, he would be unlikely to scrutinize the stylistic elements of such a document; however, in literature "there are relations – of reinforcement or contrast and dissonance – between the structures of different linguistic levels" (Ibid.).

turn, is only perceptive because it is directed upon itself, "thereby simultaneously distancing itself from becoming utilitarian" (Ibid.). Being inherently recursive (JÄGER, 2010), literary language (and all language, for that matter) does not allow for simple distancing, rather it operates through the creation of differences, which is to say, it identifies itself by differentiation. Secondly, literature will reflect the media of its production and reception. Put otherwise, the medium is the message insofar as it frames literary discursive practices. Within the context of new media, the negation of the utilitarian usage of language can be described as both the birth of structural self-reflexivity and confirmation that forms and contents are never neutrally transmitted (Cf. JÄGER, 2010). Hence, the binary Saussurean model of sender-receiver (message) is one that requires revision. Gendolla and Schäfer are keen to point out that in digital literary communication, the recursive circulation of signs and symbols can always – perhaps is meant to? – produce unpredictable results. The trope of unpredictability is exactly what leads the authors to ask whether digital literature conserves the "aesthetic differences necessary to render it literary" (GENDOLLA & SCHÄFER, 2007).

If one follows their reasoning, one understands that current literary studies must consider the extent to which these new literary objects – the authors rightfully insist on their networked nature: "this literature: in the sense of networked experimental activities" (GENDOLLA & SCHÄFER, 2007, p. 28) – aesthetically reflect the communicative processes onto which they inscribe themselves. Let us assume that the answer is that they *do* indeed reflect these processes. Let us also agree that they produce unpredictable outputs. That the digital medium allows for the emergence of unpredictability, otherwise known as contingency, merely constitutes grounds to consider it a communicative process. To invoke David Wellbery's eloquent articulation of the concept of literature as a sub-branch of media studies, I would argue that all transmission occurs in media and that no channel fails to produce noise (WELLBERY, 1990), and I further hypothesize that the unpredictability of output (Cf. *Genesis*) matters only insofar as a discussion on autonomy is concerned, bearing no explicit or definitive implication whatsoever on a normative debate on literary value. Schäfer and Gendolla's point is that the technical medium allows for a greater measure of autonomy and autonomy means less authorial control (GENDOLLA & SCHÄFER, 2007).

> Net literature inscribes its narratives onto this open flank of technically supported processes of socio-cultural differentiation. Media technology then, precisely does not widen, but withdraws individual control; it hinders the transfer of control from individuals or groups to systems functioning without friction as much as possible thereby enabling a transfer necessary for cultural evolution. (GENDOLLA & SCHÄFER, 2007, p. 28)

If we replace the notion of evolution for operation, then the question becomes: what if individuals do indeed forfeit control? What if, as the authors posit, aesthetic processes in networked media *do* encourage ethical debates concerning the neglect for individuality? What if literary *aisthesis*, or perception from the senses (a perception of perceptions), becomes conflictive with the autonomy ascribed to the technical medium? The ethical clash between individual control versus system control suggests a complex discussion which, albeit correlated, falls outside the scope of this investigation. The question I believe one should ask is thus: does the fact that literature has become "less human" necessarily make it less literary? Citing Michael Chaouli's article on the possibilities of computers and nets, Gendolla and Schäfer speak of a moment where we may have to inquire about the great narrative, whereby they mean the complete, closed work which eludes intervention and disruption (GENDOLLA & SCHÄFER, 2007). This work, I would submit, if it ever existed, in all probability, no longer does. It no longer does because the conceptual frame, which constructed it as such in the first place, ceased to be possible. To refer to Luhmann, "there are no métarécits because there are no outside observers" (LUHMANN, 1998). Additionally, in light of the most basic premises of aesthetic response, I would suggest that the literary text has always been a result of "a dialectical relationship between text, reader and their interaction" (ISER, 1978, p. x). As such, no work of art or literature has ever been entirely autonomous.

In the introduction to *Beyond the Screen: Transformations of Literary Structures, Interfaces and Genres*, Gendolla and Schäfer write: "regarding our specific interest in electronic literature, digital literature, net literature, or whatever the subject might be called (...)" (GENDOLLA & SCHÄFER, 2010, p. 11). The decision to begin the book with a somewhat playful statement speaks to the evident conceptual indeterminacy of the field. The author/reader/text triad,

questioned in 2007, is kept, but pending revision (2010). One could very well argue that it is only natural that a field so dependent on technological innovation be malleable in this context. The authors return to the topic of the autonomous component of the technical medium, reiterating that traditional models of literary communication must be supplemented with the non-human aspects involved in the production of these cyborg-combinatorial literary crossbreeds (GENDOLLA & SCHÄFER, 2010). I submit that a theory of computer-based literature must, of necessity, not only assume revised grammars of interaction, intermedial premises and the pervasiveness of performance (SIMANOWSKI, 2007) – which arguably would fall at the production end – but also, in terms of reception, new media theorists must ask themselves the extent to which reading (is it really only reading?) specific computer-generated/interactive texts differs from the reception of a text produced by human beings.[10]

Due to its inherent reliance on algorithmic operations (code), digital literature naturally tends to be more autonomous than its print correlate. Surely, one could argue that the algorithmic mandate itself is nothing but the result of human computation, thereby slipping into the realms of processing – specifically "expressive processing" as defined by Noah Wardrip-Fruin in his 2010 homonymous book.[11] More to the issue at hand is the examination of the changes incurred in reception mechanisms as a result of generative interactions. What are the cognitive consequences of "reading" computer-generated texts? Is the process more prone to disruptions to the point where these become the norm? If their 2007 essay ended with uplifting remarks on digital technology and the prospect of humans and machines symbiotically cohabiting the planet, the question now returns as: what are the productive and receptive implications of texts or textual objects – installations, locative narratives based on GPS navigation through real space and their integration with fictional fragments – jointly conceived by man and machine? "In what way do all of these projects carry on the long history of literature that has already survived several media upheavals" (GENDOLLA & SCHÄFER, 2010, p. 11)?

[10] Cf. N. Katherine Hayles' discussion of the Turing test in the prologue to her seminal *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (HAYLES, 1999) as well as Raine Koskimaa's discussion of cyborg authors in "Approaches to Digital Literature: Temporal Dynamics and Cyborg Authors," 2010.
[11] See FRUIN, N. W. *Expressive Processing*, 2010.

4.3.

Digital Aesthetics

There are several possible answers to the questions posed at the end of the last section. To be sure, a theory of computer-based literature requires terminological recapitulations as well as a revision of classical theoretical repertoires such as reader-response criticism and formalism. Whether a defense of ontological thought (*literariness)* proves to be accommodating of reader-response parameters remains doubtful. Remove these improbable theoretical iterations, however, and distinctions between the literary and non-literary cease to be feasible – be it in digital or print media theory (GENDOLLA & SCHÄFER, 2010).

In the 2010 essay "Reading (in) the Net," Gendolla and Schäfer rephrase earlier questions adopting a patent formalist slant: can one discover a new quality of literariness in presumably literary communication rendered via digital media? "Is there a unique *aesthetic difference* regarding literature in computer-based and networked media?" (GENDOLLA & SCHÄFER, 2010(a), p. 82). Surely the answer cannot lie in purely ergodic restructurations, i.e., that the digital medium is conducive to dispersive or open models of literary discourse. That the dissolution of the classic narrative structure occurred before literature migrated to the screen is an indisputable truism: one need only glance at Borges, Calvino, Joyce and Woolf, and before them to Defoe and Proust, to be entirely reassured. If 20th century literature has taught us anything is it not that the limits of *mythos* in the Aristotelian sense can be lengthened, bent, circumvented to the point of exhaustion? The confines of classical narrative structures vis-à-vis ergodic models have been previously addressed in this thesis. Dynamic articulations resulting from the recursive interplay of authors, programs and interactors are abundantly noticeable in both digital and print examples (HAYLES, 2008). As for digital literature, with its manifest lack of an indisputably *literary* repertoire, the question remains as to the extent to which such drastic processes of remediation restore the normative claim to literariness.

