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## On the Electronic Zeitgeist

Aspects of the Information Society, *Homo Symbolicus* and the Global Village

Because culture is mediated and enacted through communication, cultures themselves, that is our historically produced systems of beliefs and codes, become fundamentally transformed, and will be more so over time, by the new technological system.

– Manuel Castells, *The Rise of the Network Society* (1996: 328)

Certain themes imbued with visual metaphors and terminologies of looking and seeing have become the staple diet of cultural and media studies: the society of the spectacle and the simulacrum; the politics of representation; the male gaze and the possibility of a female gaze; the ‘mirror stage’; fetishism and voyeurism; the reproduction of the image; the ‘other’ as the projection of racialized discourse. It may thus appear contentious to claim, as we do, that ‘visual culture’ has been somewhat overlooked in the rapid expansion of cultural and media studies throughout the past decade and a half. Contentious because, after all, the work of Barthes, Benjamin, Lacan and Foucault, with their clearly visual concerns – not to mention a host of others – forms the canonical foundations upon which much cultural and media studies rest.

– Jessica Evans & Stuart Hall, “What is visual culture?” (1999: 1)

### 0. Introduction

“Information society,” “network society,” and “media society” have become central concepts to describe the contemporary society. Recent technological and social developments seem to be characterized by a fast transformation that shakes the old traditions and steady structures of our communities. Our thinking, our daily activities, and the very survival of *homo sapiens* are heavily interlinked with technological innovations and media cultural systems.

The basic problem concerning communication and information technology continues, however, to be the lack of research carried out from the perspective of the humanities and social sciences. Accounts based on technical and techno-economic premises – as well as various strategies by governments and central administrative agencies – can be easily found. Qualitative and critical research focusing on such issues as values, morals and social implications of technology is rare. This despite the fact that the role of information technology can be considered so central as to justify W. C. Zimmerli’s view of it as the “cultural technology” (*Kulturtechnik*) of our time.<sup>1</sup>

In this article I discuss the central concepts, terminology and problematics of multimedia, hypertext, digitalization, Internet culture, etc. My essential, heuristic basis are the articles in *Mediapolis. Aspects of Texts, Hypertexts and Multimedial Communication* (Walter de Gruyter 1999; edited by Sam Inkinen). *Mediapolis* is a critical, multi-disciplinary anthology that discusses, e.g., the theories, problems,

and possibilities of multimedial communication, computer interaction, hypertextual representation of knowledge, contemporary utopias, television broadcasting, semiotics of media, and sexuality in the cyber age. Instead of technological determinism or trendy techno-optimistic rhetoric, the book focuses on an analytical approach to contemporary media, future technologies, and electronic texts. In the mentioned anthology, I use the title “Mediapolis” (cf. Neil Postman’s *Technopoly* [1993] and Nigel Calder’s *Technopolis* [1969]) to describe the information and media saturated culture of our time; the possibilities and problems it brings.<sup>2</sup>

### 1. *Electronic Zeitgeist: the Information Society and Postmodern Media Culture*

Computer technology not only “fulfills the postmodern aesthetic” as [Richard A.] Lanham would have it, heightening and concretizing the postmodern experience, but helps that aesthetic hit the street as well as the seminar room. Computers embody postmodern theory and bring it down to earth.

– Sherry Turkle, *Life on the Screen* (1997: 18)

It is obvious that semiotic, aesthetic and philosophical codes of contemporary media channels – both in the form of traditional “mass media” and in the recent forms of so-called “new media” (Internet, multimedia, hypertext, virtual realities, etc.) – define the millennial *Zeitgeist* (on the concept see Bullock & Stallybrass 1988: 916) of the coming years. Manuel Castells, one of the most essential and respected commentators of the “information age,” has argued that “through the powerful influence of the new communication system, mediated by social interests, government policies, and business strategies, a new culture is emerging: the *culture of real virtuality* [...]” (Castells 1996: 329–330)

This culture of (real) virtuality emphasizes the technical, psychological and dromological aspects of communication. According to Castells, “What characterizes the new system of communication, based in the digitized, networked integration of multiple communication modes, is its inclusiveness and comprehensiveness of all cultural expressions.” (ibid.: 374) Therefore, we can expect to be immersed in all kinds of ever expanding communication – including masses of information overload, worthless data trash, and seducing media soma.

In order to illuminate the background of the concept to the “information society,” a brief historical investigation is in order (for more information, see Webster 1995; Castells 1996, 1997, 1998; Bühl 1996: 24ff.; Dordick & Wang 1993; Lyon 1988; Martin 1988, 1995).<sup>3</sup> The starting point for the discussion of an “information society” is commonly considered to be economist Fritz Machlup’s (1962) idea of information being a utility to be produced, consumed, bought, and sold just like other products. Apparently one of the first places where Machlup’s ideas inspired further discussion was in Japan, where *johoka shakai* (the information society; see Castells 1996: 22) became an important issue. In the West Marc Porat (1977), among others, brought these ideas into discussion through his research concerning the information economy. (see Inkinen 1995; 1999c; Bühl 1996: 24ff.)

“The information society” is presented particularly authoritatively in texts by Japanese futurologist Yoneji Masuda. Masuda presented his thoughts concerning the information society in his polemic classic published in 1980, *The Information*

*Society as Post-Industrial Society.* As is already apparent in the title, Masuda's visions of the information society are based on sociologist Daniel Bell's (1973) often quoted views on "post-industrial society." Bell and his followers use this term to refer to a society in which the majority of workers are in service professions, and where production operations are carried out by highly developed computer and information technologies. (cf. Inkinen 1999c: 271)

The studies written in the 1980s contain *four* central themes related to the information society (see Mertanen 1986). These are:

- (1) a change in *professional structures*, in which the industrial work force is set free thanks to technological improvements requiring less labor, and a corresponding expansion of the service and information sectors;
- (2) communications equipment and computers being linked together by *networks* which will change professional life, mass communication, family life, education, etc., to the extent that we can speak of a *new form of society*;
- (3) information as a form of wealth, the technical applications of which will insure the competitiveness of states and enterprises. *Information* will replace physical work and labor;
- (4) new technology as the enabler of fundamentally *new values* and *lifestyles* in a non-authoritarian paradise.

In his influential study, *Theories of the Information Society* (1995), Frank Webster groups theories about the information society into two categories: (1) Theories that see the contemporary information society as *historically unique*, i.e., qualitatively different from previous forms of society; and (2) theories that argue that even though information is of key importance to the modern world, grandiose arguments about transformation, revolution, etc., are *ungrounded*. (cf. Mannermaa 1997: 568ff.) According to Webster, (1995: 5) the following theories and theoreticians belong to the first category:

- (1) theory about the *post-industrial society* (see Bell 1973);
- (2) *postmodern theory* about society and culture (e.g., Lyotard 1985; Baudrillard 1983, 1988, 1994; Jameson 1989; Poster 1990, 1995; Bauman 1993, 1995, 1998);
- (3) theories about *flexible specialisation*; as represented by, e.g., Piore & Sabel 1984; Hirschhorn 1984; and
- (4) theories that emphasize the *informational mode* of development (e.g., Castells 1996, 1997, 1998).

Webster's second category is made up by the following five categories:

- (1) *neo-Marxism* (e.g., Schiller 1981, 1987, 1989);
- (2) *Regulation Theory* (e.g., Aglietta 1979; Lipietz 1987, 1993);
- (3) *flexible accumulation*; as represented by, e.g., Harvey 1989);
- (4) theories that analyze the *nation state* (e.g., Giddens 1990, 1991);
- (5) theories that have formulated the concept of *public sphere*; especially Habermas 1981a, 1981b (cf. Outhwaite 1996) and Garnham 1990.

Perceptual differentiations and categorizations of the information society (in German *Informationsgesellschaft*) have also been made by Achim Bühl. In *CyberSociety. Mythos und Realität der Informationsgesellschaft* (1996), which has become a central source in German research literature, Bühl divides the theories on information society into four categories which he (ibid.: 24–38) characterizes as follows:

- (1) *Informationsgesellschaft als "information economy"*  
(information society as "information economy"; cf. Machlup 1962)
- (2) *Informationsgesellschaft als "postindustrielle Gesellschaft"*  
(information society as "post-industrial society"; cf. Bell 1973)
- (3) *Informationsgesellschaft als "Dritte Welle"*  
(information society as "third wave"; cf. Toffler 1980)
- (4) *Informationsgesellschaft als neue industrielle Revolution*  
(information society as a new industrial revolution; cf. Castells 1996, 1997, 1998)

There are apparent similarities in the categorizations by Bühl and Webster. According to Webster (1995: 6–23), in the discourse on information society there are five different analytical definitions of the concept: (1) *technological*, (2) *economic*, (3) *occupational* (4) *spatial* and (5) *cultural*. The emphasis different theoreticians put on these fields varies substantially. On the other hand, in many theories on information society different fields need not be mutually exclusive.

In my article "The Internet, 'Data Highways' and the Information Society. A Comment on the Rhetoric of the Electronic Sublime" (1999c)<sup>4</sup> I have made an attempt to analyze the relation between the latest information technology and contemporary cultural theory. It is no coincidence that computers, information networks, and media technologies in general have held a central position in the recent cultural theoretical and philosophical debate in which both the issues of the "information society" (e.g., Machlup, Bell, Masuda) and the "postmodern" state of culture (e.g., Lyotard, Jameson, Baudrillard, Huyssen, Bauman, Welsch) have been emphasized.

In fact, it seems to me that the cultural philosophical analysis of new media and information technology brings up an interesting conflict. These technologies (hypermedia, computer networks, virtual reality, etc.) are generally closely associated with *cultural postmodern(ism)*, the indicators of which are, e.g., global databanks, electronic communications, and the principle of operating in real time (cf. Poster 1995). Beyond this, the media (cultures) appear to be sketching the sort of qualitative definitions which are often associated with postmodernism, such as the superficiality and brokenness of our world(view), as well as the fragmentary discontinuity of the surrounding field of phenomena. (cf. Inkinen 1999c: 275)

At the same time, though, *the media are presented as the Meta Narrative* of our time, the total conquest of chaos, and an ambitious utopian landscape. To cite Sherry Turkle (1997 [1995]: 246), "[m]uch of the conversation about electronic mail, bulletin boards, and the information superhighway in general is steeped in a language of liberation and utopian possibility. It is easy to see why. I write these words in 1995. To date, a user's experience of the Internet is of a dizzyingly free zone. On it information is easily accessible. One can say anything to anyone. [...]"

Over the last few years, themes such as the "new communication paradigm," "digital economy," (Tapscott 1995) "techno society," "interactivity," "cyber culture," "cybercratia," etc., have been topics of neverending discussions. Unfortunately, more often than not comments have been focused on defending or criticizing superficial rhetoric. The need for a critical, reflective research is clear. (cf. Inkinen 1999b: VI)

Critics like Tom Forester, for example, consider the information society utopia to be unrealistic. Forester has shown in his biting article, "Megatrends or Mega-

mistakes? What Ever Happened to the Information Society?” (1992), how the vast majority of the expectations concerning the information society (“the paperless office,” “the electronic cottage,” “the cashless society,” “computerized teachers,” etc.) have failed to come to pass. It appears, vice versa, that the computer has brought new social, psychological, and ethical problems into the Western society, examples of which are unreliable programs, computerized crime, copyright violations, hackers, crackers, computer viruses, questions of privacy, and general information overload. According to Forester,

The truth is that society has not changed very much. *The microchip has had much less social impact than almost everyone predicted. All the talk about future shocks, third waves, megatrends and post-industrial societies must now be taken with a large pinch of salt.* Life goes on for the vast majority of people in much the same old way. Computers have infiltrated many areas of our social life, but *they have not transformed it.* Computers have proved to be *useful tools* – no more, no less. None of the more extreme predictions about the impact of computers on society have turned out to be correct. Neither Utopia nor Dystopia has arrived on Earth as a result of computerization. (Forester 1992: 134; italics mine)

Utopias and dystopias are continuously being born and dying.<sup>5</sup> It is important to note that there is nothing radically new about ideas such as Masuda’s “computopia” (see Masuda 1981, 1985, 1990) or Bangemann’s “European information society.” They are all a part of the continuous utopian tradition which is a trademark of the history of Western civilization. The same as the aristocratic *polis* ideal sketched out in Plato’s *Republic* dialogues, or such Renaissance classics as Thomas More’s *Utopia* (1516), Tommaso Campanella’s *The City of the Sun* (1602) and Francis Bacon’s *New Atlantis* (1624), current techno-utopias present us with solutions to the problems of building a more highly developed, just and free society.<sup>6</sup>

## 2. McLuhanite Visions of Globalization: Towards a “Global Village”

[...] computers offer the potential of instantaneous translation of any code or language into any other code or language. If a data feedback is possible through the computer, why not a *feed-forward* of thought whereby a world consciousness links into a world computer? Via the computer, we could logically proceed from translating languages to bypassing them entirely in favor of an integral cosmic unconsciousness somewhat similar to the collective unconscious envisioned by Bergson.

– Marshall McLuhan (in the *Playboy* interview in 1969; see McLuhan & Zingrone 1997: 262)

It seems less than pure coincidence that there has been a tendency to quote Marshall McLuhan’s classical texts from the 1960s in recent technological discussions; McLuhanite rhetoric is well suited for expressing the “spirit of the age” (*Zeitgeist*), stressing global media, electronic technology, and transnational culture.

One could, in fact, say that Marshall McLuhan has made a “come-back.” The recent discussion on digital culture has found the thinking of the Canadian media-theorist whose career highlight was already in the 1960s. Considering the society and technology of today, McLuhan’s writings on electronic culture, television age, global village, hot/cool media, etc. have been seen quite prophetic. Although McLuhan’s energetic visionarism often seems unbelievable in its eloquence, hardly any-

body will question his importance as a creative dissident in the academic world and/or a theoretician of many good ideas (cf. Inkinen 1999d).

First and foremost, McLuhan's "new coming" is related to the microcomputer revolution in the late 1980s (i.e., the explosive increase in the number of personal computers, software, and hardware), information network culture (especially the Internet), and the "new media" boom in the 1990s (cf. Benedetti & DeHart 1996: 33–35, 172). According to Benedetti & DeHart,

There are different reasons for McLuhan's revival. For the first time since television achieved domination of the culture in the fifties and sixties, there is a new wave of technological innovation that seems on the verge of radically remaking our world – a wave signified by the internet and virtual reality. Personal computers, first used largely as glorified typewriters, now seem capable of linking individuals into an electronic, instantaneous, global communication network. / These developments have sharpened our belief that an old-fashioned, content-based approach is inadequate to understanding technology. A comprehensive, effects-oriented approach – an attempt to grasp the whole pattern of change, including the innumerable and often ignored side effects of technological development – seems much more fitting. McLuhan is the master of this approach. (Benedetti & DeHart 1996: 190)

In terms of the current value of McLuhan's ideas and his preindication of the digital culture, it is significant that Manuel Castells (see 1996: 329–334), the central scholar-authority of the information age, refers to him as one of the foreseers of the media and information revolution. On the development of mass media Castells also notes how "[t]heir evolution towards globalization and decentralization was foreseen in the early 1960s by McLuhan, the great visionary who revolutionized thinking in communications in spite of his unrestrained use of hyperbole" (ibid.: 1996: 329). It is indicative that the first volume in the ambitiously extensive *Information Age* trilogy by Castells, *The Rise of the Network Society*, includes a chapter titled "From the Gutenberg Galaxy to the McLuhan Galaxy: the Rise of Mass Media Culture" (see 1996: 330ff.).

