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New Media Literacy. Hypertextual, Cybertextual, and Networked

The aim of this presentation is to confront two concepts of the digital-network media. The first is typical of the early hypertextual theory. George Landow, David J. Bolter and Michael Joyce defined hypertext as an embodiment of poststructuralistic textualism. [Slide 2] George Landow in *Hypertext* uses Roland Barthes's definition of the "ideal text" to describe the "text composed of blocks of words (or images) linked electronically by multiple **paths, chains, or trails** in an open-ended, perpetually unfinished textuality..." (Landow, 1992, p. 3) The unstable meaning, *unfinished textuality*, is the result of the choices of the reader, paths he or she takes during the reading. Using poststructuralistic terminology, hypertext is a *chain of signifiers*, a text without a centre, "a system whose provisional point of focus depends upon the reader" (Landow, 1992, p. 11).

The hypertextual concept of the digital-network paradigm proposes the work of text, a continuous production of the meaning in the manner of motion moving through the map of the text, from one signifier to another. The production of signifiers depends on the selection of the "center of the exploration". Therefore, *openness* is a product of textual spatiality, topography, navigation of the reader through the de-centralized structure of links and lexias.

This description serves as the foundation for the definition of digital-network literacy as a whole. It is also the foundation of the political theory of new media since Landow claims that hypertext "reduces the autonomy of the author" (Landow, 1992, p. 72) and introduces "reader-as-writer" (Joyce, 1991).

Such a description of the new media paradigm will be opposed to the definition that is based on the compound of the flexibility of the digital sign and the Network as a distributed diagram. This definition of the digital and networked should be credited to the theoreticians that advocate "media-specific analysis» (Hayles, 2002), the works of Lev Manovich (2001), Espen Aarseth (1997), Katherine N. Hayles (1999, 2002, 2008), Ian Bogost (2006), Alexander Galloway (2006) and Eugene Tacker (2007). "All new media objects," concludes Lev Manovich, "are composed of a digital code; they are numerical representations" (Manovich, 2001, p. 49). Being dematerialized, the sign is a numerical representation of the work (text, photograph, video, picture,

etc.) and therefore subjected to changes, instability, variability, *promiscuity* (Kaplan, 1995, p. 3). There is a fundamental difference between the unstable digital signifier described by the media-specific analysis and a chain of signifiers defined by poststructuralism (Roland Barthes, Jacques Lacan, etc.). **[Slide 3]** Katherine N. Hayles uses the term “flickering signifiers” to describe “the tendency toward unexpected metamorphoses, attenuations, and dispersions” (Hayles, 1999, p. 30). Hayles departs from the hypertextual description of the sign as a chain focusing on the flexibility of the digital sign.

[Slide 4] The description of the network paradigm was also influenced by the concept of hypertext. According to Bolter and Landow, the Internet and the World Wide Web are global hypertextual systems, a continuation of spatial organization and the global structure of lexias and (now external) links. The Net is a global map of the “text”. Landow addresses Barthes’s and Foucault’s description of the text as a network suggesting that network systems are an embodiment of poststructuralist textualism. For Bolter, not only the World Wide Web but also the system of electronic mail is a global hypertext system. “To reply to a given message is to link your text to that message, and both the message and the reply may circulate for days around the network provoking other responses” (Bolter, 2001, p. 39).

[Slide 5] The concept of the network paradigm as the global hypertext should be confronted with the description of the network as a diffuse, dispersed field. The network is not (only) about moving from one point to another. The difference between the discourses of topography and distributed network could be interpreted using the Deleuze-Guattari differentiation of nomads and migrants.

«The nomad is not at all the same as the migrant; for the migrant goes principally from one point to another, even if the second point is uncertain, unforeseen, or not well localized.»...
«The nomad distributes himself in a smooth space; he occupies, inhabits, holds that space; that is his territorial principle.»
(Deleuze & Guattari, 1987, p. 380)

This distribution of nomads, Internet users, could not be described only as moving (from one point to another). The distribution is closer to the capturing of space through diffusion. Deleuze/Guattari’s description of nomadism corresponds to the

sense of ownership that bloggers have. **[Slide 6]** Bloggers see a blog as a personal space: «unlike rooms set up for conversation, bloggers speak of it being *their* blog» (Boyd, 2006). **[Slide 7]** The same nomadic discourse could be applied to all network practice.