Gendolla and Schäfer extend their discussion to two pieces by Noah Wardrip-Fruin, *News Reader* and *Regime Change.* Subscribing to the authors' assertion that the selections can be regarded as digitally instantiated critical revisions of Burroughs's cut-ups and Duchamp's ready-mades, I opt to reproduce them here (Figs. 15 and 16). If one considers digital literature to be a manifestation of the aesthetic postmodern, such discussions prove to be immensely productive. Though the authors refrain from using the term, I believe it befitting to our discussions, which overtly or not, problematize notions of continuity, discontinuity or at a bare minimum, dialogue between present and past.[12] Insofar as postmodernism[13] is to be regarded as an *aesthetic* manifestation, or an essentially self-reflexive semantic designation (Cf. LUHMANN, 1998),[14] – as opposed to the more problematic description of a "social and philosophical period or 'condition'" (HUTCHEON, 1989, p. 23) –, then it applies to Gendolla and Schäfer's assessment of *News Reader* and *Regime Change*.[15] That several elements of the 20th century avant-garde continue to impact computer-based literature is derivable from recent scholarly production (GENDOLLA & SCHÄFER, 2010; SIMANOWSKI, 2010). In order to round off these blatantly brief prefatory remarks, I should like to formulate a few guiding questions: is Fruin's work able to establish a parodical (in Hutcheon's terms) rapport with its predecessor (Burroughs)? Or are we simply dealing with a matter of remediation? Is it critical? Is it avant-garde?

[12] It goes without saying that I am not unaware of the loaded nature of the term *postmodern(ism)*, and, in a certain sense, were I to plunge into these waters I am afraid I would drown before I could surface my way back to digital literature.

[13] I am well aware of Hutcheon's distinction between postmodernity and postmodernism. Hutcheon criticizes Frederic Jameson's reading on the basis that "The slippage from postmodernity to postmodernism is constant and deliberate in Jameson's work: for him postmodernism is the 'cultural logic of late capitalism'" (HUTCHEON, 1988, p. 25). I have opted for the term *postmodernism* here, which in Hutcheon's view (and my own) is descriptive of a certain aesthetic trend rather than a period (although Hutcheon herself admits that what she wants to call postmodernism "is fundamentally contradictory, resolutely historical, and inescapably political," and later "Postmodernism has a direct link with what most people seem to have decided to call modernism. Whatever the disagreements about what precisely characterizes modernism, we appear to have agreed upon recognizing its existence" (HUTCHEON, 1988, p. 37).

[14] For Hutcheon, the quintessential postmodern form is parody for it both incorporates and challenges the thing parodied: "through a double process of installing and ironizing, parody signals how present representations come from past ones and what ideological consequences derive from both continuity and difference" (HUTCHEON, 1998, p. 93).

[15] On his website, Noah Wardrip-Fruin explains that the two instruments operate using the statistics of n-grams, a technique used in textual games for over 50 years. The n-grams consist of word chains, which are shared chains between documents as "bridges, allowing movement from the text of one document into a body of text created from others" (http://www.turbulence.org/Works/twotxt/nr-index.htm).

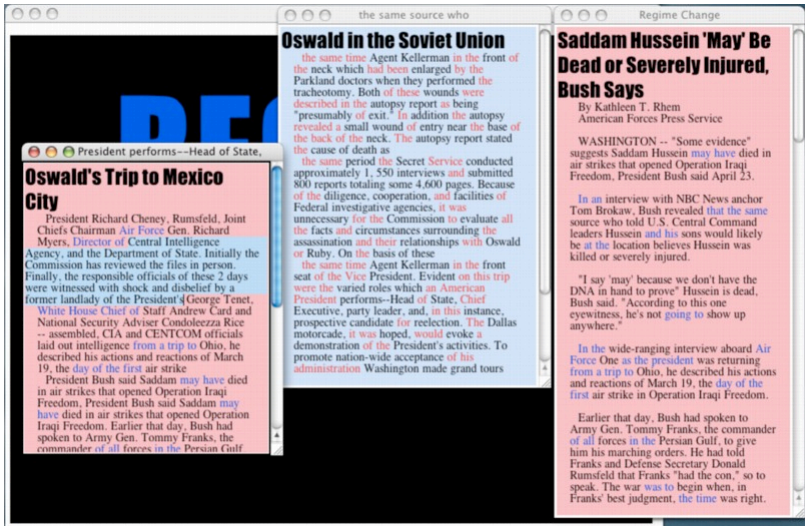


Fig. 15. Noah Wardrip-Fruin's *Regime Change* (2003). *Regime Change* starts off with a news article from April 2003, following the US incursion on Iraq. NWF explains that playing *Regime Change* "generates texts from a document that records a different US attitude toward presidential assassination and eyewitness intelligence – i.e., the report of the Warren Commission" (http://www.turbulence.org/Works/twotxt/rc-index.htm).

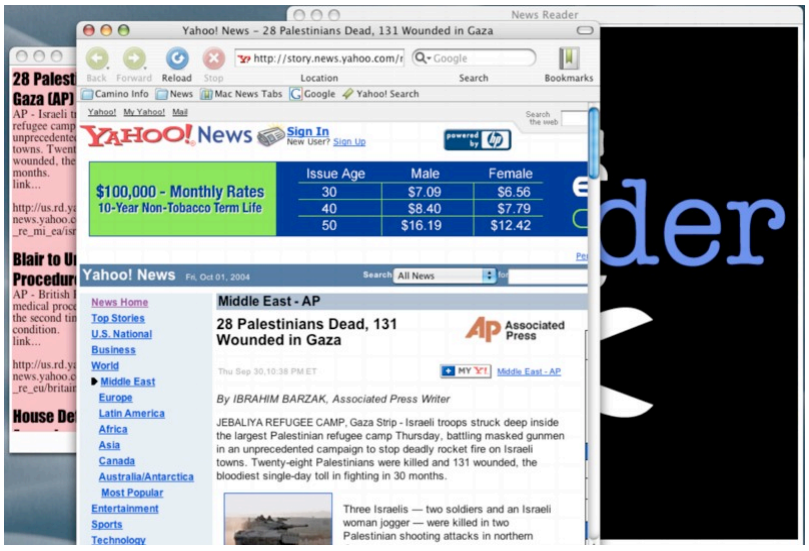


Fig. 16. Noah Wardrip-Fruin's *News Reader* (2004) is a software program "for reading and playing the network news environment" (http://www.turbulence.org/Works/twotxt/nr-index.htm). The algorithm operates on a feedback loop that culls "top stories" from Yahoo! News' RSS feed and manipulates user interaction in order to generate and re-introduce alternate press stories into starting texts.

After describing the algorithmic logic behind his text-machines, Noah Wardrip-Fruin opportunely draws a connection between his works and Burroughs's cut-ups:

> By using this approach to make text playable, by taking the logic of word chains to defamiliarizing and sometimes humorous extremes, *Regime Change* and *News Reader* provide ways to perform William Burroughs's injunction to "cut word lines" – to break the chains of conceptual association that say this follows from that, the constant association of these words in the speech we hear and echo to others on a daily basis. (http://www.noahwf.com/rcnr/index.html)

Despite the author's explicans, it would be difficult not to consider generative texts such as *Regime Change* and *News Reader* as examples of what Dadaist poetry could have become had the technology been available at the time of production (Cf. GENDOLLA & SCHÄFER, 2010). Were that the case, than a rhetoric of simple remediation would supplant one of parody – for Hutcheon, the quintessential postmodern form as it both incorporates and challenges the thing parodied: "through a double process of installing and ironizing, parody signals how present representations come from past ones and what ideological consequences derive from both continuity and difference" (HUTCHEON, 1998, p. 93). Gendolla and Schäfer's observations on the (dis)continuities between Duchamp and Fruin might support the claim of postmodernism per Hutcheon's definition, but do very little to illuminate the component of experimentalism manifest in the works themselves, or for that matter, any indication of *aesthetic difference*.