At least as significant as the recognition by Castells is the fact that *Wired*, the magazine known as the promoter and influential trendsetter of electronic culture dedicated the 1996 January issue to McLuhan.<sup>7</sup> Published in black and white, in terms of style as well as content the issue was a journalistic tribute to the Canadian theorist – but also critique against the media guru's excesses and frolic. Indeed, the title of the biographical article by Gary Wolf, "The Wisdom of Saint Marshall, the Holy Fool," reflects the ambivalent combination of admiration and amusement which *Wired* used to approach the "patron saint" of the electronic age and the "metaphysicist of media."

In his article "Digital Humanism. The Processed World of Marshall McLuhan" (1997) [1984], Arthur Kroker draws attention to several interesting, but less widely known connections between McLuhan's media theory and digital culture as we know it today. It is also significant that in the crucial points of *Growing Up Digital. The Rise of the Net Generation*, Don Tapscott grounds some of his ideas for the rise of the "net generation" on McLuhan's media terminology (see Tapscott 1997: 42, 63, 134, 170, 301). In terms of postmodern cultural theory, the concept of *implosion* by Jean Baudrillard<sup>8</sup> and many ideas on the culture of simulation (cf. Ylä-Kotola 1998) are either directly or indirectly based on McLuhan's work. As Baudrillard notes on McLuhan's thinking in terms of contemporary media studies:

The virtual is the kind of concept that is a bit cosmopolitan, if one can call it that; or postmodern. I do not know. In that respect, it is not about the gaze but the visual, it is not about the acoustic, but the audio. Besides, for McLuhan in fact, everything is ultimately reduced to the tactile. Tactility is really that register of sense which is of the order of contact, not of physical or sensual contact of course, but a sort of communication contact where, right now in fact, there is a short-circuit between receiver and sender. (Bayard & Knight 1997: 50)

The most explicit example of the importance of McLuhan as a theoretician of digital culture, however, is the study *Digital McLuhan. A Guide to the Information Millennium* (1999) by professor Paul Levinson. Widely praised and classified as so called “Millennium literature” (cf. Rakkonen 1996: 11), Levinson’s work studies the social effects and cultural-psychological importance of today’s digital technology, especially information networks. A central theme to the book is that McLuhan’s writings were ahead of their time and that they accurately, even prophetically, foresaw the technology and culture of the digital age. To quote Kevin Kelly of *Wired*:

Everyone thought McLuhan was talking about TV, but what he was really talking about was the Internet – two decades before it appeared. This book makes McLuhan’s strange ideas seem perfectly obvious in light of the web, email and cyberspace. In a real way, Paul Levinson completes McLuhan’s pioneering work. Read this book if you want to decipher life on the screen.<sup>9</sup>

This comment partly explains the desire of the contemporary “Wired generation” (cf. Steinbock 1998: 39–42; Wolf 1996) to rely on McLuhan. McLuhan is, however, often referred to in a very uncritical, superficial, over-enthusiastic, and techno-optimistic way. On the other hand, a similar uncriticality is characteristic of McLuhan himself. The well-known McLuhan-critic Jonathan Miller (1971: 11) provides a critical view in his work *McLuhan*,<sup>10</sup> published in the Fontana Modern Masters series:

[...] In fact, he [McLuhan] sees the more recent developments in electronic technology as offering a Godsent escape from the slavery exerted by wheels and levers. For in a somewhat confused way he has identified the circuits of the electrical engineer with those of the human nervous system itself, and invites us to acknowledge that through TV and radio we have given ourselves the opportunity of communicating with one another through media that can reproduce the plural simultaneity of thought itself. Through these media images and sounds can be flashed upon the attentive mind with telepathic speed; and, since the various mechanisms can be linked in a vast network, electronic man has reconvened the tribal village on a global scale.

A theorist of mass communication and media culture, McLuhan has been quite justly called a prophet in his own time.<sup>11</sup> He saw the irresistible impact technological change had on the world and society, providing new ways to explain them.<sup>12</sup> Such terms as “vortex,” “sensorium,” “sensory impact,” “extensions of man,” and “global village,” originally coined by him, have become a part of the language. Particularly popular has been McLuhan’s idea of a *global village* brought together by the mass media and telecommunications infrastructure, which seems to be an ideal analogy for picturing an Internet-style global information network. (see McLuhan 1962, 1964; McLuhan & Powers 1989; Bühl 1996: 23–24)

The concept of “global village” certainly bears some relevance – from communicational as well as geographical point of view. Several times I have been posi-

tively surprised by the fact how “small” our planet is today. In some 15 hours you can fly from Los Angeles to Sydney, in 10 hours from Frankfurt to Toronto. We take it for granted that communication satellites transmit real time television broadcasting from the other side of the world – and, in the future, we will possibly receive such broadcasting from other planets. We are not surprised it takes only some seconds or minutes to receive an electronic mail from another country. Fifteen minutes can be an eternity these days.

On the other hand, I have also been shocked and surprised by the inequality of development and the contingent nature of technology. The social, political, economic, and cultural reality in Albania, Bosnia-Herzegovina, India, Cambodia, Myanmar, China, Ukraine, Zimbabwe, or Ecuador, to name but a few examples, differs radically from the brave, new “information societies” being built in the Western territories. In many geographical areas the benefits of the latest technology have not even been heard of – and their installation is far from reality. The situation and crucial question remains one of the information haves *vis-à-vis* the have-nots; the electronic elite *vis-à-vis* the information proletariat; the included *vis-à-vis* the excluded. Despite this hard, self-evident fact, the unrealistic utopias and massive “hype” around digitality, interactivity, electronic “revolution” and the “global village” seems extremely strong. Thus, I feel both horrified and ironically amused when considering the practical problems and technical short-comings which remain on our planet.<sup>13</sup>

But, if one ignores these conditions, the technological and techno-social development of Western countries has been culturally immensely important and perplexingly rapid. Over the last few years Internet Protocol (IP) and Internet culture (see Porter 1997; Otte 1994) have clearly become the fields of special interest. In their article “Seeing You, Seeing Me in the Global, Virtual Space. Tomorrow’s Working, Learning and Leisure Environment” Anita Nuopponen & Esa Kunelius, for example, have paid attention to the importance of the latest Internet and video conferencing technology as a medium for promoting social contacts and communication opportunities:

The Internet has been described as the “global village” that was predicted by Marshall McLuhan, but it has been missing one crucial aspect of village life: *seeing* and *hearing* the other villagers. Authors writing about communication and communities on the Internet still concentrate on text-based systems, such as e-mail, news, mailing lists, MUDs, MOOs, etc. [...] Today this still applies to most CMC but is not valid for everything that could be classified as computer-mediated human communication. Ordinary Internet users have already been able to test and utilise the first Internet videoconferencing and audioconferencing systems. (Nuopponen & Kunelius 1999: 338–339)

In many different fields of life, culture and society a dominant trend is *networking* – creating different kinds of networks for collaboration over disciplinary, geological, political and other boundaries (cf. Castells 1996). In terms of history, scholars have always co-operated over such distances and multinational companies spread their functions to all corners of the world. According to Nuopponen & Kunelius (1999: 340), “different communication network technologies and collaborative tools are being actively developed and used [...]. Videoconferencing can be used to

add interaction between the collaborators and to save both time and money. It has also opened possibilities for new kinds of intercultural co-operation.”

Thus, it seems probable that in the near future Internet-based video conferencing and similar state-of-the-art technologies will influence our usage of communication culture. In this context Nuopponen and Kunelius utilize the concept of “telepresence”.<sup>14</sup> According to them (*ibid.*: 346), “[t]elepresence created by desktop videoconferencing can be used in, e.g., postgraduate seminars, collaborative courses and distance education. The students who cannot participate for some reason can be telepresent from their own computers and present their papers and discuss with others in the same group. CU-SeeMe could also be used to give exchange students the opportunity to participate in seminars and keep the contact with their teachers and fellow students at the school or university where they came from.”<sup>15</sup>

### 3. *Identity Construction in the Media Age*

I propose that while it is true that identity “continues to be the problem,” this is *not* “the problem it was throughout modernity.” Indeed, if the *modern* “problem of identity” was how to construct an identity and keep it solid and stable, the *postmodern* “problem of identity” is primarily how to avoid fixation and keep the options open. In the case of identity, as in other cases, the catchword of modernity was “creation”; the catchword of postmodernity is “recycling.”  
– Zygmunt Bauman, *Life in Fragments* (1995: 81)

The world is not changed by technics and technology itself, *per se*. It should be emphasized that developments in media and technology are linked, e.g., to economy, politics, and globalization. Today, not only *computer literacy* and *media convergence* but also *transnationality* and *transculturality* are dominant themes for the claimed cultural integration. This process, however, is unpredictable, chaotic, unequal and ambivalent by its character. (cf. Inkinen 1999b: VI)

Seeing it against this background, it is easier to understand why there has been large-scale discussion on *identities* and *identity construction* (both on social and personal levels). In fact, “[q]uestions of identity, individual and collective, confront us at every turn at the end of the twentieth century. We are interpellated and interrogated by a multiplicity of voices to consider and reconsider our identities. How we think of ourselves and how we perform ourselves in terms of gender, nationality, ethnicity, race, sexuality and embodiment is up for grabs, open to negotiation, subject to choice to an unprecedented extent. Or so the story goes. In the powerful discourses of consumer culture, in advertising, magazines, self-help manuals, pop songs, we are told that we can seize control of our ‘selves’ to ‘be who we want to be.’ Contemporary culture offers up a ‘smorgasbord’ [...] of identity options, encouraging us to explore and harness difference in the construction of our identities.” (Roseneil & Seymour 1999: 1)

The argumentation on identity is often related to the broader issue of modern and postmodern culture. In the European context, there has been, e.g., discussion about the importance of “European identities” (cf. Mäkikalli et al. 1997) as well as concern for the possibilities of the “national identity” (cf. Alasuutari & Ruuska 1999) in a dramatically different situation.<sup>16</sup> In his study on popular culture, Kari Kallioniemi (1999: 292) crystallizes the idea of the problematics of identity:

Identity, ethnicity and nationhood and their imagined or fictionalized forms in popular culture are closely linked to the issues of modernism. There is a focus in the issue of postmodernism which is to see a certain tension between the idea of identity as a fixed thing and the idea of identity as a process or mobilized reconstruction and deconstruction. That tension produces a kind of “thin blue line” where pop cultural identities are negotiated in the constant “eye of the storm of the media.”

It is very easy to remark that identity is a contemporary buzzword, but how to define identity? This has been a central question in different contexts and discourses in the humanities as well as social sciences. Zygmunt Bauman (1993, 1995) and Stuart Hall (1992), among others, have attempted to differentiate concepts of identity.<sup>17</sup> As Kallioniemi (1999: 292) points out, “[o]ne of the most common issues in the debate concerning identity is whether or not there is anything peculiarly modern about the problem of identity.” The recent debate and theories of identity – usually in connection with postmodern(ism) – have emphasized the “fluidity” characteristic to identities. To sum it up, let’s take a look at Bauman’s description of the construction of identity in the media and technology saturated postmodern condition through metaphors of *pilgrimage* and *wandering*:

The desert-like world commands life to be lived as pilgrimage. But because life has been already made into a pilgrimage, the world at the doorsteps is desert-like, featureless; its meaning is yet to be brought in through the wandering which would transform it into the track leading to the finishing line where the meaning resides. *This “bringing in” of meaning has been called “identity building.”* The pilgrim and the desert-like world he walks acquire their meanings *together*, and *through each other*. Both processes can and must go on because there is a distance between the goal (the meaning of the world and the identity of the pilgrim, always not-yet-reached, always in the future) and the present moment (the station of the wandering and the identity of the wanderer). (Bauman 1995: 86)

Thus, in the postmodern condition identity becomes a game of choice, a theatrical presentation of self. The construction of personal identity becomes a game and performance: different models and aspects seen as fruitful and useful for the identity are adapted from the surroundings (“anything goes”). What is crucially important is *media culture* which provides both the stage (a screen and a “catwalk”) for these presentations as well as a remarkable source of inspiration and information. This media cultural *status quo* signifies a radically new situation in the history of the Western man and psyche. Indicatively enough, Sherry Turkle (1997: 17) notes on the MUD communities (Multi-User Domains, Multi-User Dungeons): “[...] not only are MUDs places where the self is multiple and constructed by language, they are places where people and machines are in a new relation to each other, indeed can be mistaken for each other. In such ways, MUDs are evocative objects for thinking about human identity and, more generally, about a set of ideas that have come to be known as ‘postmodernism.’”

*Nomadism* (cf. Bauman 1993, 1995) has been a central theme in the recent discourse on identities and identity construction. Referring to Bauman, Kallioniemi (1999: 293) points out that “[t]he pilgrim’s successors are *the stroller (flâneur)*, who had all the pleasures of modern life without the torments attached, *the vagabond* with ‘his’ apparent freedom to move and so to escape the net of hitherto locally based control, *the tourist*, like the vagabond, on the move, but moving from

the margins to the centre, and *the player*, for whom nothing is fully predictable or controllable.” (italics added; cf. Bauman 1995: 92–99)

Problematics of identity is a broad issue that requires complex study. The theoretically relevant question seems to be how cultural theorists and researchers see the general conditions of identity construction, as well as the relevant terms of change and development. For Stuart Hall (see 1992) there are three (historical) concepts of identity: (1) *identity of enlightenment*, (2) *sociological identity* and (3) *postmodern identity*. To further follow Kallioniemi’s detailed analysis:

*The Enlightenment concept* rested on notions of there being an essential core to identity which was born with the individual and unfolded through his or her life. *The sociological concept* argued that a coherent identity is formed in relations with others and thus develops and changes over time. *The postmodern subject* is thought to have no fixed or essential identity. In postmodern societies identities have become “dislocated.”<sup>18</sup> (Kallioniemi 1999: 293; italics mine)

In the postmodern culture identity transforms into “a freely chosen game, a theatrical presentation of the self. The problem of personal identity arises from play-acting and the adoption of artificial voices; the origins of distinct personalities, in acts of personation and impersonation.” (Kallioniemi 1999: 293) The forum for these presentations is provided by media contexts (cf. Kellner 1995) – more and more often a new media such as the Internet: “Media culture provides a powerful source for these new identities which are appropriated and re/deconstructed by both individuals and groups who are able to participate in imagined communities through cultural style and consumption.”<sup>19</sup> (Kallioniemi 1999: 293)

Although postmodern (media) theory has claimed that national and local identities can be eroded through the economic, political, social, and culturally transnational (cf. Skovmand & Schröder 1992) aspects of current media, the contrary European and global integration processes “have been starting to release suppressed ethnic, smaller national, regional and local identities which are finding out how to display their ‘ethnic flavour’ in the current media culture.” (Kallioniemi 1999: 294)

Finally, we should note that due to the recent technological development, the distinction between, e.g., the biological (man) and technological (machine) has become significantly blurred. Partly, this explains the recent, Utopia- as well as Dystopia-loaded, discussion on “cyborgs” and machine humans/human machines (cf. Mikkonen & Mäyrä & Siivonen 1997). Various “cyborg problematics” and, e.g., *cyber sex* are a central part of the identity debate that is part of *cyber culture* and *cyber discourse*. Hannu Eerikäinen (1999: 210) has analyzed trans-, post- and anti-humanistic aspects of such discourse:

According to the cyber discourse we are living not only postmodern times, but moreover, a new postbiological, postevolutionary and posthuman era has begun. Thus, for me cybersex is not so much about sexuality but a techno-utopian dream of transforming the human being into a machine, into a digital apparatus, into a cybernetic system; in the end, into a cyborg (cyborgisation of the human being). This kind of radical reconceptualisation of the human being in terms of technology is understandable in the sense that in the perspective of posthumanism, built-in into the cyber discourse, the human being does not exist any more. Accordingly, the whole idea of homo sapiens should be replaced by a new concept, *homo cyber*. That is why in my mind cybersex is not so much sex but *cyber-sex*.