Alexander Galloway in the study *Protocol: How Control Exists after Decentralization* (2006) defines the network as a distributed diagram. “Like the rhizome, each node in a distributed network may establish communication with another node, without having to appeal to a hierarchical intermediary” (Galloway, 2006, p. 15). The foundations of this distributive structure are network protocols, the primary TCP/IP protocol that allows direct peer-to-peer communication between two computers. Protocols have defined different architecture of the digital sign. In relation to the print culture, digital culture invented the flexible sign, a flickering signifier that can be easily changed. But only through the valid channel of distribution can the digital independent production be transmitted. (Distribution of early hypertextual works, for example, was limited by the hard, material medium of CDs or floppy discs.)

With the network paradigm, digital production gets extra value abandoning the traditional centralized or decentralized channels of distribution. **[Slide 8]** As Galloway suggested, the network is not a centralized system (as Bentham's Panopticon), or a decentralized diagram (as the airline system), **[Slide 9]** but a distributed diagram (as the interstate highway system) (Galloway, 2006, p. 31-32). Independent channels of distribution existed before the Internet – merely as a DIY practice of alternative or oppositional culture, but the range of the distributive network was weak.

The user of the Internet is always engaged in the intellectual, emotive, or ludic social production. The Read-Write Web is an actualization of a political media theory imposed by Bolter, Landow and Joyce. But democratization of the read-write practices is not guaranteed by the abstract topography. The political, economic and cultural issues are fundamentally about the protocols that are rules subjected to the questions of social consensus.

Although the network paradigm functions as a distributed diagram (allowing direct p2p communication between two computers, without intermediation of the central hub), the design of technology is a subject of a public dispute. As cultural studies and Raymond Williams propose, any culture is a battlefield of oppositional, alternative

and dominant groups. In other words, political media theory cannot rely on certainty of “de-centralisation” as a mechanism of democratization of the text.

[Slide 10] Obviously, the important variable of the digital-network paradigm is productivity, the production of the text (virtual self, virtual world); however, the ways in which the production is conceptualized in the hypertextual or media-specific analysis is fundamentally different. Hypertextual theoreticians insist on the description of “surfing the Internet” as moving from one Web page to another. The “text without a centre”, as Landow describes it. This description is co-opted from Barthes’s concept of productivity. In the “Theory of the Text” Barthes concludes: “The text is a productivity....” not the product of a labor, “but the very theatre of a production where the producer and the reader of the text meet” (Barthes, 1981, p. 36). But the productivity of the digital-network text does not lie in the concrete spot of production (“the theatre”). **[Slide 11]** Flexibility and distribution are much closer to the mechanical production of the text, as Espen Aarseth describes the digital paradigm. *Cybertext* is a machine for production, «not metaphorically but a mechanical device for the consumption of verbal signs» (Aarseth, 1997, p. 21).

[Slide 12] But the digital-network paradigm neither depends on the topography nor the variability of the sign. *Cybertext* is a concept of the text as an algorithmic generator.

Networked textuality includes consummation, production and distribution, whether we are participants of the forum, or Second Life, designers of the text, the avatar or environment. The Read-Write Web is not the result of spatial productivity of links and lexias, but the result of the networked distribution that allows the digitally produced text to be diffused. We are talking about DIY practices and p2p networks that are responsible for hyper-production of electronic “texts”, as well as the production of the “self” in the context of virtual space. YouTube parodies, blogs, or Machinima videos (combining the experience of playing the game and editing the original animation), are showing the same affinity to produce the signs, as the hyper-production of virtual identities in Second Life.

The network is a distributed diagram that allows constant flow and distribution, consummation and production, feeding and digesting. The digital-network paradigm is a consummation-distribution channel similar to Deleuze/Guattari’s concept of the machine as any flow (physical, intellectual, emotional, etc.) of living and non-living

organisms. For Deleuze and Guattari in *Anti-Oedipus* the desire cannot be understood without the production. We are not determined subjects; we are in the process of constant desiring-production as the principal concern of “materialistic psychiatry” (Deleuze/Guattari, 1983, p. 5).