In his 1984 essay "Mapping the Postmodern," literary and cultural theorist Andreas Huyssen dismisses the notion of the postmodern as the "latest fad, advertising pitch and hollow spectacle" (HUYSSEN, 1984, p. 8). Detecting an evident change in sensibilities and discourse formations, the author distinguishes between what he terms a "postmodern set of assumptions and experiences" and the semantics of the preceding period. Displaying little of the critical function evinced in art *engagé* (vanguardism and aesthetic negativity), post-modern aesthetics is to be bracketed as a historically specific condition: "it becomes possible and indeed important to unlock the critical moment in postmodernism itself and to sharpen its cutting edge, however blunt it may seem at first sight" (HUYSSEN, 1984, p. 9). Transitions from high modernism to post-modernism, however conceived, deviate from the discussion on digital literature proper – which as a separate and novel genre, partakes cooperatively and simultaneously in both traditions. Suffice it to mention that at a certain stage in the late 1970s, post-modernism leaves America and migrates to Europe – along with Kristeva and

Lyotard in France, and Habermas in Germany (Cf. HUYSSEN). In the meantime, critics in the US begin to discuss the possible relations between post-modernism and French structuralism in its "peculiar American adaptation, relying on the assumption that the avant-garde in theory somehow had to be homologous to the avant-garde in literature and arts" (Ibid.). Despite the skepticism with which avant-garde is met in the 1970s, the "vitality of theory" remains unquestioned. By the 1980s the modernism/postmodernism dichotomy establishes itself as one of most prolific sources of debate in Western intellectual circles (Ibid.).

Digital literature's propensity to promote "the bridging of art and life" (SIMANOWSKI, 2011, manuscript) could be read as a reiteration of Huyssen's well-put adage: "pop was the context in which a notion of the postmodern first took shape" (HUYSSEN, 1984, p. 16). That Simanowski should devote a particular section of his conclusion in *Digital Art and Meaning: Reading Kinetic Poetry, Text Machines, Mapping Art, and Interactive Installations* (2011) precisely to the category of the avant-garde is indicative of the inherent ambivalence of new media rhetoric towards the high and low culture divide. Beginning with a very basic assertion: "a question that is raised frequently concerning digital arts is: is it avant-garde?", Simanowski bases his case on a brief reading of Clement Greenberg's formalistic approach allied with Peter Bürger's "political understanding of the avant-garde" (SIMANOWSKI, 2011, manuscript).[16] At face value, a theory of autonomous art – *l'art pour l'art* – seems incompatible with art inherent to praxis – conceivably, computer-based art. Focusing on distinguishable avant-garde traits such as formalism and self-referentiality – i.e., that any technical effect for effect's sake warrants formal investigation –, Simanowski cites the 1997 "politically charged art browser" *Web Stalker* by I/O/D (1997) as an example of net avant-garde (SIMANOWSKI, 2011).

Web Stalker is a highly stylistic work that can be regarded as a graphic depiction of the act of Web browsing itself. I shall not dwell on it extensively but I do wish to point out that the algorithmic logic behind *Web Stalker* is rather undemanding: the typing of a URL address prompts (a) a peek into the page's

[16] Incidentally, Greenberg's observation on the birth of the avant-garde coinciding with the advent of the industrial revolution is very much analogous with Gendolla and Schäfer's view of the emergence of *Medienumbrüche*.

mark-up source code (HTML) and (b) the conversion of hyperlinks into graphics. As users open *Web Stalker*, they see a blank screen. With the mouse it is possible to draw rectangles and assign one of the following six functions to them: Crawler, Map, Dismantle, Stash, HTML Stream, Extract. In the "Read Me" document attached to the piece, I/O/D – a London based collective – explains that the Crawler function is the part of *Web Stalker* that establishes the connection to the Web. While the Crawler window shows the current status of *Web Stalker*, the Map function depicts the links between HTML documents (Fig. 17).

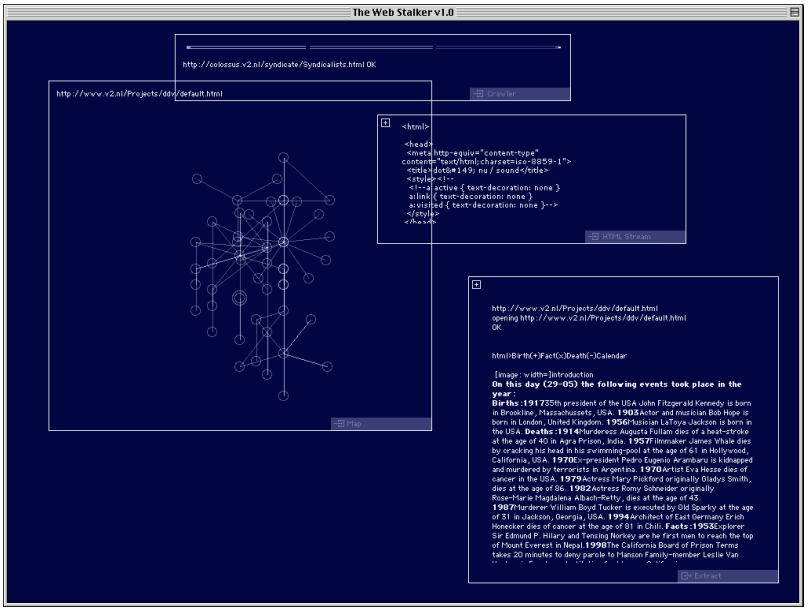


Fig. 17. Frame from *Web Stalker* by I/O/D (1997).

Any such celebration of processing can be regarded as inviting of formal investigation – particularly one wherein an analysis of the uniqueness of the medium denotes a connective to the category of avant-garde: "the less animation conveys content the more it draws attention to its form; the less it represents meaning the more it presents itself" (SIMANOWSKI, 2011, p. 3, manuscript). At this point, a brief word on the concept of avant-garde seems apropos: while Greenberg employs the term *kitsch* as an antonym to autonomous art (GREENBERG, 1939), Bürger accepts the autonomous claim of Aestheticist art as a precondition for the emergence of the avant-garde, but only as a precondition. Per Bürger, the second half of the 19th century witnesses an institutional détente: "The apartness from the praxis of life that had always constituted the institutional status of art in bourgeois society now becomes the content of works. Institutional

frame and content coincide" (BÜRGER, 1980, p. 27). Pertinent to our incipient discussion on net avant-garde is Bürger's observation that because Aestheticist art draws attention to the medium of production it becomes self-critical – as evinced by Mallarmé's failure at his principal literary project, "Valéry's almost total lack of productivity over two decades, and Hofmannsthal's Lord Chandos letters" (Ibid.). As institution and content converge, art's "social ineffectuality" is laid bare and self-criticism becomes essentially indistinguishable from attack on institution (BÜRGER, 1980, p. 27).[17]

In his dissertation "How does the tradition of the avant-garde continue on the Internet in net.art?" (2001), Daniel Stringer deploys systems-theoretical tactics to compare Bürger's and Greenberg's conceptions of the avant-garde: "Greenberg's descriptions of self-critical approaches to the medium could be understood in Bürger's terms as 'system immanent criticism'" (STRINGER, 2001, p. 10). Bürger sees little or no point in ascribing value to purely aesthetic experiences devoid of social import: in fact, critic Schulte-Sasse detects "an implicit assumption" in Bürger that art be coupled with social consequence, else it fails as a practice (SCHULTE-SASSE, 2009, p. xiv).[18] Recall, Bürger understands socially disengaged aesthetic experience to be bereft of intrinsic value. The extent to which digital art and literature are capable of displaying the same revolutionary verve (as, say, Dada) is debatable. With Stringer, one might argue that the avant-garde is a historical phenomenon that failed to achieve its goals (STRINGER, 2001). Surely, if one constricts the definition of avant-garde to a historical period, only movements occurring in the early 20th century can cleanly fit into the category – later movements such as neo-Dada of Rauschenberg, Johns and the Fluxus group being forcibly relinquished to a class of their own (for Bürger, incidentally, the post-avant-garde). Very conclusively,

[17] Bürger's avant-garde is a historical category and as such it hails Dada for its ability to criticize art as an institution.