#### 4. *New Technology: Panacea or Panopticon?*

Michel Foucault's work, for example, elaborates a perspective on information, communication and freedom. He argues that power in modern society is imposed not by the personal presence and brute force of an elite caste but by the way each individual learns the art of self-surveillance. Modern society must control the bodies and behaviors of large numbers of people. Force could never be sufficiently distributed. Discourse substitutes and does a more effective job.  
– Sherry Turkle, *Life on the Screen* (1997: 246–247)

'And this,' said the Director opening the door, 'is the Fertilizing Room.'  
– Aldous Huxley, *Brave New World* (1956 [1932]: 15)

As we know, there are many ethical and moral philosophical problems associated with new (media) technology. The developers and defenders of new technology have not necessarily noticed that the personal computer might also be a personal HAL 9000 which registers its users' consumer decisions, schedules, comings and goings into large databases and records them for a certain time on magnetic tape, by the browsing and connecting of which anyone's life can be reconstructed and embarrassing personal profiles can be constructed. In theory it is entirely possible that mobile phones, computer networks and "information highways" could be turned into a digital, "interactive" version of Jeremy Bentham's *panopticon*; technology with the help of which it would be possible to realize control mechanisms of unprecedented efficiency and create a state of fear to keep citizens in subjection to the "anonymous wisdom" speaking to them from behind the computer screen (cf. Foucault 1975; Turkle 1997: 247–248).

Russell Spears and Martin Lea (1994), among others, have referred to the panopticon in an article they have written on CMC (computer-mediated communications). Hannu Eerikäinen, for his part, has written about "the new transparency" (*die neue Durchsichtigkeit*). According to Eerikäinen (1994: 20), more information is available about everything than at any previous time in human history; thanks to communications connections nothing is out of reach anymore; nothing can escape, since everything can be put on record; and an overview of any subject, which can be used to submission and control, can be produced by computer.

This is the sort of frightening, realistic risk-exposing viewpoint of which political romantics and technological visionaries should take serious notice. The "information society" painted in rosy colors in utopias might not be very far from George Orwell's totalitarian dystopia with its control screens and computer-illiterate proletariat. Nor is it necessarily far from Aldous Huxley's (1956) [1932] "brave new world," in which people wallowing in pleasure and well-being gladly swallow media-soma to dull their consciousness, as billions of citizens are already doing with game shows, Formula-1 races and soap operas. In Neil Postman's (1986) critical terms, we could say that "information highways" might well be just a new way to amuse ourselves to death. (cf. Schulze 1992; McKibben 1993)

Perhaps the most important question concerning media technology is this: are there any alternatives to current development? Especially in political documents Technological Progress proceeds without any critical objections. This way of thinking does not need to be accepted as such. We must ask what makes electronic technology "better" than the traditional? Why, for example, is it more "progres-

sive” to read text from a computer screen rather than from a page in a book? Why should the elementary school teacher be replaced by CD-ROM and computer-mediated distance learning? Why must video movies be ordered by cable when they can already be painlessly acquired from rental shops? (see also Inkinen 1999c: 280) There are several critical questions to be addressed and answered. Clifford Stoll (1996: 11) has presented valuable arguments for the traditional, “old-fashioned” solutions:

I see businesses squeeze their products into computers, even when they don't fit. Books on paper work damned well, as do post offices, newspapers, and the telephone. Yet I find offerings from publishers and phone companies that leave me scratching my head. I've rarely met anyone who prefers to read digital books. I don't want my morning paper delivered over computer, or a CD-ROM stuffed with National Geographic photographs. Call me a troglodyte; I'd rather peruse those photos alongside my sweetheart, catch the newspaper on the way to work, and page through a real book.

In my media and cultural critical opinion, our society should also ask: *why must we communicate?* What is so good in poorly structured databases and overwhelming amounts of information? Jean Baudrillard's (1983, 1988, 1994) viewpoint on the referenceless contemporary “ecstasy of communication,” “hyperreality,” and the “implosion of meaning” which goes with them, is that there is not necessarily anything inherently valuable in communications. Do not continuous repetitions about the importance of information and communication technologies, databanks, the Internet, etc., just represent loose political and commercial rhetoric? Gianni Vattimo's viewpoint presented in *The Transparent Society* (1992) appears to be correct, and more and more inevitable: the whole logic of the information “market” presupposes the logic of the continuous expansion of that market. As the result of this “everything” becomes a subject of communication in one way or another.

Thus, the ethics of (media) technology (cf. Lenk & Ropohl 1987; Tester 1994; Cooper 1995) deserves serious consideration. The brave new information society can easily develop into an elitist technocracy, and it is only a short distance from there to the forming of a new type of aristocracy; a rough and undemocratic world in which the privileged class are those who have been blessed with the interest and ability to study the most recent tools of information and communications technologies. From the perspective of the current tendency, this seems both frightening and probable. It seems that the effects of new media technology will be extending in the immediate future into all areas of life and touching all people; including those who are not directly involved or interested in them.

In evaluating the *cultural significance* of computers and digital technology, the valuable crystallization presented by Bill Nichols (1988: 22) seems particularly accurate:

The computer is more than an object; it is also an icon and a metaphor that suggests new ways of thinking about ourselves and our environment, new ways of constructing images of what it means to be human and to live in a humanoid world. Cybernetic systems include an entire array of machines and apparatuses that exhibit computational power. Such systems contain a dynamic, even if limited, quotient of intelligence. Telephone networks, communication satellites, radar systems, programmable laser videodiscs, robots, biogenetically engineered cells, rocket guidance systems, videotex networks – all exhibit a capacity to process information and execute

actions. They are all “cybernetic” in that they are self-regulating mechanisms or systems within predefined limits and in relation to predefined tasks. Just as the camera has come to symbolise the entirety of the photographic and cinematic processes, the computer has come to symbolise the entire spectrum of networks, systems and devices that exemplify cybernetic or “automated but intelligent” behaviour.

Nichols believes that we are in the process of shifting from “the age of the camera” to “the age of the computer,” in which digitality and the binary logic of microelectronics appear to be the lowest common denominators. On the basis of this quote from Nichols it seems appropriate to ask: What is this “automated but intelligent” behavior based on cybernetic machinery and procedures like? Is it primarily something like what appears on the computer register in the security control booth, or like the “video game war” – Operation Desert Storm – in the early 1990s? Or is it some sort of condensed version of the traditional *modernization* principles: efficiency, productivity, economy, controllability, and transparency?

Admittedly, science fiction has dealt with threatening images of science and technology for a long time. Take, for example, *A Very Private Life* (1968), a futuristic novel by Michael Frayn, that describes a society divided into two classes: the “inside” class and the “outside” class. The “inside” people are the world leaders. They live in isolation, leaving their houses as rarely as possible. Each person has his/her own room equipped with a *holovision system* which projects a hologram of other family members and guests. In this interesting science fiction novel, holovisions enable the parents to work from their rooms and meet people from other parts of the world. They are also used by the children to study and meet friends.

This is clearly a dystopian horror vision. Even if the novel’s families actually spend quite a lot of time together, it is only as holograms in each other’s room or in a virtual holiday resort (naturally, ecology has been destroyed and polluted by an environment catastrophe; cf. cyberpunk visions). The most vulnerable part of communication among the inside people is eye contact. People always wear dark glasses, because if others were to see your eyes they would know your thoughts (cf. Nuopponen & Kunelius 1999: 354).

##### 5. *Homo Ludens: Challenges of Hypermedial Narrative*

The subject of *multimedia communication* has caught the attention of every form of research that is in some way involved with communication. This stems from the fact that it is a brand new and innovative field, and also that it is related to all of the state of the art technological developments field of *communications* over the last 10–20 years (mass media, home computers, hypermedia, computer networks, virtual reality, interactive television, etc.). It is my opinion that such a theme represents a major turning point for semiotics and for all sciences dealing with communication, especially for what concerns their *theories, models* and *methodologies*.

– Paolo Teobaldelli, “Aspects of Multimedial Communication” (1999: 114)

Already some 20 years ago the respected semiotician Ernest W. B. Hess-Lüttich published an early paper on multimedia communication and the problems of inter-media code relations (Hess-Lüttich 1978; see also 1982a, 1982b). Ironic enough, the academia more or less ignored it – only to wake up to its relevance in the late 1990s. In the meantime “we have been overtaken by technical developments which

are more familiar to any high-school student than to the professors in the humanities” (Hess-Lüttich 1999: 4).

It also took a long time for the traditional literature critics to admit the importance of the progress of multimedia development and new technical innovations as an object of study.<sup>20</sup> But lately even they have become increasingly motivated “to abandon their self-imposed insularity.” Mickle David Ledgerwood from New York State University at Stony Brook has aptly noted that “[with] the introduction of multimedia computers and multimedia materials, a revolution in literary input has taken place. [...] With the advent of multimedia poetry and novels using hypertextual links, literary critics are being forced to accept that their text-centered world is being challenged.” (see Ledgerwood 1997: 548)

It is obvious that “the multimedia literature,” the new literary genre, has been created as a seminal part of developments. Multimedia literature is not only hypertextual avantgarde or WWW projects of the Internet, but also, for example, computer games (on “exploratory games,” specifically, see Ledgerwood 1999). Ernest Hess-Lüttich (1999: 4) tends to agree without arguing the quality of classical examples such as *Poetry in Motion* (Ron Mann / Voyager 1992) or *The Madness of Roland* (Greg Roach / HyperBole 1993) or even multimedia games which come very close to being multimedia literature (such as *The Virtual Murder Series* or *The Adventures of Sherlock Holmes*, and adventure science fiction games such as *Beyond the Wall of Stars* or *Myst* (cf. Ledgerwood 1997: 549).<sup>21</sup>

The latter of these science fiction games has been studied in greater detail by, e.g., the Finnish scholar Sami Pylvänäinen (1997: 93–94). According to him, such games as *Myst*, *The Dark Eye* and *Gadget* are similar in their obsessive attraction to create a detailed environment that is both rich and pure in style. In terms of architecture and landscape, *Myst* is an example of a postmodern pastiche iced with a wealth of styles which is more realistic in terms of visual impressiveness than a certain historical period. The interiors and facades in *The Dark Eye* refer to a totally different style of landscaping – an attempt to create a purely Victorian landscape. Somewhere in between these two is *Gadget*, rather more unclear in terms of period, but stylistically a more whole and unified reality.

The almost photorealistically detailed images in each of these games are central to the origination of immersion, addiction, as well as the contemplative look. On the one hand, it is this detailed style which activates this look; it makes the flaneur look take its time with these pleasant and plentiful images. On the other hand, the narrative structure of adventure games rarely hurries the player, but rather emphasizes close examination of the landscape and objects and the uniqueness of the unknown reality they reveal; as well as the importance of finding hints essential to the story’s progress. (ibid.: 93–94)

The future of hypertext literature is mostly still a mystery. Since it is such a young field and rapidly developing, the future of multimedia literature is practically impossible to predict. Importantly, scholars and literary audience have been critically interested in multimedia works such as *Johnny Mnemonic* (1994), *The Residents’ Freak Show* (1994), *Quantum Gate* (1994), Laurie Anderson’s *Puppet Motel* (1996), *Bad Day on the Midway* (1995), *Quantum Gate II* (1996), Hyberbole’s new “Virtual Cinema projects,” and Voyager’s “First Person” series (1992–1997).<sup>22</sup>

We can also easily see that the aesthetic field of multimedia literature is constantly changing. Ledgerwood (1999: 51) sums it up: “In conclusion, [...] discussion of hypertext and [...] multimedia works has proven [...] that hypertextual nature provides no evaluative pre-condition for the seriousness of multimedia literature, nor does hypertextuality have to be anything more than a tangential component of multimedia art. This does not surprise us so much as it does point out that critics who focus only on a work’s hypertextuality or hypermediality have missed the point just as completely as critics who focus only on the media contained in a work in order to reject it.”<sup>23</sup>

## 6. *Approaches to Semiotic Textology: Holistic (Hyper)texts and Deconstruction*

121 peut-on dire le manifeste des 121 peut-on dire où manque le doute manque aussi le savoir  
125 si un aveugle me demandait as-tu deux mains ce n’est pas en regardant que je m’en assurerais  
oui je ne sais pas pourquoi j’irais faire confiance à mes yeux si j’en étais à douter oui, pourquoi  
ne serait-ce pas mes yeux que j’irais vérifier en regardant si je vois mes deux mains Wittgenstein  
de la certitude Diderot lettre sur les aveugles elle disait qu’il n’y avait que les qualités du couer  
et de l’esprit qui fussent à redouter pour elle c’était encore un des avantages de la privation de la  
vue surtout pour les femmes [...].

– Jean-Luc Godard, *JLG/JLG. Phares* (1996: 22–26)

Up to the present day, linguists have not agreed on a coherent concept of text. Now, with a litany of new words such as hypertext, multimedia, Internet, and interface dazzling their minds, the notion of “text” has become even more obscure. At the same time their subject matter is redefined as theory of text, or discourse, media, or cultural study. (cf. Hess-Lüttich 1999: 4)

One interesting, challenging, and valuable notion of “text” has been worked out by the Hungarian semiotician János Petöfi (1988) in the domain of *semiotic textology*. Petöfi conceives of text as a “semiotic-relational object, i.e., a physical relational object, the relation of which explicates itself, in semiotic terminology, as that between the *significans* and the *significatum*: the physical semiotic object.” (see Teobaldelli 1999: 132) This semiotic object is considered to be an element of the linguistic structure rather than a linguistic system:

Mit anderen Worten bedeutet dies, daß der Terminus “Text”, wie er im Rahmen der semiotischen Textologie verwendet wird, auf die Relation zweier (auf interpretativem Wege zu bestimmender) Entitäten, und nicht auf ein (statisches) Objekt hinweist. Wenn wir es noch genauer ausdrücken wollen: die semiotische Textologie betrachtet die Zeichenkomplexe als Resultate von Interaktionen zwischen gegebenen Vehikula und deren jeweiligen Empfängern/Interpreten, wobei in der Interaktion auch das zum Resultat der Interpretation gehört, wer, in welcher Kommunikationssituation, welches Objekt als das Vehikulum eines angenommenen Zeichenkomplexes akzeptiert. (Petöfi 1994/95)

The Petöfi definition has been central for the textual definitions of the present multimedia age. According to Hess-Lüttich (1999: 8), “the idea on which the multimedial concept of text is based considers the verbal, paraverbal, and nonverbal codes (language, graphics, color pictures, animations, sounds, sound synthesis, films, etc.) as a textually integrated concept. It also offers in principle an unlimited number of intertextual connections.”