In the same way, we must consider the digital-network text as a flow, a “machinic” way of rethinking the world defined by the productive desire. The digital-network paradigm is not only a hypertextual topographical production or cybertextual generated production, but a broader production of flexible distribution.

[Slide 13] The productive kind of subjectivity and textuality colonize all network communication channels. Blogging, Twittering, Facebooking, Flickering, podcasting and YouTubing shape what is called a “lifestream” process. The aim of this process is to take control, capture our life and manage all its variables. As one user commented: “I want my life to be perfectly organized, and I want to spend no time whatsoever organizing it. In short, I want a “lifestream””

(<http://www.wordspy.com/words/lifestreaming.asp>). To paraphrase one of Steven Shaviro’s thoughts: Lifestream is a kind of postmodern proof of being: I have a homepage, blog, Twitter and Friendfeed channel, therefore I exist.

[Slide 14] One of the early network artists, Heath Bunting, illustrated the distributive nature of lifestream in one of his works. The artwork *Read Me* (1995) is a digital-network text that connects all words in the Bunting biography with existing web pages. The network is not only a space for distribution of personal memory, but also a global storage. **[Slide 15]** In the same way the project *Grafedia* (2005) aims at the universalisation of the network principles. The project has a goal to give any physical object its Internet address. Relocation from the material to the digital-network world is as a replacement for memory, an ideal distribution of ourselves through the Net. Today “every computer on the planet, every device, every machine, from the automobile to the toaster, must have an Internet address” (Christian Huitema, qtd. in Lévy, 2001, p. 107). Evidence of this valorization of existence through the network-digital paradigm is everywhere. Kevin Kelly recently concluded that the network became the replacement for memory, only to become the replacement for identity (Kelly, 2005). It is an interesting conclusion if we recall the legend of Ted Nelson’s *Xanadu* as a remedy for his poor memory and attention deficit disorder. (Plato in Phaedrus predicted that the invention of writing will endanger our memory.)

The universalism of digital-network principles can be traced in the field of electronic literature. **[Slide 16]** But there is a fundamental difference in the way that high literature and popular culture treat the digital-network media. Computer games are “algorithmic culture” (Galloway, 2006, McKenzie 2007, Manovich, 2001). To challenge the game means to understand the algorithm that runs the game. But the aim of the mechanism, the game engine, is to conceal the algorithmical character of games. Successful simulation is the one we are not aware of. Similarly, network communication genres aim at “the seamless bond”. A. Galloway describes the act of “surfing the Web” in a very similar way. The user does not have the sense of “radical dislocation – passing from a server into one city to a server in another city”, but the sense of “continuity” (Galloway, 2006, p. 64).

[Slide 17] Games and network genres have the tendency to conceal its own making. But during this seamless performance there are always possibilities for collapses, crashes and disasters that expose the media mechanism, like the message “Page not found”, or the rear autoreferential moments in games. In the game Max Payne the authors reveal to Max that he is in a computer game. Alex Galloway calls this practice “Mantis moments” (Galloway, 2006, p. 34).

If a computer game rarely reveals its artificial structure, electronic literature makes the Mantis moments its permanent state. There is a literary tradition that is interested in artificiality and material construction. If a postmodernist novel or a short story problematize “the exhaustion of print”, the digital works analyze the ways in which digital-network paradigm determinates the writing.

[Slide 18] Katherine N. Hayles uses the term *technotext* to describe the work that “mobilizes reflexive loops between its imaginative world and the material apparatus embodying that creation as a physical presence” (Hayles, 2002, p. 25). If we want to understand the poetics of these works, we should consider materiality, the element often excluded from literary theory.