[18] At this point I should admonish the reader that the sheer complexity of a polyvalent concept such as that of avant-garde (particularly in the age of digital reproduction) would warrant a thesis entirely devoted to its study. I thereby justify my micro-excursus with a contextual observation: a homogeneous art system, if it ever existed, no longer does. Both aesthetically and socially, we live "after the great divide": there is no line separating high and low culture, at least not one that cannot be bent, circumvented or erased at will. As I play with Andreas Huyssen's term, specifically his *After the Great Divide: Modernism, Mass Culture, Postmodernism*. I specifically wish to call attention to the following passage: "both politically and aesthetically, today it is important to retain that image of the now lost unity of the political and artistic avant-garde, which may help us forge a new unity of politics and culture adequate to our own times" (HUYSSEN, 1986, pp. 6-7).

once the autonomous realm of art assimilates radical movements of change, these are stripped of confrontational or revolutionary thrust: in a post-avant-garde phase, "the institution accepts everything asserted as art" (STRINGER, 2001, p. 10).[19]

Simanowski seems to subscribe, at least partially, to Bürger's premise which claims an incompatibility of avant-garde poetics with mainstream discourse: "since the undermining of what art means has become mainstream in the art business such undermining can hardly anymore be considered avant-garde" (2011, manuscript). Basing his argument on new media critic Tilman Baumgärtel's collection of interviews with authors of net.art, the author draws attention to the digitally-instantiated dissolution of such quintessential aesthetic loci as the museum or the art gallery: "Baumgärtel's notion provokes Bürger's approach to avant-garde as a revolt against the art system and dominant aesthetics," he notes (SIMANOWSKI, 2011, manuscript). Because the stuff of net.art and the stuff of praxis are one and the same, net avant-garde transpires in comparatively less delineated, far more hybrid cultural climates – wherein praxis-insertion and self-referentiality, far from being tropes of mutual exclusion, recast themselves as intertwined strategies of both political and aesthetic discourse.[20]

Despite infusions of daily life – shreds of newspaper, oil-cloths and ready-mades helping forge its insurgent rhetoric –, separation and rarefaction turned out

[19] In his dissertation, "How does the tradition of the avant-garde continue on the Internet in net.art?" (2001) – http://sparror.cubecinema.com/dan/diss.html, Daniel Stringer provides the reader with a history of the concept of net.art: "There is no official history of net.art but certain important examples recur in the debate on the subject. (…) The term *net.art* was allegedly taken from an anonymous email received by Slovenian artist Vuk Cosic in 1995. Due to some error the email had been infected rendering the message unreadable apart from that very word *net.art*. It is for this reason that the term is used to describe a variety of practices and activities stemming from groups of 'leftist intellectuals, tech whizzes, subversives and artists' of which Cosic was a part. These groups of people communicated through the Internet via bulletin boards, email lists and discussion forums, examples including Nettime.org, Thing.net and Rhizome.org. These service-providing sites were spawned on the Internet between the years 1995 and 1996, lubricating and encouraging community, discussion and promotion of net.art projects "(STRINGER, 2001, p. 2).

[20] On the one hand, works developed in and for 3D immersive spaces such as Brown University's Cave – where one is required to enter an unmarked empty chamber, put on 3D glasses, and literally see things that do not exist in the real world – display a great deal of autonomous formalism, self-referentiality and even separation from praxis. Heterogeneity being its trademark, however, digital art displays no shortage of self-referential, politically-charged and praxis-emerged examples of net art such as Caleb Larsen's *A Tool to Deceive and Slaughter* (2009). I shall return to the Cave in greater detail (Ch. 6). Suffice it for now to mention that the Cave is an eight-foot cube powered by a high-performance parallel computer. The floor and three walls are projected with high-resolution stereo graphics to create a virtual environment designed to be viewed through special "shutter-lens" glasses. A Macintosh sound server provides positional sound and enhances the Cave's performance potential by surrounding the "reader/user" with dynamic three-dimensional sound in addition to visuals (Cf. Cave Writing Workshop website).

to be the fate of the historical avant-garde. Conversely, by its very mandates net.art obliterates whatever coterminous frontiers still separate high and low cultures (avant-garde and *kitsch*, if you will): "the medium of Net art is the same one used for working, shopping, information-gathering, corresponding. (…) Unlike visiting a museum or going to the theater, all that is required is a click" (SIMANOWSKI, 20101, manuscript). Precisely because of its media-specificity – as well as the open and unpredictable (why not democratic?) disposition of its medium of inscription and instantiation – net.art can never fully partake in avant-garde's removal from praxis. Net.art, or digital literature – for the present purposes, the two should be considered interchangeable –, can be read as an argument (through negation) against the autonomy of art and hence for its reinsertion into praxis. One might argue that digital literature, insofar as it can indiscriminately permeate multiple layers of everyday-worlds, is, in Greenberg's terms, *rear-garde*: "that thing that the Germans give the wonderful name of *kitsch*: popular commercial art and literature (…)" (GREENBERG, 1939, p. 5).

Extrapolating on Huyssen, I would submit that any debate on "net avant-garde" should revisit Bürger's concern with "institution art" and the formal structure of the avant-garde work (HUYSSEN, 1986, p. 8). In addition, such questions as raised by Huyssen in 1986 might enormously contribute to the debate on digital aesthetics as it currently recaptures avant-garde rhetoric – "How precisely did the dadaists, surrealists, futurists, constructivists, and productivists attempt to overcome the life/art dichotomy? How did they conceptualize and put into practice the radical transformation of the conditions of producing, distributing, and consuming art? What exactly was their place within the political spectrum of those decades and what concrete political possibilities were open to them in specific countries?"

In 2001 Baumgärtel convincingly speaks of net specificity as a narrowing requisite of net.art: "Net art addresses its own medium; it deals with the specific conditions the Internet offers. It explores the possibilities that arise from its taking place within this electronic network and is therefore 'Net specific'" (BAUMGÄRTEL, 2001, p. 34). In 2011, a few adjustments would be required – as discussions on ubiquitous computing and calm technologies gain currency, the term *net specific* alludes to a considerably larger referent. In *A Tool to Deceive and Slaughter* Caleb Larsen purports to combine Robert Morris's *Box with the*

Sound of Its Own Making with Baudrillard's writing on the art auction. The result is an eight-inch gloss black cube docked with a small micro-controller and Ethernet adapter. Essentially, the sculpture in permanent transactional flux does nothing extraordinary, being simply designed to re-auction itself off on eBay. Larsen's algorithm acts as follows: at ten minute intervals, the black box pings a server on the internet to check if it is available for sale on eBay. The program automatically creates a new auction of itself each time a particular auction session has ended (LARSEN, http://www.caleblarsen.com/projects/a-tool-to-deceive-and-slaughter/). Should a new buyer appear, the current owner is contractually bound to send the cube to the new owner, who, in turn, must plug it into the Internet so as not to disrupt the cycle. The political implications of the piece are almost too obvious to mention: Larsen's cube is a commentary not simply on the commoditization of art, but on the transience intrinsic to what we now call new media. You buy it, but you cannot keep it. You see it, but then it flickers before your eyes. There is nothing to retain and ownership must be forfeited. One pays for experiences rather than things and the cube is the material evidence of an immaterial society. It seems appropriate to transcribe a portion of a conversation between the artist, art writer Thyrza Goodeve and theorist Joseph Nechvatal which took place at Tazza Café in Providence, RI on April 20th, 2009:

> TNG: So [the exhibition] is about selling nothing, with no objective but to do nothing.
>
> CL: Right. The whole project started with the joke, "How can I make money with art." [laughs] Well, it's not really a joke, it's a real problem. But, more specifically I asked, "How can I make my art actually make money, as a money making apparatus not as a commodity." From there, as I kept working on it, it kept going until it got to the point where there really was nothing left. Just the transaction.
>
> TNG: Just the transaction. It's like you are post.... post-commodity critique. Because it's about having the commodity disappear. It's about the transaction. It's also about digital technology. I mean, could you have the same kind of piece without the Internet?
>
> JN: Yes, because this actually reminds me, maybe too much, of Yves Klein's work where he sold nothing and he was paid in gold and the gold was then sprinkled into the River Seine. So that was a pure transaction without object. And he was selling the void at the same time. (LARSEN, 2009, p. 44)

Fig. 18. Caleb Larsen's *A Tool to Deceive and Slaughter* (2009).

The notion of "selling the void" is indicative of contemporary art's penchant for subversion. Yet, as post-commoditized objectless transactions become the norm, the more discursive (descriptive) question remains – and this is precisely Stringer's point – of why is it that art that resembles the historical avant-garde in intention and form should not be considered so (STRINGER, 2001)? In order to provide an adequate answer, it would be profitable to recall that the historical avant-garde's ultimate failure to integrate life and art unveils what Huyssen has elsewhere identified as the "hidden dialectic of the avant-garde and mass culture" (HUYSSEN, 1986, p. 9). That mass culture is unthinkable without 20th century technology is patently obvious. Pertinent to a discussion on a medium that subsists on "clicks" is the direct correlation between the demise of the avant-garde and the rise of mass culture (Cf. HUYSSEN, 1986). To exist at all, mass culture requires technologies of mass reproduction and mass distribution, which ultimately serve to homogenize differences. Earlier, I called attention to the fact that Gendolla and Schäfer, amongst others, correlate aesthetic changes (media upheavals) to technological updates. In the opening lines of their latest publication, *Beyond the Screen: Transformations of Literary Structures, Interfaces and Genres* (2010), the authors postulate that traditional models of literary communication in computer-aided and networked media have come to

both adapt and reflect technological changes. While it is vastly recognized that technologies have generated substantial transformations in everyday life in the 20th century, relatively little has been written on the effects of a progressively technologized everyday-world on the institutions of art and literature (HUYSSEN, 1986). Recent new media scholarship offers valuable contributions on this point, to be sure. Particularly fruitful in new media debates is, I would submit, Huyssen's proposal to take up the "historical avant-garde's insistence on the cultural transformation of everyday life" and recast it as a discursive ploy (HUYSSEN, 1986, p. 7). Though Huyssen seems to share Bürger's skepticism vis-à-vis a revival of the avant-garde, he clearly does not partake in the latter's pessimism in the fate of the post-avant-garde. The former sees a key connection between the demise of the avant-garde and the rise of mass culture – this is the point that should interest us in our discussion of digital aesthetics. According to Huyssen, the use of Marxist categories such as criticism and self-criticism presupposes that the "negation or sublation (*Aufhebung*) of the bourgeois 'institution art' [be] bound to the transformation of bourgeois society itself" (HUYSSEN, 1986, p. 8). Because this transformation does *not* take place, the avant-garde's attempt had to fail, and it is precisely this failure that justifies its labeling as historical (HUYSSEN, 1986).

In hindsight, it is undeniable that technology played a key role in the avant-garde movements of the early 20th century, in many cases allowing for entirely novel techniques such as assemblage, collage montage and photomontage.[21] Huyssen reminds us that the separation between cultural and industrial reality was the fuel that propelled bourgeois ideology – praxis proving impervious to bourgeois reliance in notions of high, autonomous culture, the historical avant-garde faced a predictable demise (HUYSSEN, 1986, p. 11). Freed from its functional role, technology is rendered iconoclastic – i.e., in Marcel Duchamp's exhibition of a mass-produced urinal in the sanctified space of the museum. With

[21] If we accept the premise that avant-garde was somewhat propelled by technology, then Dada's subversion becomes all the more remarkable when recast in the context of current discussions on digital aesthetics. Recall, Huyssen affirms that in Dada the experience of technology was rooted in the battlefields of World War I: "While technology revealed its destructive power in the big *Materialschlachten* of the war, the Dadaists projected technology's destructivism into art and turned it aggressively against the sanctified sphere of bourgeois high culture whose representatives had enthusiastically welcomed the war in 1914" (HUYSSEN, 1986, p. 11).

regards to contemporary manifestations of the avant-garde, the point Huyssen makes with respect to Dada and technology applies to examples such as Caleb Larsen's *A Tool to Deceive and Slaughter*, wherein technology and its counterpart – market economy – are turned against themselves as the algorithm undermines eBay's auctions. Larsen's piece acts as a silent bomb thrown from within the system to question the very premises of technologized commerce – an effort comparable to Dada's use of technology to scourge and dismantle bourgeois ideology.

In a 1999 essay "Avant-Garde as Software," new media icon Lev Manovich argues that "new" avant-garde is "no longer concerned with seeing or representing the world in new ways, but rather with accessing and using in new ways previously accumulated media" (MANOVICH, 1999, p. 7). It is precisely because it makes use of old media as its primary material that new media can be called post-media or meta-media. One could simply argue, alongside Simanowski, that avant-garde visions have been remediated to the computer screen, or that it remains unclear "[the] extent to which new media is avant-garde or just a transformation of avant-garde visions into computer software" (SIMANOWSKI, manuscript). If the mere use of new media technology constitutes an act of self-reflexivity, then clearly it serves as a poor criterion to discern the avant-garde from the non-avant-garde. In 1986, Huyssen speaks of the obsolescence of avant-garde shock techniques once they become co-opted by the cultural industry: "in an age saturated with information, including critical information, the *Verfremdungseffekt* has lost its demystifying power" (HUYSSEN, 1986, p. 15). This affirmation remains as valid today as it was in 1986: if it is no longer shocking, is it still avant-garde (regardless of its being software)? Difficult as it may be to dispel the argument that if something were truly avant-garde, it would cease to be shocking (because shocking is now routine) (SIMANOWSKI, 2011), one must still acknowledge the theme of the digital avant-garde as it has clearly gained scholarly currency.

I draw on Simanowski's example of the exacerbation of *techné* as code in *Mondrian* (2004) by Zachary Booth Simpson (Fig. 19) in order to address the premise that net avant-garde ceases to be scandalous as it embraces the aesthetics of the technologically fascinating (SIMANOWSKI, 2010).

Fig. 19. Snapshot from Zachary Booth Simpson's *Mondrian* (2004).

In *Mondrian* Simpson utilizes infrared sensor technology on a rear-projected screen to create an interactive work of art that allows any user – irrespectively of artistic ability – to create a composition in the style of abstract artist Piet Mondrian. By dragging a hand across the screen, one can create the vertical and horizontal lines; by holding one's hand in place, one can color the particular area. The extent to which the installation is thought-provoking will depend on the characteristics one chooses to emphasize. The less subliminal hermeneutic consequence is surely one of disappointment: users ultimately rendered compliant to pop directives of banalization. At first glance, Simanowski seems to take offense at the trivialization of Mondrian's abstractionism – "while we don't know how long it took Mondrian to create his paintings or 'compositions' as he called them, we know it took him a while to overcome his naturalistic and impressionistic style and find his own voice" (SIMANOWSKI, 2010, p. 144). Nevertheless, from a processing standpoint, the author acknowledges that Simpson's sophistication could be seen as counterstrike of parallel complexity: his creation of a machine that emulates simplicity renders the installation "a better candidate for homage" (Ibid.).