In his groundbreaking introduction to *Hypertext and Contemporary Literary Criticism* (1990), a seminal work on hypertext, George Landow discusses the problems of textuality caused by hypertext. As he poignantly notes, the final hypertext is created by the users through a variety of available inputs and pathways, thus necessarily imposing an open, non-linear structure on texts. Thus, there can be no definitive linear narrative of a hypertext; it fits Derridean notions which do not allow for one principal reading of a text. It is impossible to say in any prescriptive and exclusive manner what the precise text we are studying is, where it begins, how it ends, or what is in the middle (cf. Cicconi 1999). As Landow puts it in his work with Delany,

The necessary contextualization and intertextuality produced by situating individual reading units within a network of easily navigable pathways weaves texts, including those by different authors and those in nonverbal media, tightly together. One effect is to weaken and even destroy altogether any sense of textual uniqueness, for what is essential in any text appears intermingled with other texts. Such notions are hardly novel to contemporary literary theory, but here again hypertext creates an almost embarrassingly literal reification or actualization of a principle or quality that had seemed particularly abstract and difficult in its earlier statement. (Landow & Delany 1991: 8)

According to Mikle D. Ledgerwood, it is not quite correct to present hypertextual works as works which have a nearly unlimited number of textual possibilities. Some scholars do this, much in the way semioticians like Sebeok speak of unlimited *semiosis* in the semiotic web. Nor is it correct to consider no hypertextual creations privileged over others, as do some followers of Derrida or Bataille. Obviously, all hypertexts, even texts produced on the Internet, are created by their makers who specify the number of hypertextual links. They can link texts to another text which is already linked to yet another text, but eventually run out of texts to link to. Thus, it is only to a certain extent that users of the Internet can go beyond the text and create new pathways for a type of unlimited travel. What it is that has truly changed is the type of “text” being created. The text is no longer a single created unit or macro-unit. Creating links to texts outside of their own creation means going beyond the boundaries of the original concept of the hypertext. Through this, text loses any unity or coherence other than an unclear ending. Especially in a literary understanding of the word, to consider such a vast linking of units might be questionable. In Ledgerwood’s (1999: 48) words:

In response to followers of Derrida and Bataille and others who believe that all links and pathways are equal we can adapt the arguments of Umberto Eco relating to interpretations of texts found in his *The Limits of Interpretation* (1990). Here Eco has argued that not all hermeneutic reception should be treated equally. Although it is philosophically defensible to treat all interpretations in similar ways it is not pragmatically or aesthetically defensible. Artistic texts provide ample evidence of this conclusion, according to Eco. While there may be multiple good readings of texts, there are vastly more bad readings. Eco uses his own experience as a literary critic as well as his understanding of the thought of semioticians such as Charles S. Peirce to come to this conclusion. Peirce, himself, early on faced the problem of hermeneutic indeterminacy. Yet for Peirce, even though the number of potential interpretants associated with a given sign (or compound sign or macrosign or text or in our case hypertext) is unlimited, the number of actually chosen interpretants by a given interpreter is limited. For Peirce even the role of the individual in selecting interpretants is also limited. He went so far as to establish the role of the community

of scholars to guard against solecistic interpretations too far removed from experience. An individual's selection of interpretants can be submerged in a group as necessary. Thus for Peirce implicitly and for Eco explicitly, a community of scholars, in this case professionally-trained critics professing honestly, will be able to limit the number of good readings of an artistic text.

Nelson defines literature as a handling of fictional and nonfictional texts which develop in historical tradition. What makes these texts different from hypertext are their linearity, their representation of contents, and their semiotic modality of representation. Thus, hypertext expands the reader's freedom (Nelson 1967: 195). In the contemporary solutions, the reader can access other spatially remote texts through electronic links and "into trees and networks" ramification; choose the level of detail; choose the form of representation – spoken or written, picture or sound, graphics or film, or a whole (multimedia). The reader can add, shorten, manipulate, and destroy text to suit his tastes and interests, thus becoming an active co-author instead of a passive receiver-reader (cf. Landow 1992: 5).<sup>24</sup>

Concerning these technical possibilities it is not surprising that *deconstruction* has found the ideal methodological tool in hypertext. Here I would like to emphasize the humanistic background and tradition of the hypertext. As Hess-Lüttich puts it, "it is not by accident that poststructuralists like Roland Barthes, deconstructionalists like Jacques Derrida, reception theorists like Wolfgang Iser, and semioticians like Umberto Eco had been thinking of such text theory questions for a long time. I think one should defend this humanistic tradition against the claims of automation engineers on the concept [...]." (Hess-Lüttich 1999: 9)

At this point I would also like to express my opinion on the problems of today's *media narration*. In terms of substance, the quality of recent works concerning "new media" has been satisfactory at best. Applied models have often been found in literary and cinematic culture, which has often been more flexible and imaginative than the link structures in hypermedia works. Despite all the inspiration, visions, and overwhelming promises, it can be said that the new media is still dominantly written along the lines of Aristotle's *Poetics*.

In the future, special attention is needed to the semiotic-cognitive development of link structures in hyper- and multimedia works as well as to the design of new kinds of inter- and intrafaces. Theory and praxis can – and should – support each other also in research on holistic texts, information technology and media applications. The following is a relevant comment by Teobaldelli (1999: 143) on his approach of *semiotic textology*:

The procedure which I have kept in mind has been that of binding *theory* and *praxis* together in a circular interaction where they are continuously informing and verifying each other. In this sense, because of its pragmatic and non-universalistic perspective, semiotic textology offers the most concrete approach to the phenomenon of communication, having the possibility of forming relationships of reciprocal influence with all of the other disciplines operating in the field of communication. Such an approach, however, should not be allowed to degenerate into a form of pragmatism for its own sake (more specifically: into a system giving various prolix descriptions of concrete textual objects without investigating their basic semiotic communicative nature) but it should rather be used to build solid heuristic models by which one might analyze and investigate, so that in the end one could draw up explications and interpretations that would be consistent with the phenomenon revealed in the object.

## 7. *Navigare Necessè Est: History of Hypertext*

Could all this have been anticipated? That something already realized in techno art, video aesthetics, and computer music could break into the literary field? That “affinity of *poiesis* and *techné*” could grow in a way that “the exclusive persistence of natural ‘originality’” could be suspected of harboring ideology? That the picture of a liable author who polishes a text on his own could fade away and be replaced by an unknown number of anonymous writers who weave textual nets without an end in sight? That they might simply “change the space of the primary text by the windows to be opened free in all directions”?

– Ernest Hess-Lüttich, “Towards a Narratology of Holistic Texts” (1999: 3)

In the Western culture the printed medium has been used for centuries as the privileged tool for the production, transmission, and re-production of knowledge; relatively often, there has been an attempt to organize this knowledge according to a linear logic. But the limits imposed upon us by such linear thinking are broken by the hypertextual logic: we are forced to move on toward a reshaping of the ways we use in order to acquire, organize, and re-produce knowledge. Therefore, it is important to understand how innovatively and powerfully the hypertextual logic remodels our mental processes and, thus, the ways we think about the world.

A short historical survey is in place here. The idea of non-linear, association-based hypertext dates far back to pre-electronic ages. The recent history of hypertext classifies the history into three periods: (1) *mechanical period* (1932–67), (2) *digital period* (1961–67), and (3) the period of *specializing* and *commercializing* (1985 to the present) (cf. Kuhlen 1991; Fendt 1995: 12–52). It is important to remember that the roots of the contemporary hypertext method and Internet culture are in the post-World War II (military)<sup>26</sup> development:

Vannevar Bush had a machine in mind (he called it *Memex*)<sup>27</sup> which allowed a user to store and search for information in a way differing from classical formal logic and strict index-based methods. According to the model of associative thinking processes, single documents should be linked into a net-like information system: the germ cell of today’s Internet or World Wide Web. (Hess-Lüttich 1999: 8)

After Bush’s visionary approach twenty years had to pass by before somebody else took an interest in the problem. In 1962, using *Memex* as a starting point – and believing that the computer can be a valid instrument to increase the power of human intellect and imagination – Douglas Engelbart (the inventor of the word processor and the mouse), together with the psychologist J. C. R. Licklider, developed a system called *Augment/NLS*: “The system is capable of filing and integrating a variety of pieces of information (articles, notes, comments, footnotes, projects) within a sort of ‘collective electronic journal,’ so that, through the computer, those pieces of information are shareable among (and re-shapeable by) different users.”<sup>28</sup> (Cicconi 1999: 22–23)

Nelson conjugated Bush’s ideas about the Memex with Engelbart’s collective electronic journal, and used the new versatility of the electronic technology to elaborate *Xanadu*, a system that is “not only particularly easy to use for the unexperienced readers, but also easily extendible into extremely complex applications.” (Nelson 1987: 1/6) According to Cicconi (1999: 23), “[t]his device, created to satisfy an unlimited but ordered growth of documents, should be thought of as an

editing system for the storage of universal knowledge.” The Italian scholar further notes that

Nelson finds it convenient to organize the whole human knowledge in what he calls *literature*, that is, a “system in evolution of interconnected documents”; these documents constitute (and are part of) a complex, world-size network, whose portions are all accessible *via* computer by an unlimited number of users. According to this conception, the hypertext no longer is a form of text, but a new “medium” allowing us to read and/or interact (that is, to create personal reading sequences, personal links between texts, and personal annotations as well) with a whatever portion of *literature* by means of a single and efficient device. (ibid.: 23)

Theodor Holm Nelson coined the term “hypertext” in 1965 – and it is unrelated to Gérard Genette’s or Mieke Bal’s terminology. Nelson defined hypertext as a “non-linear text” (Nelson 1967: 195).<sup>29</sup> Now we have to ask: what is, actually, a linear text? In the traditional meaning (in the context of linguistics), linear texts are “texts whose material form conditions the fixed order of their serial elements. The natural spoken language, for instance, was characterized by its temporal linear sequence without spatial extension. [...] Natural written language was seen as an arrangement of a spatial linear sequence of its segments on various levels (phonemes, monemes, sentences, paragraphs, chapters, etc.)” (Hess-Lüttich 1999: 7; cf. Nöth 1994)

However, this principle is no more relevant with a non-linear hypertext. Hypertext has been defined in many ways. At its simplest, it is “the notion that a body of text can be viewed and accessed in a variety of ways by its user – although some texts are produced in such a way as to make accessing them hypertextually necessary. In general [...] this means that bodies of text do not have to have a defined beginning or end, nor have to be accessed in a linear fashion.” (Ledgerwood 1999: 45)

According to Mikle Ledgerwood, “any work can be accessed in the manner of a hypertext – even works such as books written so that they have a clear beginning, middle, and end and printed in a linear narrative fashion. One can begin a work at any part of a work, stop at any moment, and recommence at any other moment.” Ledgerwood (ibid.: 45) thus refers to the historical roots of the hypertext and adds to the definition:

In fact this is the way that some traditional works, such as the Qu’ran, the Talmud, the Christian Bible or the writings of Lao Tse or Confucius, are often read. It is not uncommon for certain readers of religious works to open the text at random choosing to read only a few passages. S/he may very well choose additional passages at random to ponder before finally closing the book. The next reading upon reopening the book might then be accomplished in the same manner. Nevertheless, most critics of hypertext argue that words on a page necessitate certain notions that computerized text(s) do not. George Landow, as an example, insists that computer hypertexts fuse notions of metatext and intertextuality into new wholes. (Landow 1992: 6–11)

In the classical work *Literary Machines* (Nelson 1987: 1–17), everything is based on the premises “that hypertext is fundamentally traditional and the mainstream of literature.” The father of hypertext, T. H. Nelson, also writes that the hypertext is “*non-sequential writing*, a branching text that allows the reader to make choices; it is something that can be best read in front of an interactive screen.” A hypertext allows us to create new forms of writing that reflect the structure of what we write *about*; the readers, on the other hand, are allowed to choose different paths accord-

ing to their attitudes and the stream of their thoughts; until now, this has been believed to be impossible. (Nelson 1987: section 0/2–0/3) As Mikle D. Ledgerwood puts it (1999: 45):

Even though creative writers and editors are familiar with the notion that text can be moved and removed (especially in the age of the computerized word processor) and even though a basic understanding of hypertextual notions is inherent in humans of all periods, it is only in the twentieth century that the creation of works which must be read in a hypertextual manner has emerged as a goal for writers. Only then have writers consciously attempted to remove all notions of linearity and progression through texts giving the ultimate freedom of text chronicity to their texts' readers. Thus many twentieth-century writers, such as Alain Robbe-Grillet have tried to divorce themselves from imposing a particular reading of their texts on their readers, attempting to eliminate linearity of texts, for example.

In his examination of Aristotle's *Poetics*, George Landow found out that, indeed, hypertext repeals it. No more "fixed sequence, definite beginning and ending, a story's 'certain definite magnitude,' and the conception of unity or wholeness" (Landow 1992: 102). The rules of Aristotelian poetry have been violated frequently, even by authors who still wrote with a quill. Some were hypertext predecessors: notably, the digressions of Laurence Sterne's *Tristram Shandy*; the endless chains of associations of James Joyce's *Ulysses* and the subtle reference network of *Finnegans Wake* (cf. Eco 1987: 72, 1990: 138); Alain Robbe-Grillet; Jorge Luis Borges; Vladimir Nabokov. These authors attempted "to divorce themselves from imposing a particular reading of their texts on their readers, attempting to eliminate linearity of texts" (Ledgerwood 1997: 550).

Admittedly, a book has a beginning and an end. But what is it that forces us toward linearity in the reading? Were we not released from this compulsion by the reputable scripts of ancient cultures: I am thinking of the signs of Lao Tse, the Dead Sea scrolls, the Talmud, the Christian Bible? Take only a tract from the Talmud: the page is beautifully designed with headlines and footnotes (in the middle, the text of the Hebrew *Mishnah*; framed by commentary of the Aramaic *Gemara*; expanded by explanatory *Haggadah*; linked with parables and mnemo-technically helpful remarks and wordplays; cross references on other passages, on the Bible or Middle-Ages scripts; insertions, marginal notations, corrections, centuries-old comments). Indeed, in the course of time was created "a thick tangle of texts about texts with countless references and argumentations which precisely through the various types of readings, spelled out in numerous commentaries, called for 'unending' interpretation work" (Fendt 1995: 93).