In the perceptive analysis of electronic literature in her recent work *Electronic Literature: New Horizons for the Literary* (2008), Hayles explores the material stratum of electronic and printed works. It seems that many pieces not only demonstrate the flexibility of the digital sign, the flickering signifier (although Hayles doesn’t use the term in this study), but also reveal the material structure of the networked, the distributed signifier. Rather than enabling the reader to explore the

text, the works play with the flexibility and distributiveness. **[Slide 19]** Judd Morrissey commented that in her work *Jew's Daughter* (2000) she wanted to demonstrate “fluidity” that she has not seen in hypertext (Hayles, 2008, p. 78). In *Jew's Daughter* the words are changing when the reader “mouses over” them. The text is difficult to control because replacing of paragraphs happens “faster than the eye can catch” (Hayles, 2008, p. 75) **[Slide 20]** The similar instability can be traced in the work of Kerry Lawrynovicz *Girls' Day Out* (2004) which combines the two layers of the text – the description of innocent horse-riding of two sisters and a newspaper article that describes the murders that happened on the field. **[Slide 21]** Perhaps the most dynamic flickering signifiers can be found in Millie Niss's poem *Sundays in the Park* (2004). The poem combines layers of word clusters that change with a click of a mouse generating alterations such as “conned lisa rise” which changes to “Condoleeza Rice”, or “wee puns” becoming “weapons,” “of mass ruction” or “of mass destruction”.

[Slide 22] One of the most complex works that questions the digital-network paradigm - the flexibility of the digital sign, but also the distributive networked sign, is Talan Memmott's *Lexia to Perplexia* (2000). Memmott uses neologisms that are compounds of the digital code and English lexemes like *I-terminal*, *cell.f*, *Sign.mud.Fraud* and even HTML tags. This «creolization of English with computer code», as Hayles concluded (Hayles, 2008, p. 123), demonstrates the complex hybridization of intelligent machines and human consciousness. The work basically reveals the material, the media structure that defines complex relations between the human and the digital-network interface. The question of identity-technology relation is solved in the manner of the feedback loop. The I-terminal is a human-computer instance where the digital becomes the matter of the subject, at the same time describing the impact of that technology on human subjectivity. This subjectivity is defined by interface – the attachment to screens that echoes human nature.

[Slide 23] As we concluded earlier, the digital-network paradigm introduces consummation-production-distribution practices. The subject and text are in a constant flux of forming subjectivity or reading-writing techniques. One of the early works concerned with the digital-network paradigm is Mark Amerika's *Grammatron* (1998). The work conceptualizes the lifestream, “continuity” and distributive productivity that we have described. Grammatron is the name of an info-shaman, a creature distributed through the Net. The network is at the same time inspiration for

the creature (the field for investigating sexual identities) and a channel of distribution. Grammatron spreads the Nanoscript, a program that enables distribution. «Live human flesh could shed their simulated selves and get back to the roots of their intuitive human consciousness,» concludes Amerika. Here, we can hear the echo of McLuhan's neoprimitivism and progressivism – the idea of revival of the oral culture, synchronicity and synesthesia through the evolution of human consciousness. The desire is linked to dissemination through the “electrosphere”:

«...the electrosphere as a whole is composed of an endless recombination of alphanumeric imagery that discharges itself as an ever-morphing terrain of linguistic microbits threaded together in such a way so as to form the true signatures of all Digital Being.” (signatures)

In other words, the electrosphere is a digital-network medium. The subject is immersed in the electrosphere. Grammatron is a form of Deleuze-Guattari's nomad, a creature in a constant flux, a metamorphosis of «the "you" in "me" and the "me" in "you"». It is not a coincidence that the terms distribution and flux often occur (like in the term «forever-in-flux motor-desire»). The ever-changing subject and subjectivity are elements of «the collective-flux of all the virtual realities that layer our global culture.”

To conclude, there is no better corpus of texts than the corpus of electronic literature to explore the questions of electronic literacy and the relationship between the digital-network paradigm and contemporary subjectivity. Electronic literature discloses the material media, the digital and networked paradigm which otherwise aims at the seamless bond. Contemporary literature questions the material foundations of the culture, economy, society, etc. There is a space for political media theory, but not as an explication of the hypertextual mechanisms. Economy and politics of the digital and networked could not be understood without the material analysis (Manovich originally pleaded for “software studies”). In the field of communication genres or popular culture we could trace the struggle for the design, structure and architecture of the technology. But in the field of high literature we can explore and detect the technological design and the way that design is determining us as subjects.

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