Simpson's *Mondrian* is an ill-suited example of digital literature for it does not contain the fundamental (albeit provisional) element which renders literature

what it is, namely text – but it does serve to underscore the virtuosity of code. To return to the dialogue with the concept of avant-garde, *Mondrian* is shocking because it is shockingly trivial: "Create your own composition in 10 seconds!". A closer look at the installation would suggest that it is a commentary on digital art itself, its appeal to the senses aided by an intrinsic adversity to narrative models – Simanowski finds theoretical footing in art critic Rosalind Krauss's notion of the grid as the force opposing narrative model (SIMANOWSKI, 2010, p. 145). I would submit that neither virtuosity of code nor indeed the piece's ability to comment on a predecessor would truly secure its status as avant-garde. Simanowski's evasive, albeit elegant, answer might be repeated here: "We may use the *Mondrian* example to end this book with the indication of a bigger picture" (SIMANOWSKI, 2011). A bigger picture, wherein "to go digital" means to redraw the world "within a grid of discrete values" (KOEPNIK, p. 48 apud SIMANOWSKI, 2010, p. 146). I could never pretend to reduce such complexities here. Simpson's work might exemplify art's liberation from craftsmanship, but recall, it was the cultural industry and not the avant-garde which truly transformed daily life in the 20th century. And the Internet is mass culture today. This is what is meant by living after the great divide; one must look for different questions, art must search for different functions and academic discussions must accompany these trends. I agree with Huyssen when he claims that "the best hopes for the historical avant-garde may not be embodied in artworks at all, but in decentered movements which work toward a transformation of everyday life" (HUYSSEN, 1986, p. 15). I believe digital literature, and more amply, the tendency it has displayed towards experiences of presence, bodily engagement and embodiment proper could be regarded as the sort of decentered mobilization of which Huyssen speaks.

4.4.

Defining Digital Literature

The Literary

That the poetics of digital literature is informed by visual aesthetics is simply a reflection of a certain cultural climate wherein information is rendered visually with greater frequency than it is transmitted textually. The ergodic mandate of digital media requires cognitive alterations in reception. Put otherwise, it requires a fluency in the sort of digital literacy which takes into account a tacit knowledge of the pictorial/performative turn. Of the 60 works contained in the ELC (Electronic Literature Catalogue) compiled by the Electronic Literature Organization (ELO) (Fig. 20 and 21), perhaps one-third have no recognizable text and virtually all rely heavily on visual and aural elements (HAYLES, 2008). Nonetheless, Hayles and the ELO consciously make the decision to call these works "literature" in order to elicit questions about the nature of the literary phenomenon in the digital age. Must a work contain lexical marks in order to be deemed literary? The answer requires the not-atypical solution of a "broader notion of the literary" (HAYLES, 2008, p. 4).

Fig. 20. Electronic Literature Collection Vol. 1 (http://collection.eliterature.org/1/).

Fig. 21. Electronic Literature Collection Vol. 2 (http://collection.eliterature.org/2/).

Headed by theorist and artist Noah Wardrip-Fruin, the ELO committee, whose mission is "to promote the writing, publishing, and reading of literature in electronic media," decided to consider as digital literature both works performed in digital media and works created in the computer and later transferred to print (HAYLES, 2008, p. 3). The fact that Hayles's chapter, "Digital Literature: What is it?" was later included as an appendage to the Electronic Literature Organization's website (www.eliterature.org) – whose formulation reads "work with an important literary aspect that takes advantage of the capabilities and contexts provided by the stand-alone or networked computer" (Ibid.) – attests to a measure of arbitrariness embedded in the definition of *literary* – a designation that opens onto the formalist claim that literary language distinguishes itself from ordinary speech in that it possesses the ineffable quality of *literariness*.

In 2007, Gendolla and Schäfer inquire about the underlying distinction between "chains of letters of a text fixated in print and the 'flickering signifiers' (Hayles) of computer aided media" (GENDOLLA & SCHÄFER, 2007, p. 19). In the same volume – encouraged by the analysis of Camille Utterback's *Text Rain* or Alex Gopher's *The Child* – Roberto Simanowski writes:

> How can we measure the primacy of the word? By the space it takes on the monitor or in the memory? After the attention it captivates or the amount of information in comparison to visual elements? (SIMANOWSKI, 2007, p. 47)

"Hybrid [literary] arrangements," as Jörgen Schäfer calls them (SCHÄFER, 2010, p. 25), recast digital literature as a practical and theoretical phenomenon of change. Hayles points out that not only does the ELO's description of digital literature raise questions pertaining to both production and reception, but its appropriate "slightly tautological" assumes a prior knowledge of what is meant by "important literary aspect" (HAYLES, 2008, p. 4). Instead of tautology I would argue that it would be best to speak of recursivity. As a conceptual tool, recursivity repositions literature as a device of broader communicative processes, effectively accounting for the overarching fact that readers will come to electronic literature with pre-conceived notions welded by centuries of print tradition: "of necessity, electronic literature must build on these expectations even as it modifies and transforms them" (HAYLES, 2008, p. 4). However, to the reader versed in literary theory the flagrant fact is that the "important literary aspect" can only be construed in formalist terms – i.e., that there is something inherently literary in the texts, which will then render them recognizable as such. In this sense, the tautology/recursivity in the ELO's definition could be counter-argued with elements derived from reader-response criticism, specifically Stanley Fish's 1980 book, *Is There a Text in This Class? The Authority of Interpretive Communities* (FISH, 1980).

In his "Introduction, or How I Stopped Worrying and Learned to Love Interpretation," Fish revises the impact of his earlier position (held in the 1970s) wherein he advocated the displacement of meaning from text (as a stable entity) to reader. The author's initial question had been reasonably simple: "Is the reader or the text the source of meaning?" The very framing of this question relies on a fallacious assumption, namely that both instances – text and reader – were stable entities, "that they [would] hold still" (FISH, 1980, p. 1). Fish recognizes the influence of William Wimsatt and Monroe Beardsley's essays on the affective and intentional fallacies – i.e., since authorial intentions are generally unavailable and interpretation is inherently variable, only the text was indisputably stable. Consequently, to focus on the causes of a poem or on its effects meant that one was essentially replacing objectivity with "impressionism and relativism" (FISH, 1980, p. 2).

How to refute such claims? Fish's initial strategy was to attack the "affective fallacy"[22] by claiming that not only was the text not the repository of hidden stable meanings, but that something else was, "at the very least, contributory." This "something else" was, of course, the reader (FISH, 1980). Fish challenged textual autonomy by claiming that a text's spatial configuration is always temporally inscribed – the presumption that meanings are actualized by successive reader responses finally dismantling the affective fallacy. Simply put, the text as *a stable entity* disappears as it becomes the output of temporal actualizations. Fish claims to have "escaped formalism by displacing attention from text, in its special configurations, to the reader and his temporal experience" (FISH, 1980, p. 4). Meaning is an event, an emergence resulting from the relationship between readers, their expectations and projections, their interaction with a dynamic text:

> In practice, this resulted in replacing one question – what does this mean? – by another – what does this do? –, with *do* equivocating between reference to the action of the text on the reader and the actions performed by the reader as he negotiates (and in some senses, actualizes) the text. (FISH, 1980, p. 3)

Not all problems were solved by this approach, for Fish soon realized that the shift from the spatial dimension of the text to the temporal nature of reading (the actualization of meanings) does not resolve the possibility and, in fact, the probability of the existence of as many meaning experiences as there are readers. The author attempts to circumvent the variability of interpretation by recurring to the Chomskyan notion of universal linguistic competence – "a linguistic system that every native speaker shares" (FISH, 1980, p. 5). At face value, that all readers will share "a basic data of the meaning experience" on a common primary (perceptual) level simply necessitates a distinction between primary experience, or the "actual reading experience" and "whatever one might feel or say in retrospect" (FISH, 1980, p. 5). If differences are only manifest at the secondary layer, then it becomes the task of literary criticism *proper* to "[suppress the subjective] and

[22] A quote from the "The Affective Fallacy" appears in Fish's essay "Literature in the Reader: Affective Stylistics," a text which first appeared in New Literary History 2, no. 1 (Autumn 1970): 123-62. "The affective fallacy is the confusion between the poem and its results (what it is and what it does)… It begins by trying to derive the standards of criticism from the psychological effects of the poem and ends in impressionism and relativism. The outcome… is that the poem itself, as an object of specifically critical judgment, tends to disappear" (FISH IN TOMPKINS, 1980, p. 70).

idiosyncratic in favor of the level of response that everyone shares" (FISH, 1980, p. 5).