#### 8. Representation of Knowledge and its Digital Future

According to Walter Ong (1982), our history is the history of the technologizing of the word. Taking this into consideration, the electrified word, hypertextualized and plunged into a multimedial universe, will surely promote the configuring of a new phase in that process of remodeling our cognitive architectures started a few millennia ago with the invention of the oral word. First chirographic, and, later, typographic writing, have strongly modelled the organization of our thoughts – to

the extent that now we tend to think of the linear and propositional structures of printed books as the most faithful representations of how we organize our thoughts.

However, in spite of the paradigmization of the “printed thought,” a printed text is a very vague (and artificial) approximation of the flow of our thoughts. “The structure of thinking,” Theodor Nelson (1987: sec. 1/14) writes, “is not, in itself, sequential. It is a system of intertwined ideas. [...] No idea necessarily comes before or after another; organizing these ideas according to a sequential presentation is a complex and arbitrary process. And often it is also a destructive process, since in dividing up the system of connections so as to be able to present them according to a sequential order, it is difficult to avoid breaking – that is leaving out – some of the connections that are part of the whole.”

As Cicconi (1999: 24ff.) discusses in great detail, a hypertext is a potentially unlimited network made of nodes and links; its structure can be modified and extended and is not necessarily linear; it is created through the computer and it can be used on the computer. Each node – a segment of a complex multimedial communicate – can contain

- (1) information on a given domain of a possible world, or portion of the world;
- (2) information on how the user can access the material contained in the node, and on how to navigate from that node to another;
- (3) a set of commands that enable the user to make the transition from one node to another; and
- (4) a set of commands that enable the user to create new nodes and new links. (ibid.: 32)

If we assume that perception, recognition, classification, logical reasoning, and all the other cognitive operations we normally use are particular, cultural ways of conceptualizing sensorial inputs and organizing them into knowledge about the world, then the forms of conceptualization and organization developed by different cultures are very likely to be different (cf. Ylä-Kotola 1999b: 867). In order to understand the impact hypertexts have on us we need, firstly, to identify some of the current as well as historical cognitive architectures devised by the Western culture used to represent knowledge about the world. After that, we can study whether and how hypertexts (possibly) reinforce, extend, or radically modify these forms of representation.

It is surely important to point out at least a possible direction for further explorations of the problem. In the search for a manageable definition of one *contemporary form of representation of knowledge*, let us take a look at an essay by Eco on the history of representation of knowledge. According to Eco (1981), there are at least four major different attitudes Western culture has had toward the encyclopedic enterprise, with which he means the attempt to create a system unifying all the pieces of knowledge about the world available to a certain culture in a certain age:

- (1) Firstly, a *cumulative organization* of knowledge during the Hellenistic civilization unconditionally gathered a variety of data about the world without paying much attention to the truthfulness or falsity of what had been collected.
- (2) Secondly, during the Middle Ages a *tree-like structure* analogous to the assumed structure of the world weighed data about the world and composed ac-

ording to a precise hypothesis about the form of the world. As a result, knowledge was organized within a hierarchic structure – using binary disjunctions to proceed from the general to the particular, from the one to the many, from the Creator to the multitude of created things.

(3) Thirdly, the structure during the Enlightenment Age was rather similar to the second one: the structure is tree-like, and, again, the knowledge about the world is organized within a system of reference created according to a certain view of the form of the world. However, the attitude towards guiding the organization of knowledge within that system is different: in the third stage, there is an awareness that the hierarchic structure no longer reproduces the form of the world; that structure is seen only as the most functional and economic way of representing and organizing data about the world. Awareness of this allows us to work on the definition of the intermediate paths among the different nodes of the tree-like system; it determines the development of particular sub-trees. Each sub-tree is hierarchically in charge of organizing information about a certain domain of knowledge. These sub-trees, once connected to one another, make up the *Encyclopedic Tree* that carries knowledge about the world. Defined in the project of creation of the Encyclopedia of the Enlightenment, this tree becomes a *map*, a guide for the global and local motions in the land of knowledge.

(4) Fourthly, the *structural representation of a semiotic encyclopedia* is the contemporary form of representation of knowledge about the world. The amount of information at our disposal is enormous; the variety of data and cognitive tools used to make those data “visible” is enormous. It is clear that organizing such a multiplicity of knowledges according to one universal truth seems like an unfeasible project. Even though we can create an organizing system, this becomes an unlimited and constantly changing structure, an open project. It becomes a dynamic system coordinating other dynamic systems, each of which, on turn, organizes – in a more local way, and in accordance with more local and partial (scientific, philosophical, literary, psychological, religious, artistic, etc.) views of the world – certain more limited and handy aggregates of information. This representation is shaped like a labyrinth and its dimensions are potentially infinite: there is a multiplicity of paths and its structures and contents are being constantly remodeled. (Cicconi 1999: 32–33)

In Eco’s (see 1981: 49) words, the structural representation of a semiotic encyclopedia is a network of “definitions taking the place of other definitions, of situations clarifying the meaning of a term, [...] of visual representations explaining verbal expressions, and vice versa, [...] of synonyms organized in chains.” (cf. Cicconi 1999: 34) Eco names this representation *rhizome*, reminding us about the vegetable metaphor suggested by Gilles Deleuze and Félix Guattari in the introduction to their classic of philosophy *Mille Plateaux*. “A rhizome,” they write, “like an underground stem, completely differs from roots and radicles. Bulbs and tubers are rhizomes. [...] The rhizome in itself has very different forms: from its superficial extension, branching in all directions, up to its concretions, becoming bulbs and tubers.” (Deleuze & Guattari 1980: 9–37; see also Cicconi 1999: 34)

At this point I would like to recall some of the properties of a rhizomatic structure, as defined by Deleuze and Guattari:

- (1) each part of the rhizome can be connected with any other part, and it must be;
- (2) in a rhizome there are no dots or positions, as we find in tree-like or root-like structures; in a rhizome there are only lines;
- (3) any part of a rhizome can be broken up; it will grow again, following one of the lines;
- (4) the rhizome is anti-genealogical;
- (5) the rhizome always has its own outside, with which it makes rhizome;
- (6) the rhizome is not a cast, but a map; the map is open, it can be connected with something else, in each of its dimensions; it can be taken to pieces, put upside-down; it is open to continuous modifications;
- (7) a network of trees, branching out in any direction, can make rhizome (that is to say that a partial network of trees can be artificially cut out from any rhizome);
- (8) the rhizome has no center, so that in it the local initiatives can be coordinated independently from a central or original instance. (as quoted in Cicconi 1999: 34)

According to Sergio Cicconi, *hypertext* becomes the focus of a bundle of ideas, a converging point: the book of sand (Borges), the library of libraries, the Memex (Bush), the global literature (Nelson), the semiotic encyclopedia (Eco), the rhizome (Deleuze & Guattari), the multimedial communication on a world-wide scale. Until recently, the global semantic encyclopedia with a rhizomatic structure, keeper of universal knowledge, could only be an ideal concept. “This encyclopedia does not exist,” Eco (1981: 50) writes “yet, it is the totality of what humanity has said, and it has a material existence, since what has been said is preserved through books, paintings, films, behaviors, architectonic constructions, laws, roads... [...] The encyclopedia of the forth form is important exactly because it does not exist as a recognizable object. [...] It is the universe of culture, and is not visible within a volume. At least, not within a single volume.”

Eco wrote his essay a few years ago, but is it still true that this encyclopedia of the fourth form does not exist? To what do the hypertextual properties refer then? Is not the hypertext a concrete realization of the complex rhizomatic structures ruling the forms of the *semiotic encyclopedia*? It is clear that a single-volume encyclopedia which would contain the totality of human knowledge is still and will be an ideal project. However, we have been brought one step closer to that ideal by the creation of new hypertextual communicates, as well as the translation of a great amount of data into a non-linear, extendible, changeable, unified (but with multiple centers), and electronic form.

As pointed out in many contemporary debates and theories, it seems that our age is the *age of multiplicity*: it is the hypertext that is the best tool we have to somehow contain and control – no matter how imperfectly – the encyclopedia that becomes the contemporary memory of our knowledge and describes the multiplicity. It is likely that the new access to multiple domains of knowledge through the medium of hypertext is going to reshape our mental processes, as it has already happened many other times in the past. Let’s take a look at some of the possible consequences that the never-ending extendibility of a variety of multimedial pieces of information stored in hypertextual form might have on the way we deal with information. (see also Cicconi 1999: 32ff.)

We must bear in mind that the extension of a certain domain of knowledge obtained through the integration of new, local portions of knowledge is not a new

practice caused by hypertexts. Rather, as we have seen, the history of the acquisition of knowledge is mostly the history of attempts to organize and unify knowledge within a system as complete and unitary as possible. In this context, hypertexts, reproducing in an electronic form an already well-known series of practices and operations used in the management of multimedial data, may not seem to offer a very innovative way of organizing knowledge.

However, we must also bear in mind that normally, and for many different reasons, it is not always easy to access all the monomedial or multimedial communicates produced over the centuries (i.e., theoretically, all the verbal, visual, acoustic, olfactory, and tactile communicates that have been somehow fixed in any sort of physical material). An example of this is the problem of physical distance often existing between the location – a library, an institution, a museum, a theater – where one particular piece of information is stored, and the location where one possible user of that piece of information is. Another example is that often the heritage of a culture and the stored information is difficult to access. Usually, if we want to read a particular printed, verbal, and accessible text, we are often forced to go through the traditional, time-consuming system of research: going to one or more libraries, consulting the local (not always electronic) database, requesting the text, searching for it on the shelves, etc. Moreover, after getting a hold of the text, we might want to create a network of intertextual links with and around that text; which means that again we need to refer to other texts – primary and critical texts, as well as handbooks, encyclopedia, dictionaries, journals – each of which, in turn, requires more research, etc. (ibid.: 32ff.)

What would change our experience of the text is its *electronic translation* into a digital form. First of all, we could access, *via* a computer, all the text components contributing to the constitution of the sign-complex of the text. Moreover, were the text a part of a large hypertextual network – Nelson’s network of *global literature*, or the WWW on the Internet – we could quickly access, *via* the same computer, a great number of verbal and non-verbal communicates that have a link with our text. For example, we might have access to all the translations ever made of the text; to a symphony inspired by the reading of the text; to a movie based on the text; to a series of pictures and drawings visually illustrating some of the events described in the text; etc.

What hypertexts promote is this essentially *intertextual* approach to texts. However, it does not concern just intertextuality. Fast access to a variety of multimedial communicates, ease of finding and retrieving pieces of information traditionally much more difficult to access not only increases the *efficiency* of research, but also modifies the *impact* these data have on us, as well as our *usage* of them in (re)producing discourses.

Indeed, we must bear in mind that the production of interpretations related to any kind of multimedial communicate is strictly connected to at least two complex factors: first, the communicative situation within which the communicate is placed; second, the knowledge about the world the interpreter possesses and uses for dealing with (i.e., defining, “seeing,” understanding) the communicate. In other words, in order to adequately account for the process of production of interpretations connected to a communicate, the following is required:

- (1) a well-articulated and flexible model which describes the constitutive elements characterizing a large variety of contexts within which a given sign-complex can be placed during the act of communication (i.e., private and social, scientific, philosophical, psychological, psychoanalytical, political, artistic, bureaucratic, religious, mystical, clinical, pathological, etc., contexts), and
- (2) a manageable model of the *knowledge about the world*, i.e., the systems of verbal and non-verbal competences, values, beliefs, notions, ideologies, hypotheses, physical dispositions, etc. possessed by the interpreter; a notion that is still rather vague. (Cicconi 1999: 37)

What is needed first is a way to describe a variety of communicative situations and attitudes of interpreters. This enables us to modify our descriptions: we can include descriptions of new pieces of knowledge about the world, of previously undefined communicative contexts, and of the attitudes of the interpreters created by or related to the new electronic technologies (i.e., cyberspace, virtual reality, multimedial spaces, and so on). This should further enable us to understand how certain communicates (normally identified as *conventional texts*) are perceived, interpreted, and used by “conventional users” (the users identified and described by the models) in “conventional” as well as in new, “non-conventional” communicative situations. Moreover, this should also give us a better understanding of how certain “less conventional” communicates (here identified as *hypertexts*) are perceived, interpreted, and used by “conventional” and “non-conventional users” in both “conventional” and “non-conventional” communicative situations.

## 9. *Foundations of Homo Symbolicus: Media, Language, Philosophy*

My conclusion is that media have to be understood as a technically frozen form of meaningful gestures. They are not vessels or channels in which linguistic meanings are transported but structures which belong to language as integrated and historically developing parts. The method of this special investigation could serve as an example for investigations dealing with the cultural impacts of contemporary, digital media such as CD-ROM, interactive TV and Internet.  
– Werner Konitzer, “Media as Meaningful Gestures” (1999: 58)

Only recently it has been understood that our way of thinking can be substantially influenced by the media and technology we use to “transport” or “keep” our thoughts: “There are many philosophers who believe that the main features of our contemporary thinking belong to structures influenced somehow by the technical means used to communicate them, and they often describe this relationship as one of cause and effect; the media we use force us to believe in certain theories about the world and about the way we think.” (ibid.: 57)

According to German media philosopher Friedrich Kittler (1985) media belong to a kind of “linguistic superstructure” which makes certain theories meaningful. However, some important questions remain:

- (1) how is this structure and relationship to be understood?
- (2) how are our thoughts affected by the development of technical media of communication and information?
- (3) how is our understanding of ourselves changed?
- (4) do the media we use constitute the basic structures of understanding (as some philosophers argue)?

(5) how are the suggestions that some theories are the “effects” of technical media to be analyzed and verified?

Werner Konitzer’s (1999) analysis of “media as meaningful gestures” is interesting and useful in this context. He shows how the questions above can find answers which are methodologically grounded in Ludwig Wittgenstein’s philosophy of language (see Wittgenstein 1984). Konitzer does this by demonstrating the relationship between Edmund Husserl’s phenomenological approach (cf. Parviainen 1998) and a particular state of development of technical media.<sup>30</sup> Konitzer summarizes the challenging thoughts in the last paragraph of his article:

What can we learn [...] about the nature of media? In order to propose an answer to this question let me review my points. I began with presenting a change in philosophic and psychologic theories concerning time consciousness which in my opinion was important for the development of Western philosophy which took place in the last years of the 19th century. I then looked at the semantics of expressions used in the new theories in their time with a Wittgensteinian view in order to find out what made these theories communicable. I argued that these language games include the use of media of analog recording, trying to show that games with rules like this could not be played by other means of expression. In doing this, i.e., looking at the way media of analog recording could have influenced semantics, I followed an intuition, a procedure which is allowed to the historian. But if we want to know something about the effects of new media on the main operations of our semantics, we follow intuitions. Therefore an analysis of the cultural history of media the goal of which is a general theory of the cultural importance of media would have to start with analyzing media as systems being able to influence our semantics in the way I tried to show. This means *understanding them as some kind of meaning-creating gestures, being in a way a part of language*. (Konitzer 1999: 79; italics mine)

The relationship of language and media has been studied in detail also by Marcello La Matina. In his highly interesting article “Media and Languages” (1999), La Matina attempts to create “a scheme for a semiotic-philological theory of communication” based on Nelson Goodman’s philosophy of languages. La Matina’s aim is a heuristic analysis. In the foreword of his article, he asks whether media can be understood as languages at all:

The media repeatedly attract the attention of those who work in the field of communication. They are also of interest to scholars (linguists, philosophers, mass-communications experts, etc.). In spite of such multifarious interest, the question “What exactly are media?” still today remains full of meaning. Latin etymology is of little use to us: *medium* is the intermediary between two or more things, and thus is what provides a contact between two universes, which are really or only virtually connected. Media, therefore, are related to interaction, social behaviour and communication in the broad sense. But, *stricto sensu*, how do they involve language and the various disciplines of communication? And in what way is a “mediologist” also a scholar of language? (ibid.: 80)

Unfortunately, finding a satisfactory answer to this challenging question is not in the scope of this article. Instead, I will shortly return to the problem of concepts. Paolo Teobaldelli (1999: 114), among others, has touched upon the problem of concepts in developing the *theory of multimedial communication*, “The complexity of the theme [multimedial communication] is in fact the result of the lack of a conceptual model which is able to assume a valid heuristic role in describing and categorizing the phenomenon of multimediality. This in turn is caused partly by the

basic assumptions that have characterized the theoretical and methodological development of communication sciences, but it is also due to the fact that we have not solved fundamental problems: for example we speak of *multimedia* and at the same time we are not able to define exactly what a *medium* is.”

As I noted earlier, media are presented as the Meta Narrative of our age. But it is still unclear what it is we understand with the concept of “medium”/”media.” Ernest Hess-Lüttich (see 1982a: 7) has aptly written that “[w]hen discussing problems of theoretical and/or empirical research into multimedial communication, semioticians will soon find themselves involved in their own ‘communication problem’: people seem to be talking about different things when they try to agree on definitions of terms such as ‘medium,’ ‘communication,’ ‘interaction,’ ‘notation’ etc.”

Medium/media is a polysemic concept that is being utilized in several different ways. According to Marcello La Matina (1999: 80–81), essentially academics talk about *media* in three ways.

(1) In the first sense they are viewed as technologies which are capable of substituting a given human faculty, widening its importance. Marshall McLuhan (cf. chapter 2), for example, saw media as playing a leading role in social life and as instruments of authentic revolutions. The characteristic of media (technologies) lies in the fact that they embody their meaning or, rather, their message; “they absorb the interest of their users and, if they assume a content, it is at most another medium that is thus integrated into the first. Media technologies are not instruments of deferment but catalysts.”

(2) In the second sense the medium “can be considered as substitutive. It is an instrument presented for the attention of the user as a meaningful form (*Significans*) which is able to defer to its meaning (*Significatum*). Unlike media technologies, media deferments do not contain their meaning in themselves but they can, in various ways, represent it. To use Peirce’s term, they are *Representamina*.”

(3) The first two senses seem to be combined by the third conception. We can understand a medium as a type of technology that “is capable of modulating and controlling the relationship in a given culture between its products and the instruments used for their manifestation. [...] this relationship regards the verbal language and the type of communication that makes use of it.”<sup>31</sup>

In La Matina’s article (1999) the idea put forward is that “all media are languages but that not all of them possess the whole range of features of language *tout court*.” He defines this idea as *medial holism* (in the sense of “specific-to-media” or “specific-to-a-medium”). In the first part (pp. 80–103) of his article La Matina traces the path which led the philosopher Goodman “to delineate a personal and original philosophy of language trying to extend the formal properties of a notation to every language.” (La Matina 1999: 82) In the second part (pp. 103–112) the scholar shows us how Goodman’s theory needs certain restrictions. He suggests a new model of medial communication which is termed *Editor Theory* (ibid.: 106ff.).

As we know, semiotics are concerned with different sign systems. Therefore, “if oral and written languages are linguistic media, all systems used by *homo symbolicus* are semiotic media.” But it is relevant to ask what we actually mean when we say that media are symbolic systems (e.g., verbal languages or any other non-verbal system)? Scholars often think that to say that media are symbolic systems means that they participate in the “nature”/“structure” of verbal language – and the difference only seems to be of a material type. Consequently, in the words of La Matina:

media are studied by projecting onto them the structure previously ascribed to verbal language. This now raises the question about what the implications are of projecting the structure of verbal language, for example, onto the non-verbal pictorial medium or onto any other medium. But, is not the simple fact of considering media as being “interesting from the point of view of communication” the same as saying that they have already been brought to the same level as language? In this “Media=Language” equivalence there is a risk that “language” can mean “what we are able to experience nowadays as language using verbal language as an exemplification of the essential features of language *tout court*.” (ibid.: 81)

This approach seems to suggest two relevant questions: (1) does verbal language possess *all* the features of language *tout court*, and (2) do media participate in the features of language in a distributive way (in the sense that *each* medium possesses *all* the features of a language?) According to the type of answer given to these two questions a whole series of theoretical approaches is destined to change: “the interaction between media, the intertranslatability and the methodicalness of a medium.” (ibid.: 81)

In discussing the *homo symbolicus* it is justified to make a quick reference to the research of Mauri Ylä-Kotola from University of Lapland. Ylä-Kotola has studied the French film director Jean-Luc Godard (born 3 December 1930) as a “media philosopher.” This may strike the reader as surprising at first. However,

before embarking on his career as a director, Godard was film theoretician for *Cahiers du cinéma*, which is considered one of the most influential film journals of all time. Godard’s work as a director is integrally based on the history and theory of film, the other arts and philosophy. Godard himself described the goal of his work as exploratory film, or research in the form of film. His films are not merely practical applications of a theory but philosophical studies in themselves. Throughout the 1960s, Godard was a popular director and an intellectual who kept well abreast of the times; he thus had a direct and substantial influence on an entire generation of people in media – journalists, directors, producers, photographers, lay-out artists, and editors. (Ylä-Kotola 1999a: 146)

One of Godard’s university teachers at the Sorbonne was the philosopher Brice Parain who was a specialist in dialectical philosophy and, in particular, its linguistic applications. Parain’s principal philosophical sources of inspiration were Plato, Pascal, and Hegel – and he had a remarkable influence on Godard.<sup>32</sup> According to Ylä-Kotola (ibid.: 147), “Godard’s later career as a theoretician and director can be viewed as a semiotic process, the pivotal concern of which, as in Parain’s work, is the interrelationship of sign, meaning and the world.”

In his article “Pour un cinéma politique” (1950), Godard quotes the statement from Parain’s doctoral dissertation *Recherches sur la nature et les fonctions du*

*langage* (1942): “a sign compels us to come to terms with the significance of its referent.” According to Ylä-Kotola (1999a: 148), “Parain did not regard language as composed of static categories; for him dialectics was essentially dialogue, an infinite series of questions and answers. *The problems of language and communication were matters of life and death for the human being.*”<sup>33</sup> (italics mine) Let’s look at an example:

A central element of Parain’s philosophy is the identity of thought and language, that is, the way in which language shapes thought. He emphasized the importance of language to an extreme; it became almost a religious experience for him, the central stuff of life, our “flesh and blood” as human beings. Parain’s emphasis on language can be seen clearly in the scene in Godard’s film *Deux ou trois choses que je sais d’elle* [1966] in which a child asks his mother: “Mother, what is language?” to which she replies “It’s the house in which a person lives.” (ibid.: 147–148)

Parain’s ideas on the problematic nature of truth, language, and the world “figured prominently in the philosophical schools of thought at the beginning of the century” (ibid.: 148).<sup>34</sup> Ylä-Kotola’s dissertation *Jean-Luc Godard mediafilosofina: rekonstruktio simulaatiokulttuurin lähtökohdista* (Jean-Luc Godard as Media Philosopher: A Reconstruction Based on the Culture of Simulations, 1998) reveals that one goal for Godard in his artistic work has been to resolve the problem of the difference between Parain’s subject and object by drawing upon the ideas of Maurice Merleau-Ponty and using the instrument of film. In this pursuit, Godard has had to detach himself from the theory – embraced by Parain – that posits an analogy between (spoken) language and thought.

In Godard’s philosophical essays on film and video, according to Ylä-Kotola (1998: 526), “every system of signs has a distinct role to play in shaping the meaning of the audiovisual text. Linguistic and non-linguistic signs complement one another, and alternatively determine that the whole can only be understood when each system is carefully read in the context of the others. [...] Godard’s work is not primarily a philosophy of film, but a *cinematic philosophy*: it describes a culture in which we see reality through the specific transcendental forms of observation and understanding.”<sup>35</sup> (italics mine)

This reminds us of Paul Virilio’s comment on the relationship of writing, philosophy, and images: “[...] I always write with images. I cannot write a book if I don’t have images. / I believe that philosophy is part of literature, and not the reverse. Writing is not possible without images. Yet, images don’t have to be descriptive; they can be concepts, and Deleuze and I often discuss this point. Concepts are mental images.” (see Wilson 1997: 41) On the relationship of different forms of media (photography, cinema, television, virtual reality)<sup>36</sup> and the development in media archeology, Virilio notes:

Unlike Serge Daney or [Gilles] Deleuze, I think that cinema and television have nothing in common. There is a breaking point between photography and cinema on the one hand and television and virtual reality on the other hand. The simulator is the stage in-between television and virtual reality, a moment, a phase. The simulator is a moment that leads to cyberspace, that is to say, to the process because of which we now have two bottles instead of one. I might not see this virtual bottle, but I can feel it. It is settled within reality. This explains why the word virtual reality is more important than the word cyberspace, which is more poetic. As far as gender is concerned, there are now two men and two women, real and virtual. People make fun of cyber-

sex, but it's really something to take into account: it is a drama, a split of the human being! The human being can now be changed into some kind of spectrum or ghost who has sex at a distance. That is really scary because what used to be the most intimate and the most important relationship to reality is being split. This is no simulation but the coexistence of two separate worlds. One day the virtual world might win over the real world. (ibid.: 43)

Concerning Jean-Luc Godard, it is relevant that his writings, interviews, films and videos contain explicit references to several philosophical figures and schools of thought: Heraclitus, Democritus, Socrates, Plato, Aristotle, Epicurus, Lucretius, the Stoics, St. Augustine, St. Thomas Aquinas, Pascal, Leibniz, Descartes, Locke, Rousseau, Voltaire, Kant, Schopenhauer, Kierkegaard, Nietzsche, Bergson, Sorel, Husserl, Heidegger, Adorno, Benjamin, Marcuse, Bloch, Foucault, Debord, Barthes, Derrida, Lyotard, etc. The references are often associated with cinematographic reinterpretations of the classics; old phrases and explications acquire new meanings. (cf. Ylä-Kotola 1999a: 158) To sum up, we can say that for a philosopher of the multimedia age, such as Godard, it is possible to break free from the Gutenbergian tradition and exploit a medium like film as his "camera stylo." In the context of hypertextual logic and multimedial communication, Godard is creative and perceptive. In Ylä-Kotola's conclusive words:

[...] we notice that Godard is a *media philosopher*. The important historical philosophical foundation of his work lies in Hegel's thought, which he explored through Parain, phenomenology and later, to a certain extent, materialistic dialectics and structuralism. Throughout Godard's work one finds the Hegelian themes of phenomenon and being, concrete and abstract, part and whole, subject and object, nothingness and totality. In his later works, Godard's connection to poststructuralism has become stronger. Godard discussed his philosophical orientations with Jean-François Lyotard and Philippe Sollers in an interesting talk show aired on French television in 1996. (ibid.: 159)

#### 10. *Finally: The Relevance and Importance of Critical Thinking*

If media is the answer, the question must be fucking stupid.  
– Agentur Bilwet (1994: 183)

Criticism of media and technology is not fashionable these days – not even in academia or intellectual circles. Today's utopian, technocratic, Faustian mind (cf. Cooper 1995) easily underestimates the risk factors and their potential consequences. As we all know, very often technological systems and apparatuses are unreliable; they do not function as planned.

I have personally noticed this and been annoyed by it over the years when my projects have taken me all around the globe. I visit the grave of Immanuel Kant in Kaliningrad (Königsberg) and realize that my mobile phone does not work there, even though it should. I travel to the northern coast of the Crimean peninsula (Ukraine) and can hardly find anything to eat. Due to the weather conditions, I am stuck in the Balim Valley in the middle of a rainforest in New Guinea. And I hear about a colleague of mine having taken a flight from Panama to Columbia – just to see three of the four plane engines stop and the aeroplane struggle its way back to the point of departure.

However, it is not only the developing countries that have technological problems. Without any valid reason, an ATM machine in Boston swallows my credit card. Without any logical excuse, my Internet connection – very necessary for academic and non-academic activities alike – refuses to function in Finland, “the most wired country in the world.” (cf. Statistics Finland 1997) At the same time the radio news tell how the German ICE train jumps off the tracks and tragically kills dozens of people.

With all this criticism I am not denying that the recent technical developments would mean qualitative changes – maybe even transformations – in many aspects of human culture and society. What I am saying is that we need a reflective, historical, and critical approach to these issues – with broad perspectives, deeper analysis, holistic understanding, and realistic scenarios of the problems and the possibilities of media, (hyper)texts, multimedial communication, “homo symbolicus,” and the predicted “electronic future” of our society.

Studying the history of technology shows clearly that technology is Janus-faced: in other words, both the positive/Utopian as well as the negative/Dystopian dimensions and implications exist.<sup>37</sup> It has been necessary for us to accept the fact that technology is often unpredictable and contingent. Here I want to emphasize how essential it is to be reflectively aware of risks as we enter the third millennium. It is in many ways indicative that globalization theoretician Ulrich Beck’s concept of *risk society* has become a basic concept in social sciences. Beck’s *Risikogesellschaft* (1986) was published right before the tragic nuclear catastrophe at Chernobyl; the catastrophe seemed to verify Beck’s central thesis (cf. Rahkonen 1996: 65–69). Referring to Beck’s concepts and work, Leif Salmén (1998) aptly points out how “the awareness of modern life as a state of uncertainty at the foot of a cultural volcano has gained in strength as the millennium is drawing to its end.”