Though the dual-layer hypothesis did serve Fish well – critical variation could be accounted for as system-immanent distortion educed by second-order analyses –, the author still could not truly escape the assertion that his was a model resting on the problematic assumption of textual integrity: "thus I retained the distinction between description and interpretation and by so doing affirmed the integrity and objectivity of the text" (FISH, 1980, p. 8). The solution would only emerge from the revision of the key term *interpretation*. Initially, Fish assigned interpretation to the level of second-order textual experience (FISH, 1980, p. 9). Once the author restructures his argument in more constructivist directions, interpretation and experience merge into a single complex:

> The equivocation finally rests on the key word "interpretation." In the first statement of the position (in "Literature and the Reader") interpretation is characterized as a second-level response that prevents us from recognizing the shape of our immediate experience; but in this essay interpretation is identified with the experience when I declare that the reader's activities are interpretative. (p. 9)

The statement "the reader's activities are interpretative" points to our prior discussion of *Erleben* and *Erfahrung*. Fish assumes that all perception is pre-framed by certain culturally specific delimitations: there is no pure perception or unmediated contact between reader and text. To put it in Luhmannian terms, we see what we are taught to see, for "every cognition is construction as cognition," and "the external can only be attained from within" (LUHMANN, 1998, p. 34). Consequently, the formalist claim of the specificity of literary language (versus ordinary language) falls apart: if literature is a conventional category, then "what will, at any time, be recognized as literature is a function of a communal decision as to what will count as literature" (FISH, 1980, p. 10). Any text is potentially literary if an interpretative community of readers decides it is so.

> The conclusion is that while literature is still a category, it is an open category, not definable by fictionality, or by a disregard of propositional truth, or by a predominance of tropes and figures, but simply by what we decide to put into it. (FISH, 1980, p. 11)

If we take the *literary* not as an ontological a priori but as a system-immanent process of inscription, then literature, as a phenomenon of notation,

will vary in accordance to culturally/historically specific conditions.[23] In the particular case of digital literature, the simple presence of the alphabetic sign does little to facilitate distinctions. Be it noted, nevertheless, that to say that what is deemed literary is the result of a collective decision is not to demerit the process of designation, for such decisions are always triggered by certain literary devices (*dispositifs*), which include distinctive features in the fabric of works themselves – tropes of figuration, fictionality, etc. – not to mention the inscription of these context-specific artifacts on larger discursive networks. Literary communication is, of necessity, recursive, but it is also flexible and open. Recall David Wellbery's words on Kittlerean post-hermeneutic logics: "What we call literature stands in an essential (and again, historically variable) relation to a non-meaning, which it must exclude" (WELLBERY, 1990, p. xiv). This thinking of the outside, unreachable via hermeneutical thought, happens to be the locus of post-hermeneutic criticism, to which this thesis largely subscribes (Cf. WELLBERY).

When Stanley Fish speaks of "interpretative communities," he draws an important distinction with regards to interpretative strategies:

> Interpretative communities are made up of those who share interpretative strategies not for reading, but for writing texts, for constituting their properties. In other words, these strategies exist prior to the act of reading and therefore determine the shape of what is read rather than, as is usually assumed, the other way around. (FISH, 1980, p. 14)

Fish cleverly evades the theoretical paradox by positing that reading strategies do exist a priori and therefore shape the thing that is being read. In this regard, Hayles' decision to call the 60 works contained in the ELC literature seems entirely appropriate. As pointed out, Hayles herself admits that her decision was meant to provoke debate: "my co-editors and I hope to stimulate

23 Recall Ricardo's astute observation on the general aversion to ontological thinking amongst the contributors to his *Literary Art and Digital Performance* (2009): "Only *qualia*, distinct from characteristics that can be in works, are considered real or legitimate; of these the assumed ones are the poetic, the aesthetic, and the literary, and considerable effort is spent on clarifying them throughout. And where this is not evident with certain authors, analytic emphasis centers on the 'apparatus effect' of those processes implemented electronically, processed physiologically, or experienced phenomenologically. Despite the choice of analytic emphasis, no author here denies that the presence of something literary, for example, pervades the works examined here. Why *qualia*, as non-instantiated properties, would be acceptable, even implicitly, while any notion of an ontology of new media art or literature is not, marks a paradoxical turn folding into a larger ontological uncertainty, because the existence of such qualia is premised on conditions in an object that are necessary and sufficient for it to be poetic, aesthetic, or literary in the first place" (RICARDO, 2009, p. 5).

questions about the nature of literature" (HAYLES, 2008, p. 4). But if one accepts literature as a historically-specific occurrence, as we do here, then the question immediately following Hayles' argument is: what would this "broader notion" of the literary necessarily include now, in this particular moment when media upheavals are taking place? Her answer: "(…) one that encompasses the kind of creative work on display at the ELC" (HAYLES, 2008, p. 4). But lest one consider this definition to be endowed with the same degree of tautology Hayles ascribes to the ELO's self-description, she adds that the "the literary" is defined as: "creative artworks that interrogate the histories, contexts and productions of literature, including as well the verbal art of the literary proper" (HAYLES, 2008, pp. 4-5). That the actual determination of the "literary" would fall outside the scope of her study on electronic *literature* should be underscored. With Ricardo, one might understand the "literary" as *qualia*, but the underlying question would remain: how to reconcile ontological thought with cybernetic logic? Perhaps more solutions can be found in our upcoming readings of immersive installations. Let us now speak of literariness.

Of Literariness

In the essay "Reading Digital Literature: A Subject Between Media and Methods," Roberto Simanowski claims that however one defines literariness "it undermines the identity of digital literature as literature" (SIMANOWSKI, 2010, p. 16). If digital literature is more than literature in that it presupposes aesthetic mediality, then its textuality must encompass non-textual elements. With Simanowski, one might argue that this textuality in an expanded field undermines the importance of text. Subscribing to John Zuern's contention that computation in digital literature is essential not only to the definition of a specific kind of artifact but also to the particular literary properties of the text (ZUERN, 2010), Simanowski identifies what he terms the paradox of digitality – i.e., that the de-emphasis on the textual aspect of digital literature inevitably undercuts its *digital* mandate.

Simanowski's paradox rests on the following notions partially derived from Zuern's essay "Figures in the Interface: Comparative Methods in the Study

of Digital Literature" (ZUERN, 2010). Firstly, features of digital technology – intermediation, interaction, performance and perhaps even coding – are constitutive and inseparable from the textual aspects of the work of digital literature. Secondly, the trope of figuration as opposed to literal deployment of language is that which distinguishes a literary from a non-literary text. Thirdly, "literariness" exists only when there is a "constitutive intersection" between the "identifiable qualities of the medium with identifiable strategies of figuration" (ZUERN, 2010). This line of reasoning assumes the existence of a reader capable of identifying distinctive literary language in any given text – be it digital or otherwise. Zuern speaks of "literary singularity," a quality he borrows from Dereck Attrige: "specific words in specific arrangements" (ATTRIDGE, 2004, p. 65). Zuern's concern is certainly valid: the author fears that excessive preoccupation with media specificity might distract us from critical and pedagogical projects of a comparative nature. But what to do when it is precisely this media specificity that defines digital literature as such? Let us try to approach these issues from another angle.