Still, our society is alarmingly reliant on technological systems and an ultra-technological ideology. The belief of politicians and technology enthusiasts in an “electronic revolution” would appear to justify rhetorical exaggerations and utopian hopes for new forms of socialization – even for *new societal structures*. For example, in the Internet discussions of recent years network societies (cf. Castells 1996) and “virtual communities” have been seen as – to use Ferdinand Tönnies’s classic *Gemeinschaft/Gesellschaft* comparison – the *Gemeinschaft*-type, anti-hierarchical formations, favoring traditional and spontaneous social relationships. (cf. Rheingold 1993; Jones 1995b: 24ff.; Walther & Anderson & Park 1994; Bühl 1996: 23–24; Hagel & Armstrong 1997)

Information networks have in these cases also been propagated as a technology enabling communication to be liberated from hierarchies and domination (*Herrschaft*). This sort of utopianism has at least a tenuous connection with the social philosophical speculations of Jürgen Habermas. Habermas, in his *Theory of Communicative Action* (*Theorie des kommunikativen Handelns*), wants to liberate public discourse in society and form a communicative society with equality for all, in which emancipated individuals consider issues collectively. Habermas’s utopia is an ideal, domination-free space for communication. For him “ideal speech” is solidary communication, without the kind of authority which could distort this speech. (Habermas 1981a, 1981b; cf. Outhwaite 1996)

It is immediately noticeable that Habermas's "communicative action" is not necessarily successful in electronic e-mails, discussion forums, or the furiously scrolling digital postings. All in all, it seems to me that the contemporary hysterical huffing and puffing promoted by various Internet lists, "flames," and "news groups" is only getting worse. Information networks (e.g., Internet) in their current form do offer an imposing amount of Barthesian "pleasure of the text" (see Barthes 1988), but considerably less of that which could, in the more exact and serious sense of the word, be referred to as communicative action. At least from the viewpoint of my own experimental horizon, discussions conducted "on the net" are more distinctively fragmentary, nihilistic, and self-centered communications strategies than attempts to domination-free or "solidary" communication. (see also Inkinen 1999c: 263)

All in all we can say that besides its powerful mythologization, the discourse concerning media and information technology is plagued by an abundance of different and contradictory – but simultaneously appearing – "language games." In my previous works (see Inkinen 1995: 16–17, 1999c: 262–263), I have specified six of them:

- (1) We have the side-by-side, often intertwined, commercially oriented language games of *marketing personnel* and *business strategists*, in which such catch-phrases as "hypertext," "multimedia" and "information highways" present a dominant design, competitive advantage, market shares and new commodities conducive to consumption.
- (2) In the wake of these comes the ever excited language game of the *technology enthusiasts* and "*freaks*," continuously sprouting new dreams and brave visions of the future, in which technological "breakthroughs," "strides" and "revolutions" follow each other as part of the invigorating sermon. (cf. Rheingold 1992a)
- (3) We have the separate category of *politicians* and *government officials*, with their credulous and uncritical language game featuring such concepts as employment, resources, national competitiveness, globalization, and European integration. (see, e.g., *The Bangemann report*; cf. Inkinen 1999c: 261ff.)
- (4) We have what could be called "*closet humanists*," with their strongly anti-technological and often nihilistic language game based on classical values and virtues, in which a university education or other such sign of sophistication is seen as a sufficient basis for evaluating the new media.
- (5) We can mention the puritanical language game of the *technological pessimists*, in which any sign of (digital) technology is an indication of a curse.
- (6) We have the most daring language game of all – both in terms of style and content – comprised of different forms of future visions and fantasies: the imaginary language game of *science fiction* (especially *cyberpunk*) in which infor-

mation technology and computer networks (especially virtual reality and “cyberspace”) are presented as a techno-romantic and Neo-Expressionist landscape (e.g., Gibson 1993).

Thoughts about *teledemocracy* are also regularly presented in discussions about new media technology and information networks (Arterton 1987, 1991). One of the spokesmen for this sort of thought is Howard Rheingold, according to whom computer networks represent a more democratic form of media technology than television. Rheingold (1992b: 106; translation mine) states, “computer networks [...] are not centralized. Everyone is a program producer. Through the net it’s possible for a regular person to use the same methods as a political party. [...] You can publish manifestos and organize groups.” Rheingold (1992b, 1993) has also stressed the relevance of computer networks as discussion forums for sub-cultures, counter-cultures, and alternative perspectives. There is nothing significantly new in this sort of utopian emphasis. Steven Jones has summarized his references to Carey and Quirk (cf. Carey 1989: 113ff.) as follows:

Carey [...] has eloquently argued that prophecy has accompanied the arrival of most every new communication (not to mention other) technology. What Carey and collaborator John Quirk argue is that “electrical techniques [are hailed] as the motive force of desired social change, the key to the re-creation of a humane society, the means for returning to a cherished naturalistic bliss.” (Jones 1995a: 2)

The debate of information society and networks, new media, etc. seems to make a lot of noise without a corresponding level of substance. Recent technological discussion with ambitious visions and missions of digital culture can be seen as the *utopia* of the turn of the millennium (on utopias and utopian thought, see, for example, Bloch 1959; Biesterfeld 1985; Derivaux & Ruhstrat 1987; Rahkonen 1996) – and therefore as both relevant and interesting object of investigation.

The new technology is undoubtedly an efficient and important tool for the tasks of research, education, and government alike. The recent talk about “network society” (Castells 1996), “media literacy,” “digitality,” “techno-sphere,” or “information highways” is not unfounded from this perspective. Critical reservation, on the other hand, must be directed towards over-optimistic utopianism. There is reason to stress that technology in itself will not solve social, economic, or political problems. Rather, it seems likely that new technology will help to *further complicate* already difficult conflicts; the gap between those privileged and able to use new technology and the “techno-pariahs” who are excluded is growing.<sup>38</sup>

Technology can be approached through visions and utopias, but also through concepts such as Theodor Adorno and Max Horkheimer’s “culture industry” (*Kulturindustrie*) and “instrumental reason” or Herbert Marcuse’s “techno culture,” causing the ideology of this technology and the changes that it causes to appear in a much more tragic and negative light.<sup>39</sup> This sort of critical perspective was prominent, for example, in the February 1995 issue of the journal *Ästhetik & Kommunikation*; a number dedicated to the theme of media, in which strong doubts were expressed towards computer networks, interactive television and the whole of recent discourse on technology.

## II. Notes

1. Walther Christoph Zimmerli has used the concept of “cultural technology” (*Kulturtechnik*) to describe those skills which are everywhere present, passed on from one generation to the next and are essential for survival. From Zimmerli’s point of view, data processing information technology has already so powerfully intruded into every area of society that we can definitely refer to it as *Kulturtechnik*. Information technology is not only everywhere present; it is also a “cross-over technology” encompassing all areas of life. (Zimmerli 1990: 206; cf. Inkinen 1999c: 281)

2. This approach also explains the name of the volume. The Greek word “polis” means a city-state. Plato’s aristocratic *Republic* from the ancient times is one of the first social utopias known. In our time, media, society, and cultural dynamics are heavily interlinked. The utopic and dystopic thought is heavily connected to contemporary discourse on the power and implications of media. This *status quo* of a media-saturated information age and society gives the name to the volume: *Mediapolis*.

3. “The expression *information society* refers to a society in which information is used in almost all forms of human activity. We are currently passing through a transition period which contains features typical of an agrarian society, an industrial society and a service-dominated society. The information society may be regarded as the next stage in this process of continuous development. [...] The European Union has defined the information society as one which makes extensive use of information networks and information technology, produces large quantities of information and communication products and services and has a diversified content industry. The Commission’s approach emphasises the social and economic effects that information infrastructure applications and development will have on society in addition to actual technological development.” (Statistics Finland 1997: 5)

4. The article introduces and considers the utopian and techno optimistic aspects of the recent political and social discourse on media and information technologies. My argument is that technology-centred arguments often represent heavily mythologized and naive views on contemporary technologies and their cultural implications – an approach that could, with good reason, be called “technological determinism” (cf. Williams 1975: 13) and “the rhetoric of the electronic sublime” (Carey 1989: 113ff.). In the article, I attempt to introduce a number of seminal concepts (technological and cultural “buzzwords”) of the Internet, the “Information Superhighway,” etc., as used in contemporary technological, political, and techno-utopian rhetoric. I also discuss some recent documents, reports, and strategies drawn up by the governments of North America, Asia, and the European Union. In this material, information and media technologies (e.g., multimedia, computer networks, and “data highways”) are seen as new, progressive, and even “revolutionary” tools for community building, telecommuting, teledemocracy, the so-called “information society,” and related efforts.

5. To cite the culture-critical art group Critical Art Ensemble: “Here then are the two sides, forever in opposition. Today the two antithetical opinions continue to manifest themselves throughout culture. Corporate futurologists sing the praises of computerized information management, satellite communications, biotechnology, and cybernetics; such technological miracles, they assure us, will make life easier as new generations of technology are designed and produced to meet social and economic needs with ever-greater efficiency. On the other hand, the concerns of pessimists, neoluddites, retreatists, and technophobes ring out, warning that humanity will not control the machines, but that the machines will control humanity. In more fanciful (generally Hollywood) moments, the new dystopia is envisioned as a world where people are caught in the evil grip of a self-conscious intelligent machine, one that either forces them into slavery, or even worse, annihilates the human race. / These are the two most common narratives of social evolution in regard to technology. For the utopians, the goal of progress is similar to the vision of René Clair – technology should become a transparent backdrop that will liberate us from the forces of production, so that we might engage in free hedonistic pursuits. For the dystopians, technology represents a state apparatus that is out of control – the war machine has been turned on, no one knows how to turn it off, and it is running blindly toward the destruction of humanity.” (CAE 1997: 308)

6. In his interesting and well-grounded article “Technology: Liberation or Enslavement?” David E. Cooper (1995: 8) writes: “What do those who speak of technology as a force for freedom have in mind? Their many claims fall, at a pinch, into three kinds, beginning with ones to the effect that technology confers various ‘freedoms from.’ Well, from what? Most obviously, from Radhakrishnan’s ‘bondage to nature.’ The light-bulb and the aeroplane free us, to a degree, from the constraints of darkness and distance. But, especially with the arrival of IT, other ‘freedoms from’ are credited to technology: from ignorance and prejudice, for example. The weather satellite tells the sailor of next week’s storm; the data bank quickly supplies the figures that biased parties would otherwise make up. During the 1970s, Salvador Allendé briefly entrusted policy to a giant computer designed by a British engineer who described it as ‘the Liberty Machine.’ He did so because “Liberty’ may be redefined for our technological era’ as ‘competent information is free to act’ – free, that is, from bias, sentiment and guesswork.”

7. The editor-in-chief of *Wired*, Louis Rossetto, has emphasized McLuhan’s influence on both himself and the magazine: “I went to college in 1967 and graduated in 1971. That period was around when McLuhan’s influence was at its peak; it was certainly incredibly influential on my thinking about life. So I’ve carried the seeds of McLuhan and McLuhanism, throughout my entire adult life. *Wired* is about media today – about how we live in the media environment, how the media environment affects our lives. If there is a prophet of new media – radio, television, networking, interactivity – it has to be that man. There is no other single individual who had such a clear vision of where we were going. And so to me it was totally natural that as we were looking for examples of what *Wired* should look like, I went back to my bookshelf and pulled out a copy of *The Medium is the Massage*, and went through it page by page again. It’s so dynamic it could have been published yesterday. It’s still as fresh as it ever was, and it’s certainly something that stimulated us to think about how to use the print medium today to talk about changes that are occurring in other media. So for all those reasons it seemed completely normal for us to say that Marshall McLuhan was our patron saint, as he should be for the entire media revolution that’s going on now.” (see Benedetti & DeHart 1996: 172)

8. Baudrillard has commented his relationship to McLuhan as follows: “What can I say about the difference between the two? I have the impression that cutting across the world of McLuhan – he too is very much oriented to the visual, of course, in spite of the fact that he was, I believe, a musician – there is a small problem, which is that the different sensorial, perceptual registers tend, in this media noosphere, to conflate, to fuse together into a kind of depolarization of sensory domains. We speak quite rightly today of the audio-visual; we couple them together in some sort, some kind of amalgam or ‘patchwork.’ Perhaps I am led to view space in this way by my lesser sensitivity to the acoustic, but it seems to me that everything is summed up in a logistic which integrates all the perceptual domains in a way even more undifferentiated than before. Everything is now received in a manner that is indistinct, virtually indistinct, in fact.” (Bayard & Knight 1997: 49)

9. See <URL:<http://www.gale.com/routledge/feature/current/digital.html>> and <URL:<http://www.cyberhaven.com/books/sciencefiction/digitalmcluhan.html>>.

10. According to Miller (1971) McLuhan is constantly guilty of exaggerated rhetoric. In his critical study Miller discusses, for example, the influence of linguist Benjamin Lee Whorf and historian-economist Harold A. Innis on the development of McLuhan’s thinking. This connection partly sheds light on McLuhan’s interest in combining linguistic and communication theoretical principles: “Now although Innis seemed unaware of Whorf, and while Whorf himself made little or no reference to the effects of literacy, McLuhan sought to establish a theory which would bring both these authorities together and show that the bias of communications recognised by Innis was directly related to the linguistic relativity identified by Whorf. But to effect this marriage McLuhan found it necessary to elaborate a mediating hypothesis which translated both sets of ideas into the terms of general epistemology. In doing so he ventured well beyond the available facts, and fell into some dangerous logical pitfalls.” (Miller 1971: 90–91)

11. A central idea in McLuhan is that our culture is moving from Visual Space (“the linear, quantitative mode of perception that is characteristic of the Western world”) to Acoustic Space (“the holistic, qualitative reasoning of the East, toward which all of the latest technologies are pushing us”). The back cover text of the posthumously published work (McLuhan & Powers 1989) is indicative: “The authors warn [...] that [...] movement towards Acoustic Space may not go smoothly. Indeed, McLuhan and Powers argue that with the advent of the global village – the result of worldwide communications – these two worldviews ‘are slamming into each other at the speed of light,’ asserting that ‘the key to peace is to understand both these systems simultaneously.’ Adopting a refreshingly impartial approach, the authors seek to do today what McLuhan did so successfully twenty-five years ago – to look around the corner of the coming world, and to help us all be prepared for what we will find there.”

12. McLuhan paid attention, for example, to how all media exist to invest our lives with artificial perception and arbitrary values. McLuhan pointed out that “electronic culture is no more corrupt in this sense than is print culture, or the preliterate culture of poetry, song, and myth. Language is a type of technology, too, McLuhan noted, anticipating and rejecting the moralism of modern-day Luddites.” (Wolf 1996: 182).

13. Russia, for example, is still a developing country in terms of new media and information technology. Austrian scholar Herwig G. Höller (1999: 332) has studied the spreading of new media and information technology in Russia and noted laconically: “Concerning the number of Internet users in Russia, the situation is at least as unclear as in the West. Estimations range from 500 000 up to more than one million (autumn 1998). Most of these users are only connected with off-line services such as e-mail or USENET discussion groups. But even one million would be less than one percent of Russia’s population and more than 100 million Russians have not even a telephone line at home – not to mention optical fibre cables.”

14. Nuopponen & Kunelius (1999: 346) define the concept as follows: “A concept that often occurs in this context is *telepresence*. It is normally used for ‘a new communications medium that enables a person to feel as if he or she is actually present in a different place or time.’ Videoconferencing is often considered as telepresence, even though, according to a narrower definition, only virtual reality equipment with head-mounted displays, data gloves and/or bodysuits means ‘real’ telepresence. We use the term in the broader sense.”