Simanowski argues that, with respect to the "semiotic paradigm," literature has always been the result of digital encoding. As such, if the production of linguistic signs in digital literature requires the use of binary code, then, according to the author, "literature becomes digital in a double way" (SIMANOWSKI, 2010, p. 17). The logical implication of this statement is that digital literature can only be defined as such because of the aesthetic use of non-linguistic tropes. Hence, the digitality of the linguistic sign alone – or what the author calls "the first layer of digitality" – i.e., that alphabetic letters are discrete, finite and endlessly combinable units – being insufficient to render a work of literature digital, "real" digital literature ought to proceed beyond the linguistic layer of digitality (Ibid.).

I suspect that to delve further into these issues of layered digitalities, which Simanowski will pertinently relate to the possibility of distinction between digital art and digital literature, will lead us to distinctions of the second-order. For the present purposes, it would be more productive to again take up the initial purpose of this sub-chapter, namely, the search for literariness in digital literature. Alluding to Janez Strehovec and Raine Koskimaa's contributions to the volume *Reading Moving Letters: Digital Literature in Research and Teaching*

(SIMANOWSKI ET AL., 2010), Simanowski asks: "what are the equivalent strategies of figuration and estrangement when literature is digitally born?" (Ibid., p. 16). The question is based on Strehovec's assertion that the concept of "defamiliarization" needs to be extended in order to encompass not only the linguistic but also the "cyber" realm – including visual and acoustic material as well as "genuine features" of digital literature, such as intermediality, interactivity and animation. Though Strehovec's declared intention – namely, to search for "poetic specificity" – does not offer a solution to the tautology implied by the literariness argument, his choice to speak of Russian formalism within the context of novel textual practices of "liquid textscapes, blog-based remixability, the multi-sensory textscape experiences" should not be overlooked (STREHOVEC, 2010, p. 208). Strehovec opposes Roman Jakobson's concept of defamiliarization (*ostranenie*) – defined as a series of deviations from "ordinary language" – to mimesis, or "literature as a reflection of social reality" (STREHOVEC, 2010, p. 211). But to define *mimesis* as mere "reflection" is to adhere to a dated and indeed truly problematic notion of the term, one which oversimplifies and overlooks studies on the concept of mimetic representation and contemporary literature.[24] Certainly, Strehovec's decision to speak of defamiliarization (as opposed to mimesis) seems more amenable to debates on digital poetry, textual installations and even simple hypertext. For Strehovec, defamiliarization in terms of digital poetry means "the authors arrange the subject's feelings, sensations, dreams, projections (…) in an unfamiliar way" (Ibid.). This brings us back to Simanowski's suggestion that the *literary* would presuppose a certain reassembling of the material, or the use of linguistic tropes in an atypical way so as to preclude automatic perception in favor of aesthetic perception (SIMANOWSKI, 2010).[25]

[24] Cf. Mimesis cannot after all be reduced to mere representation. It is a highly complex concept which cannot be dissociated from performance. Cf. Wolfang Iser's discussion of mimesis and performance in the epilogue of his *The Fictive and the Imaginary: Charting Literary Anthropology* (*Das Fiktive und das Imaginäre: Perspektiven literarischer Anthropologie*), Johns Hopkins: 1993.

[25] Naturally, this will depend on what one considers aesthetic perception to be. Here I would propose that we subscribe to Martin Seel's notion that aesthetic objects derive their distinctness only in relation to other (types) of objects, and consequently aesthetic perception, as "a widespread form of human behavior", is exercised in both ordinary and extraordinary situations. The important fact is that the possibility of aesthetic perception is open to us at all times "as long as external and internal pressure does not deny us the latitude necessary for engaging in it" (SEEL, 2005, p. 20).

Not unaware of the assumptions embedded in his argument, Simanowski demands: "How can we identify the 'unusual' in a realm of expression not yet old enough (and growing too fast) to have established the 'common'?" (SIMANOWSKI, 2010, p. 16). Referring to Koskimaa's "Approaches to Digital Literature: Temporal Dynamics and Cyborg Authors," the author wonders how it would be possible to look for experimental writing in a field lacking the basic differentiating qualities of conventionality. According to Koskimaa, "all digital works are in a very concrete sense experimental writings" (KOSKIMAA, 2010, p. 130). Dealing in augmented (digital) textuality, works of digital literature will necessarily experiment with the limits (and limitations) of new media. Nevertheless, their mode of experimentation is not one out to challenge conventions as much as it is an attempt to foster new conventions (KOSKIMAA, 2010). Whether it is the breaking *with* or the establishing *of* new conventions, there is at least one problem with the arguments mentioned above. They seem to somehow require that one equate experimentalism with literary language: Koskimaa goes so far as to classify works of digital literature as "technological avant-garde" (KOSKIMAA, 2010, p. 131). Yet if all digital literature were experimental, then all digital literature would produce estrangement and defamiliarization. That is, of course, an unsolvable tautology. Koskimaa offers a clever solution: let us acknowledge that literature is a historically-specific concept, or, to put in the author's terms, a "historically changing concept" which will adapt to medium-specific or experimental changes as these appear. For Koskimaa then, with regards to digital literature, the central question becomes: is the code part of the work? – a question undertaken by those devoted to such topics as expressive processing, to be sure. For the time being, suffice it to say that though digital literature is interpenetrated by code, its aesthetic analysis does not necessarily entail or demand a specific knowledge of programming/processing. On the one hand, insofar as digital literature makes use of new media and pushes the boundaries of the norm, it may well be considered experimental. On the other hand, experimentalism, as Koskimaa understands the term – i.e., literary works which hold on to new digital technologies –, might not suffice to warrant the use of a radical category such as that of the technological avant-garde as we have hitherto understood the term.

With regards to the issue of literariness, I propose we briefly turn to print-based literary theory where I believe we might find some solutions to the questions posed by many of the new media theorists today. In his *Literary Theory: A Brief Insight*, Jonathan Culler has a chapter entitled "Literariness Outside Literature." Analyzing classic "non-literary" language, such as historical discourse – *nouvelle histoire* excluded – and Sigmund Freud's account of psychoanalytic cases, Culler concludes that, being evidently present in non-literary discourse, literariness in itself is an insufficient criterion to define literature (CULLER, 1997, p. 25). So how does one distinguish ordinary language from literary discourse? The answer must lie outside the text. Illuminating in this respect is Gendolla and Schäfer's hypothesis of a radical change prompted by computer-based. The authors concede that resemblances between new media art and the modernist tradition are indicative of a profound radical change, one that requires cognitive modifications at least at the reception end:

> From the point of view of the reader, spectator or listener, we could argue that these tools ["Story-Sprawl" in lieu of cut and paste] demand a much higher grade of activity than the coughing, snorting and hawking which John Cage activated in his famous composition 4'33." (GENDOLLA & SCHÄFER, 2010, p. 82)

One is left to wonder what a "higher grade of activity" encompasses: is a more frenetic, essentially disruptive approach to a text indicative of the *aesthetic difference* that Gendolla and Schäfer deem literary? In spite of their attentiveness to terminology – the need to refer to *digital* literature as *net* literature –, the question common to almost all theorists of new media is not whether a "new" literature is arising (that, I believe, is a self-evident fact) but how to address it aesthetically and critically. From a theoretical standpoint, this would imply examining its newness. Whether much of said newness is a result not of the virtuosity of what is seen in terms of active communications but rather of what stays hidden, the code itself, is yet another question to be undertaken.

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