15. They further argue in favor of using video conferencing: “In telepresence, the participant(s) at one end feel(s) like visiting the other. South Pole researchers, for instance, have planned to use CU-See Me ‘to bring’ school classes to the South Pole by giving them a telepresence experience. Even though video quality is far from the desired, there is a difference between seeing a documentary about the South Pole and telepresence created by videoconferencing. The difference is in interactivity; the students can discuss with the researchers there, see outdoor scenes, etc.” (Nuopponen & Kunelius 1999: 346)

16. The notion of “the other” has, understandably and unavoidably enough, become problematic in the discourses on national and ethnic identities. For example, in the Great Britain, the term ethnic minority is used to refer to groups that differ from the nation state. As Iain Chambers (1994: 39) aptly notes, “the idea that ethnicity does not simply belong to the ‘other,’ but is also part of being white. The unquestioned understandings of nation, race and ethnicity, both black and white, are displaced and opened up for questioning: just what does it mean to be ‘black,’ ‘white,’ ‘British,’ or even ‘European,’ today?”

17. “For Bauman the idea of identity is a ‘problem’ from its birth – it was born as a problem about which one needs to do something. Bauman has sketched his famous ‘figures of identity,’ from the pilgrim to the tourist, where the figure of the pilgrim is as old as Christianity, gaining some truth from elsewhere; for him (her) the ‘true’ place is always some distance, some time away.” (see Kallioniemi 1999: 292–293)

18. It is problematic to estimate the real extent of this “dislocation,” but undoubtedly the core of media-based cultural activity is formed by negotiations between modern and postmodern (possibly even premodern) constitutions of identities. In the recent years certain forms of locality associated with popular culture and transnational life-styles have gained strength, thus signaling that dislocation could be seen as “relocation.” The new locality-based identification could, therefore, offer new articulations of the “postmodern condition.” (See Kallioniemi 1999: 293).

19. Media culture plays a central role also in forming a national identity. Kallioniemi (1999: 294) points out that “[t]he sense of community is built and sustained by the quotidian rhythms of print and electronic media output, along with periodic national ceremonies which are themselves communicated through the media. With increased migration and mobility, these symbolic markers of a nation can be the only common ‘heritage’ it has. Therefore the role of popular culture and its ability through psychic processes to create an infinite output of imaginary discourses plays also a major role in national identity formation.”

20. “No specific approach in the sphere of multimodality (e.g., visual communication studies, analysis of cartoons, computer animation, theater semiotics, etc.) can neglect *serious critical reflection* on basic concepts of semiotics and communication theory; making an effort to understand and evaluate the essential assumptions of the models in use till now and their potential consequences in the context of an updated conceptual framework, which is (or should be) that of *multimedial communication*.” (Teobaldelli 1999: 114)

21. “Multimedia CD-ROM discs are well-known to anyone with a newer computer and are helping inspire continuing advances in computer technology as well as sales of updated computers. The contents of these discs range over many areas with one area – an intersection of game, information, news, and education – spawning a new and perhaps ugly term, that of ‘edutainment.’ To what may be literary critics’ dismay, a few new multimedia CD-ROMs have been labeled ‘serious’ literary works. With the advent of multimedia poetry and novels using hypertextual links, literary critics are being forced to accept that their world centered on the written text is being challenged. Works worthy of being called ‘serious’ literature are being produced on CD-ROMs or available through the Internet which take advantage of images, sounds, and motion video as part of their very nature. Some ‘cutting-edge’ literature is now being produced only as multimedia.” (See Ledgerwood 1999: 44)

22. Voyager has recently changed direction and its new owner is no longer as interested in publishing many new titles of this quality. However, its recent acquisition of the *The Complete Peter Leroy So Far* (1995) keeps up hopes. Another development which will help is the recent introduction of DVD-ROM as the eventual replacement for CD-ROM. In fact Spectrum Multimedia has released a Windows DVD-ROM, *Convictions* (1997) that it calls “multimedia literature.” (Ledgerwood 1999: 51)

23. Mickle Ledgerwood (1999: 51) notes: “Although hypertextuality is a fascinating part of new media creative art, it is not an end-all of critical discussion. Critics have to be able to view a work’s hypertextuality as merely one new creative artistic technique which is added to all other techniques available to artists. This is not to say that a true hypertextual artist who can use hypertext and multimedia in the way that Proust and Joyce manipulated narrative text will not produce yet another revolution in literature, although many are trying, including an Irish artist called Michael Joyce.”

24. According to Hess-Lüttich (1999: 9), “[t]his raises some questions which affect the heart of traditional text theory and make new conceptualizing necessary. What unifies a text when its form – its *Gestalt* – can be so freely manipulated? Which are its segments when switching between codes leads to changes or losses in information structures? Which are the ‘nuclear units’ which cannot be reduced or changed further? Which are the borders of the text which separate it from other texts, contexts, and cotexts? How does the textuality change when transforming it from an analog to digital medium? What meaning does the text convey when unconstituted before the actual process of reading? How do audiovisual codes control this process? Which perspectives does the unlimited ability of expansion and plurimedial transformation open for applied text science?”

25. It is not very difficult to find literary examples for hypertext characteristics, such as nonlinearity, reader activity, intertextuality, plurality of the types of readings, and openness of the reader's trail. On the other hand, disciples of postmodern "literary theory" exuberantly evade one or another metaphoric imprecisions when evoking – with Derrida or Bataille or even Sebeok – the unlimited semiosis in the semiotic web. The hypertext system always has codable chunks and links; the units (texts, nodes, chunks) provide further links (not necessarily intended as such by the original author); following the links might cause the text to lose meaning as a semantically functioning unit; even if only some of the links are equally plausible, it is still amazing how many intertextuality theoreticians relate everything to everything and eavesdrop on the polyphony of voices in the *chambre d'échos* of the *bibliothèque générale* (Barthes).

Were all links equally valid, they would be indifferent to the demand for justification. Eco (1990) has noted the limits of interpretation against this "something for everybody" view and asserted plausibility demands on Derrida or Bataille. In a response to Peirce, Eco recalls that even when the number of potential links is theoretically unlimited, the number of actually selected links is finite and limited. Moreover, not all metatexts are of equal value to texts. We should keep this in mind if future theoretical text considerations on hypertext are developed before the foil of aesthetic and literary text theories. (Hess-Lüttich 1999: 13–14)

26. Siegfried Zielinski has aptly commented on the connection between media technology and military technology: "Only since Paul Virilio's famous essay, 'War and Film,' has it become customarily postmodern to interpret advanced media technology in the context of an original military vanishing point; war as an archimedean point to which and from which the world of illusions is structured. Well-worn references from the history of technology are, for example, the revolving drum, the repeating rifle and particularly Janssen's photographic revolver and Marey's photographic gun, that he used to shoot successive pictures of birds in flight – amongst other things." (Zielinski 1997: 280)

27. "The idea [Memex], published in the *Atlantic Monthly* in 1945, of developing text automats 'that serve a man's daily thoughts directly, fitting in with his normal thought processes, rather than just do chores for him' (Bush 1967: 76) was later developed and improved by Douglas Engelbart and Theodor Holm Nelson. Their work followed Bush's associative principle of text networking. Engelbart concentrated on machine-based simulation of heuristic problem-solving behavior and built the bridge between cognitive psychology, linguistics, and computer science. His findings were to have a significant impact on the newer approaches of text theory modeling in the humanities." (Hess-Lüttich 1999: 8)

28. At the time Engelbart worked on *Augment/NLS*, the electronic components were already more easily available and more reliable: the electro-mechanical technology developed when Bush formulated his project for the Memex had been replaced by the electronic technology; the slanted translucent screens necessary for the projection of microfilms were now computer monitors; the mechanical levers became buttons activating functions according to a program; in place of the microfilms, reproducing words and images on celluloid sheets, there were sequences of binary digits, easily storable on magnetic supports, and easily and quickly retrievable. (See Cicconi 1999: 23)

29. According to Hess-Lüttich (1999: 12), "[s]ince the appearance of Theodor Holm Nelson's *opus magnum* on the *Literary Machines* (1987), voices urging a literary basis for the hypertext concept have gained in power and following, especially in the USA, sometimes with a kind of American informality. They argue, for instance, that Roland Barthes – whatever he may have understood of computers in the PC-free 1960s – had anticipated hypertext as he envisioned texts 'as far as the eye can reach'" (cf. Barthes 1974: 11; Landow 1992: 3; cf. Bolter 1990). In George Landow's (1992) hypertext Bible, "the entire range of subject matter falls under attack from the Jewish *Mishnah* to the literary *avantgarde* [...], from Horace's *ars poetica* to hypertext's *ars combinatoria*, from the myth of antiquity to the machine of modernity [...] if it is valid to prove hypertext to be "an essentially literary concept" (Slatin 1988: 112) and to cite predecessors for it and parallels to find and invent."

30. In his text (1999), Konitzer concentrates on only one specific but very important aspect of the Husserlian thinking: *the philosophy of inner time consciousness*.

31. “Scholars who consider media in the third sense emphasise the difference between oral language and written language, that is, oral medium and written medium. In their opinion, it is not a question of two technologies that have a casual connection with language, but of two antithetical structures of the use of words, society and culture. Oral production and writing (but also visuality and symbolisation, etc.) serve as intermediaries for different conceptions of the world, and not only for technologies which are able to involve the relationship between their respective users in a radical way.” (La Matina 1999: 81)

32. Ylä-Kotola (1999a: 147) gives some interesting background: “In Godard’s film *Vivre sa vie* [1962], Parain appears as himself, reflecting on the nature of language with Nana, a prostitute. Nana asks Parain why human beings cannot live without words. He explains that speaking is the same as thinking, thinking is the same as speaking, and there can be no life without thought. The problem is not so much one of speaking as compared to not speaking but of how to speak or think well. Parain elaborates his arguments with the story of Porthos, one of the Three Musketeers, who dies when he stops to think for the first time. The discovery of truth can be tragic, and truth is never achieved without error.”

33. This is an idea which Godard has underscored many times. For example, in his critique of Hitchcock’s *The Wrong Man*, Godard writes: “Rose’s madness is the price she pays for the insane inconsistency of what she says.” (Ylä-Kotola 1999a: 148)

34. Also in the 1960s and 1970s, the importance of ideas emphasizing the meaning of language and semiotics was very strong (especially in France). Therefore, for example Sherry Turkle, the author of *Life on the Screen* (1997: 14–15), has written: “In late 1960s and early 1970s, I lived in a culture that taught that the self is constituted by and through language, that sexual congress is the exchange of signifiers, and that each of us is a multiplicity of parts, fragments, and desiring connections. This was the hothouse of Paris intellectual culture whose gurus included Jacques Lacan, Michel Foucault, Gilles Deleuze, and Félix Guattari. But despite such ideal conditions for learning, my ‘French lessons’ remained merely abstract exercises. These theorists of poststructuralism and what would come to be called postmodernism spoke words that addressed the relationship between mind and body but, from my point of view, had little or nothing to do with my own.”

35. Different media follow different aesthetical and philosophical principles. Konitzer’s thoughts on the (media) philosophical differences of photography and film are relevant here: “The film director, as the photographer, has to decide what he is going to record from the things perceived. As in the case of the photographer, this means: to choose the right moment for recording. Both the photographer and the cameraman of a film decide how much time the recording should take. But there is an important difference concerning the ‘sense’ of time perception. The cameraman has to pay attention to time while the camera ‘works.’ This is a way of paying attention to time which the photographer doesn’t have to deal with. This sense-difference between these two ways of paying attention to time becomes clearer when we try to imagine the conditions of recording as similarly as possible. In order to do this one can imagine someone recording a short film showing only one room, nothing changing in it, just a desk, a chair and a lamp. The movie would show no change, just some static picture. This movie – or part of a movie – would show the same thing as could be shown by a diapositive. Let’s imagine that for technical reasons the photographer, in order to produce this diapositive has to look through the view-finder, as long as it takes to take the shot; this time being as long as the cameraman would use to produce his funny static film. Now, the two would ‘do’ exactly the same. But we would say there is still a huge difference between what they are doing. The cameraman, while filming his movie, has to pay attention to the duration of what he sees, while the photographer has to pay attention only to the measurable time which is necessary to take the photograph. In the first form of interaction, the *duration* of the perceived process is communicated, which is not the case in the second one.” (Konitzer 1999: 75)

36. In commenting the recent progress in new media and cyber space, Virilio has been critically reserved: “These new technologies try to make virtual reality more powerful than actual reality, which is the true accident. The day when virtual reality becomes more powerful than reality will be the day of the big accident. Mankind never experienced such an extraordinary accident.” (Wilson 1997: 43)

37. “The electronic sublime” and “the rhetoric of the electronic sublime” (cf. Inkinen 1999c) has been pertinently discussed by James Carey & John Quirk. As they aptly put it, “An increasingly prevalent and popular brand of the futurist ethos, one that identifies electricity and electrical power, electronics and cybernetics, computers and information with a new birth of community, decentralization, ecological balance, and social harmony. This set of notions has been most readily associated with Marshall McLuhan, but his position is one in a school of thought that has been articulated and reiterated over many decades and has many spokespersons in our time. The notion of an electronic revolution is supported by a diverse consensus that includes designer R. Buckminster Fuller, musicologist John Cage, futurologist Alvin Toffler, policy scientist Zbigniew Brzezinski, elements of the New Left, theologians inspired by Teilhard de Chardin and computerologists such as Edward Feigenbaum. Outside intellectual circles the notion of an electronic revolution has been repeated and embraced by coteries of advertisers and engineers, corporate and foundation executives, and government personnel.” (Carey 1989: 114)

38. The culture-critical art group Critical Art Ensemble notes on the tradition of dystopian thought: “[...] the second scenario – the pessimists’ dystopia. This point of view seems to gain new proponents with each new mechanized and/or electronic war. Yet even when the idea of progress was at its apex, before the military catastrophes of the 20th century, some critics of the idea were already predicting that human ‘advancement’ would end in disaster. First and foremost was Ferdinand Tönnies, who argued that advanced technology would only serve to increase the complexity of the division of labor (society), which in turn would strip people of all the institutions that are the basis of human community (family, friendship, public space, etc.). After World War I, Oswald Spengler was among the leaders of this line of thought. To his mind, advanced technology and sprawling cities were not indications of progress; rather, they were indicators of the final moments of civilization – one that has hit critical mass and is about to burn itself out. The great sociologist Pitirim Sorokin summed up this perspective in *The Crisis of Our Age* when he stated: ‘Neither happiness, nor safety and security, nor even material comfort has been realized. In few periods of human history have so many millions of persons been so unhappy, so insecure, so hungry and destitute, as at the present time, all the way from China to Western Europe.’” (CAE 1997: 307)

39. As David E. Cooper (1995: 10–11) points out in his article “Technology: Liberation or Enslavement?”: “What do those who speak of technology as a force against freedom have in mind? [...] most familiar, is the Frankenstein thesis. In intent, technology should help us control our environment and lives, but in practice its products have risen against us and gone out of our control, individual and collective. This thesis takes several, sometimes incompatible, forms. ‘The handmill gives you society with the feudal lord, the steam mill society with the industrial capitalist,’ wrote Marx, inspiring a doctrine, ‘technological determinism,’ espoused by many of his followers, if not by him. Human beings cannot control the basic thrust of technological development, since the controlling instruments – political and legal systems, and ideologies – are themselves inexorably shaped by the ‘material forces of production.’”

## 12. Literature

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